MANPOWER DEVELOPMENT AND NATION-BUILDING: SINGAPORE'S EXPERIENCE

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Manpower is a basic resource. It is the indispensable means of converting other resources to mankind's use and benefit. As a process of increasing the knowledge, skills, and dexterity of the people of a society, manpower development is the most fundamental means of enabling a nation to acquire the capacities to bring about its desired future state of affairs -- a more mighty and wealthier nation.

Singapore's brief nation-building history justifies the emphasis accorded to the importance of good quality human resources and manpower development in economic and socio-political developments. As a tiny island-state with a poor natural resource base, Singapore's long-term survival and development depend ultimately upon the quality and the creative energy of her people. In line with the nation-building goals and strategies of the Republic, as conditioned by her objective setting, Singapore's basic manpower development premise has been one of "quality and not quantity". While implementing the "stop-at-two" family planning and population control programs and the relevant immigration measures to guard against the prospect of a "population explosion", the Government has energetically fostered various educational programs, including vocational training schemes, adult education programs, the youth movement, and the national service scheme to improve the quality of Singaporeans.

There is no denying that some of the manpower development measures taken by the Government have imposed sacrifice and hardship on the Singapore citizens. Nevertheless, they are the basic conditions for the island-Republic's long-term survival and development. It is essential
to note that Singapore's continuing existence and phenomenal success are largely attributable to the will, capacities and efforts of her leaders and people.

In the final analysis, the wealth and the strength of a nation are based upon its ability to conserve, develop and utilize effectively the innate capacities of its people. This is true not only of Singapore but necessarily of other developing nations. It can be safely presumed that since most developing states' concerns about the quality of their human resources and the progress of their nation-building work are inextricably bound to those about the quantity of their population, the "quality and not quantity" motto of Singapore's manpower development programs can also be their guiding principle.
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INTRODUCTION

This thesis, as its title suggests, is designed to inquire into the functions and the strategical problems of manpower development from the perspective of nation-building through the study of the case of Singapore. To put it more precisely, the problems of nation-building are viewed from the perspective of what a country like Singapore can do to develop the innate capacities of its people. The motivating force of this study is made up of two constituent elements. The first element is the writer's conviction that man's power -- brain power, skills, capacities, will and efforts -- is the basic dynamic of economic, socio-cultural and political development. The second element is the writer's perception that as a tiny island-state with a poor natural resource base, Singapore's long-term survival and development as a sovereign state depend ultimately upon the quality and the creative energy of her people. Of course, the writer must admit that his decision to make a case-study of Singapore's manpower development and nation-building experience is in effect motivated by his deep concern about the vitality of this infant Republic with which his destiny and that of his fellow-countrymen are and will be bound up. With a view to enabling the readers to read this thesis as the writer writes it, this prefatory chapter seeks to specify briefly the major purposes, the basic propositions, the methodology and the structure of the thesis.
I. Purposes of the Study

Briefly put, this study attempts to attain three objectives: firstly, a survey of the literature about the role which manpower development plays in the process of nation-building; secondly, a statement of general propositions about manpower development and nation-building; and, thirdly, a narrowing down of these general propositions to be applied in a case study of Singapore.

In undertaking the Singapore case study, the author hopes to gain a wider and deeper understanding of the objective setting of the city-state in which manpower development and nation-building have taken place, to analyse how the Singaporean manpower development policies have been related to Singaporean nation-building goals, and to identify any special features of the Republic's manpower development policies and strategies. As well, with the aforementioned analysis in mind, it is hoped to inquire into the validity and legitimacy of the manpower development policies and strategies in relation to both the objective setting and subjective national goals of Singapore, into the effectiveness and achievements of these policies and strategies and, finally, into the possible existence of alternative measures and options for manpower development in Singapore.

By and large, this thesis is policy-oriented both in content and in purpose. It is only peripherally concerned with the technicalities of the subject matter. The author hopes that this case study will not only provide some insight as to the manpower development experience of Singapore but also help to enrich the general knowledge of manpower development.
II. Main Propositions

Within the confines of the above-mentioned plan, this study attempts to put forth and analyse the following propositions:

(1) Manpower development is a prerequisite to successful nation-building.

(2) If manpower is to become an asset and not a liability of a developing Singapore, "quality and not quantity" should be the basic guideline or key motto for all her manpower development policies and programs.

(3) In the process of developing her manpower for nation-building, it seems that the policies and measures adopted by the Singapore Government are valid and legitimate. For example:
   a. To guard against the prospect of "population explosion", the "stop-at-two" family planning and population control policy and the relevant immigration measures are necessary.
   b. To improve the quality of Singaporeans and so to build a strong and prosperous nation, the improved educational schemes, including vocational training and adult education, the youth movement, and the national service scheme are all necessary measures as well.

(4) For the well-being of all Singaporeans, each and every Singapore citizen should be prepared to tolerate the restrictions which have been applied upon him or her for the above-mentioned manpower development purposes. In supporting the "coercive" or "compulsory" measures of the Singapore Government, the author contends that for the purpose of creating "the greatest happiness for the greatest
number" of Singaporeans, it is a necessity for a responsible government to "force" some of its people "to be free".

(5) As a process aiming at the attainment of a certain desired state of affairs for the people of a society, the enterprise of developing manpower for nation-building is inevitably a hazardous and costly one. It always calls for many painful sacrifices and unaccustomed efforts. In addition to the will power and the national consciousness of the people, responsible government, effective leadership and efficient public administration are also necessary conditions of a successful manpower development process.

(6) Although Singapore's manpower development and nation-building experience is a product of her unique objective environment and her "subjective" needs, it may provide the framework in which problems of "manpower development and nation-building" common to a major portion of the "developing world" can be explored.

III. Methodology

In pursuance of this study, the author adopts a factual analytical approach accompanied by argumentative inference. His perception of the meanings and the inter-relationship of manpower development and nation-building is refined from the conceptual frameworks made available by relevant studies. His analysis as to the manpower development policies and strategies of Singapore, their
validity, legitimacy, effectiveness, achievements, and problems as well as the possible solutions to the problems is based not only on data collected from various sources, including official documents and Singapore newspapers, but also on the author's personal observations and interpretations. The author is confident that as a Singaporean who has been attentive to Singapore's development, he is in a position to make observations on the manpower development and nation-building experience of Singapore with considerable accuracy. As a matter of fact, he has written this thesis from a Singaporean point of view. In reading this thesis, the readers may take the writer's national identity into consideration. Apparently, if we do not know the background of The Prince of Machiavelli, The Shui Nan (The Difficulties of Persuasion) of Han Fei-zi and the "forced to be free" theme of J.J. Rousseau, we may well not be able to appreciate the actual implication of these three profound works. What has aroused the author's deep admiration for Machiavelli, Han Fei-zi and Rousseau is that although they wrote only what they saw and sensed without providing any documentary or numerical proofs, their works have survived scrutiny for many centuries.

IV. Structure of the Thesis

As can be seen from the table of contents, this thesis is composed of five chapters. The first four chapters are each divided into three sections. Each chapter is preceded by a brief introduction which serves to link one to the other. Chapter One seeks to explain
the meanings of manpower development and nation-building and to make clear in general terms the role which manpower development plays in the process of nation-building. Chapter Two aims to analyse the objective settings and national priorities of Singapore and the manpower implications of its nation-building progress. The third chapter is the heart of the thesis. It seeks to identify the special features of Singapore's manpower development premises, policies and approaches and to inquire into their validity and legitimacy. Chapter Four, on the other hand, attempts to evaluate the effectiveness and achievements of these manpower development policies; to point out the major manpower development problems; and to suggest workable remedies. Finally, the concluding chapter, Chapter Five, is a summing-up of the major points made in the preceding chapters. It is at once a retrospect and a prospect.
The notions of manpower development and nation-building are actually old ones. What is new, perhaps, is the manner in which this thesis arranges and discusses them. As suggested by its title, this thesis is designed to inquire into the functions and the strategical problems of manpower development from the perspective of nation-building through the study of the case of Singapore. To serve this purpose, we must first examine:

(1) the significance of human resources and manpower development;
(2) the meanings and significant features of nation-building; and,
(3) the conceptual and practical relationships between manpower development and nation-building.

Despite this threefold division of the subject matter, the focus of attention in this chapter is the acquisition of general propositions concerning the role of manpower development in the process of nation-building. This effort is necessary in order to provide a conceptual framework and to ensure that we, the author and his readers, have a common understanding about the theme of this thesis.
I. The Concept of Manpower Development

There is no standard definition of manpower development. Nevertheless, there is a consensus that manpower development, which is also referred to as human resources development, is the process of increasing the knowledge, the skills and the capacities of all the people in a society. In economic terms, it could be described as the accumulation of human capital and its effective investment in the development of an economy. In political terms, it could be viewed as a means of preparing people for adult participation in political processes, particularly as citizens in a democratic state. In socio-cultural terms, the development of human resources helps people to lead fuller and richer lives, less bound by unreasonable tradition or questionable cultural values.

As most would agree, the wealth and the strength of a nation are in essence based upon its ability to conserve, develop, and utilize effectively the innate capacities of its people. The economic and socio-political development of a nation, therefore, is ultimately the result of human effort, stemming from men's ideas and brought into being by their initiative, talents, experience, and skills. It takes able and skilled human agents to discover and exploit natural resources, to mobilize capital, to develop and apply technology, to produce goods, to produce services, to carry on trade, and to manage and protect a nation. Thus, in a very true sense, the progress of a society is

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1 In this thesis, the term "nation" is used as a synonym of "country" and "state".
determined by the endeavours made in helping its people discover and develop their potential. If a country cannot develop its human resources, it cannot develop anything else. Even the richest natural resources and the best means of production will remain unused if a nation's people do not know how to put them to practical use.

Our concern with the development of human resources cannot be exclusively a result of new discoveries in academic knowledge and research. Nor is our recognition about the importance of human resources in economic and socio-political development a great new idea. On the eve of the Industrial Revolution in 1776, Adam Smith, reputed to be the founder of "economic science", argued that the quality and quantity of manpower resources constituted the wealth of nations. Everyone who has even a fleeting acquaintance with his great work, An Inquiry into the Nature and Causes of the Wealth of Nations, knows that for him the human factor in economic life was not peripheral but central. Smith built much of his analysis around the forces governing the acquisition of skill and its effective utilization. According to him, it was the skill, dexterity, and competence of individuals which were the basis of individual and national wealth. Although he allowed for three agents of production -- land, capital and labour -- it was really in the last that he expected to find the basic dynamics of economic development. He specifically included the acquired and useful abilities of all the members of society in his concept of "fixed capital". He said:

The acquisition of such talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized, as it were, in his person. Those talents, as they make a part of
his fortune, so do they likewise of that of the society to which he belongs.²

Besides Smith, other economists such as John Stuart Mill and Alfred Marshall have also tried to tell us that economic analysis, whether of developed or underdeveloped countries, must include the variable of human capital.³ Three-quarters of a century ago, Alfred Marshall, the leading figure in neoclassical economics, stressed that the most valuable of all investment was the capital invested in human beings.⁴ In recent decades, a growing number of today's economists have subscribed to a theory -- of which Theodore W. Schultz is a leading exponent -- that human resources are a form of capital, a human means of production, and the product of investment. Schultz argued:

The failure to treat human resources explicitly as a form of capital, as a produced means of production, as the product of investment, has fostered the retention of the classical notion of labor as a capacity to do manual work requiring little knowledge and skill, a capacity with which, according to this notion, laborers are endowed about equally. This notion of labor was wrong in the classical period and it is patently wrong now.⁵

In putting forth these arguments, these economists apparently


point their spearheads at those "classical" economists who had directly or indirectly denied the importance of human resources in economic development. As a key representative of the "non-manpower-minded" economists, Ricardo has become a main target of criticisms. Ricardo asserted that the strategic element in the economy was capital. In his view, whether a society would remain on even keel, advance, or regress would depend in the first instance on the rate of increase of capital relative to the population that had to be fed and employed. By contemporary standards, this view seems quite fantastic. However, if we understand the socio-economic situation of Ricardo's day, we should note that the emergence of such a view was not accidental. Ricardo, writing in the early days of the Industrial Revolution, saw no reason to be concerned with the availability of labor. There was a great number of rural workers at the doors of the new factories looking for employment. The mills of that day had no difficulty in absorbing illiterate, unskilled workers so long as they were able and willing to submit to discipline. The principal demand of the expanding factory system was for large number of able-bodied men.

Many other economists shared Ricardo's view and considered labor a resource of secondary importance in the development of capitalism. They believed that the numbers of workers required would be available and that the question of skill would not be a problem, since some workers would make the effort to acquire a higher level of competence

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in exchange for a potentially higher wage. In their view, the working population was passive and responsive to the conditions in the marketplace. If employment was scarce in one area and heavy in another, some of the workers would migrate. If one skill was in surplus and another was short, some workers would respond to the demand by acquiring the skill which was short in supply. If all able-bodied men were employed, the market would begin to draw the required manpower from the peripheral labor forces -- the retired, women, the physically and emotionally handicapped, or people of other nations. Based on this "natural demand-and-supply" assumption, they and the like-minded capitalists certainly saw no necessity to be bothered about the availability of manpower and the development of manpower resources.

Apparently, these economists had failed to foresee the great changes the Industrial Revolution was going to bring about. First of all, the Industrial Revolution created the need for a literate labor force, for workers had to be able to read and follow instructions in order to operate machines properly. In the early days of mechanization, job requirements were relatively simple, demanding mainly brawn and manual dexterity, but, as more complicated forms of technology were introduced and evolved, workers had to be more skilled. Another striking transformation that accompanied the growth of industrialization was the proliferation of the professions. Each decade saw an increasing division of labor with more specialization. This was true not only of the individual workplace but of society as a whole. In the early days of the factory system, the owner often served as production manager, foreman, engineer and salesman. But as the company grew, these several functions came to be assumed by specialists. The manpower
needs of such a skilled and professionalized economy naturally could be met only by more readily available and more appropriate education and training. As a result, free public elementary education became a fact early in the lives of most industrialized countries. Employers began to provide some rudimentary training for their employees. Education and training and thus manpower development at length became a public matter of concern.

Of course, the revolution in psychology in recent decades might have also exercised much influence on contemporary views concerning manpower, on the acquisition of skill, talent, and competence and about the potentialities of education and training. Thanks to the theories of human growth and development elaborated and refined since Freud, people have come to understand much more than earlier generations about human motives, values and behavior. The new psychology has made us realize that most human ability is learned and that some people become competent while others do not because of the education or training opportunities that they have encountered rather than because of their genetic potential. Moreover, the personalities of the individuals that develop are conditioned by their experiences in childhood. Environmental opportunities have been seen increasingly as a crucial determinant of later adult performance. Economists have slowly realized that their conception of man must start from the premise that he is not primarily a conscious, rational, calculating and pleasure-seeking animal but is, rather, a complex psychological organism responding simultaneously to

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7 Ginzberg, op. cit., p. 4.
internal and external forces which can be differentiated into the categories of basic drives, adjustment mechanisms and value orientations.

Human nature is pliable, and so human development must be viewed dynamically. The simple-minded assumption of economists that there is a Scotsman inside of every man is indeed an anachronism.

Following the Second World War, economists became intrigued with attempting to explain the factors in economic growth so as to help the economically less developed nations start on the road toward development. What they tried to do was to isolate the main variables that lead to growth or that are obstacles to it. In the late 1940s and early 1950s, the stress was still placed on capital as the engine of economic progress. As experience was acquired, however, it was discovered that capital alone was insufficient, for a new factory could not be operated efficiently by workers unfamiliar with technology. Economists concerned with economic development gradually realized that the quality of the human input -- the skill, dexterity and competence of workers -- was the basic dynamic of economic development. In more recent years, therefore, the emphasis in economic development has shifted to the quality of the human resource input. As one writer puts it:

The economy's output may be raised not only by increasing the supply of inputs...or by technological change...but also by numerous kinds of alterations in the qualities of the inputs of a sort which typically escape the scrutiny of the economic theorist. It is apparent that economic development is associated with important qualitative changes in the human agent as a factor of production. These improvements take such forms as changes in knowledge, technical skills, organizational and

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8 For a detailed discussion of the change in the perception concerning the key factors of economic development, see Roy B. Helfgott, Labor Economics, (New York: Random House, 1974), pp. 470-473.
managerial abilities, levels of economic aspiration, responsiveness to economic incentives, and capacity to undertake and adapt to innovation. The nature of the mechanisms by which these alterations take place is as yet only very imperfectly understood. 9

The importance of high-quality human resources is further illustrated by what happened after World War II. When the War came to an end in 1945, Germany and Japan -- the defeated nations -- saw much of their physical capital destroyed by Allied bombing. But fifteen years later they were both again major industrial powers of the world. It is true that they both had received a considerable amount of American economic aid, but there is no question that their technical know-how -- their high levels of human resource development -- allowed them to put capital into operation quickly.

Today, after a muting of the theme for almost two centuries, the importance of the human resource factor is increasingly stressed in the halls of academia, in the management of industry and in the socio-political arena. While more and more researchers have been engaged in developing theories, assembling facts, and undertaking analyses of selected facets of the development and utilization of human resources, many countries' governments have moved to a more conscious and deliberate attempt to formulate policies and to design programs to direct and enlarge investments in human beings as one of the major means of assuring higher-speed economic and socio-political advancement.

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II. The Meaning of Nation-Building

What is nation-building? What is its content? What is its aim? As is usual with other conceptual terms, scholars and writers of different disciplines or even of similar disciplines with different outlooks have applied this term—nation-building—with a wide range of meanings to serve the various specific purposes of their studies. Many historians and political theorists such as Karl W. Deutsch, Rupert Emerson and Joseph R. Strayer speak of the "emergence of nations"; some political and social scientists speak of "national modernization"; and most economists have tended to refer to nation-building as "economic development of nations". Obviously, the subject is one which straddles several disciplines of learning. It is unlikely that any definition will secure general acceptance.

However, if we have a close look at the various interpretations concerning nation-building, we will note that although there are many different viewpoints surrounding the subject, most writers agree that nation-building is a process by which nations realize certain desired goals. It is on this common perception that scholars of various disciplines and outlooks study the aspects of the "nation-building" process in which they are interested. In fact, it is the varied foci of studies that have given rise to many superficially divergent semantic interpretations.

For the purpose of this thesis, the writer prefers to speak of nation-building as a process in which the government and people of a nation strive to secure a sustained increase in their capabilities to
deal effectively with existing and emergent needs of society, to resolve internal and external attendant conflicts, and adapt to continuous change of both internal and external origin. Beyond doubt, for most (if not all) states, the ultimate goal of nation-building has been to increase their wealth and strength so as to enable their people domestically to lead better and richer lives and to strengthen their economic and socio-political positions on the international stage. There has never been any nation or people entertaining the hope of becoming "poor", "backward" or "underdeveloped".

The content of nation-building as a process is vast in scope. It includes a broad spectrum of activity. It, in the main, encompasses all the activities and efforts necessary for a nation's economic, social, political, cultural and defensive development. We cannot enumerate here in detail all the component ingredients of the process. But it is nevertheless necessary, in addition to the interpretation above, to take a brief look at a few general features of the process in order to understand some of the critical problems involved in it.

As far as we can see, change is one of the most important features or requirements of nation-building. As a process, nation-building is the transition of a society from what it is to what it would like to be. It is an attempt by the people of a nation to bring about a certain desired future state of affairs, namely, a politically, socially and economically integrated society with built-in capabilities for continuous and orderly adaptation and growth. In a general sense, so long as a nation is dissatisfied with the existing state of things, it is bound to initiate change to pave the way for its "desired state of affairs". In other
words, the state of being dissatisfied with the status quo is the basic psychological dynamics of goal-oriented or correctional change, whether it be economic, socio-political or cultural. As a process of meeting the prerequisites for the realization of the desired national goals, nation-building naturally calls for change in a variety of dimensions of society: economic, socio-cultural and political activities, human and institutional behavior, and the patterns of allocating values. To effect these changes, nation-building also requires changes in the realm of socio-cultural values. Socio-cultural values are the factors that determine ideas about the nature and capacity of man, about the role of the individual, about the purpose of society, about the types of relationships that should obtain amongst people, amongst groups of people, and ultimately about the nature of politics and the economy. Changes in socio-cultural values and in patterns of behavior are mutually supportive and generative. While changes in the first generate changes in the second, changes in the latter reinforce and consolidate changes in the former.

The problem, however, is that value changes and corresponding behavior change do not necessarily occur simultaneously or evenly throughout society. People may agree to support national objectives in the abstract but differ markedly in what they are willing to give up to see these ends achieved. Some segments of society may feel critically deprived of certain material benefits and their accustomed ways of doing things as a result of a new pattern of values. As Mancur Olson puts it, "though all of the members of the group therefore have a common interest in obtaining the collective benefit [namely, the common goal], they may
have no common interest in paying the cost of providing that collective good." As a consequence, there is always resistance, overt or covert, against new ways of doing things (expected behavior) and new modes of thinking (desired values).

Under such circumstances, if the forces opposed to new ways and new modes are strong, the desired changes in value and behavior -- the impetus of other changes necessary for nation-building -- may eventually be hindered or suppressed. If changes in values and behavior patterns and other corresponding changes are to persist, then there must be some means by which the desired changes may be effectively generated and integrated in society and into the process of nation-building. While something must be done to ward off opposition to desired changes in value and behavior, some institutional devices must be provided to reward and consolidate desired changes. Some existing institutions or systems, socio-political and economic as well as cultural, may prove to be detrimental to the new ways and new modes for nation-building, in which case they may have to be reorganized, restructured, or even abolished. Conversely, some new desired institutions and systems may have to be established. But, at any rate, proper caution must be employed to prevent the emergent systems or institutions from succumbing to pressures of old parochial values and patterns of behavior. Axiomatically, it follows that another condition vital in the process of nation-building is the matter of how to increase the ability of government and the capacity of society to absorb and intergrate the changes necessary for

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nation-building.

Since change in values and behavior patterns necessarily leads to change in the kind and volume of demands and expectations, such change also necessarily signifies change in the extent and content of support for government and other instruments of nation-building. Rising expectations may have the effect of seriously undermining both the existing ability and the potential growth and viability of the government and its nation-building apparatuses. Demand and support are two sides of the same coin. Certain changes and resulting expectations may have the effect of increasing support; others may have the opposite effect. Moreover, there are instances of change which may have the effect of either undermining the viability of change that has already occurred or seriously inhibiting the emergence of further changes. It is for these reasons that all desired changes should be carefully engineered and controlled if the nation-building process is to proceed without serious and destructive obstacles. That is to say, the forward movement in the process of nation-building requires all the needed changes to be conditioned in such a way as to render them positively contributive to nation-building and to prevent them from weakening the ability of government and society to realize the desired goals of the society.

The ways in which changes in values and patterns of human and institutional behavior can be brought about and in which resulting changes in social demands and expectations can be integrated and regulated are various. For example, exposure to knowledge and visions of "progressive" modernity and its material lure are a fundamental requirement for the generation of the needed changes. Movies, television,
transistor radios, newspapers, magazines and other relatively inexpen-
sive mass communications and information methods are all employed to
introduce and transmit new ideas and visions. On the other hand,
progressive "goal-oriented" political socialization is also a highly
necessary means of inculcating into a citizenry those ideas, values and
attitudes that are contributive to the various tasks of nation-building.
Proponents of the "liberal" or "individualist" democracy may regard
such goal-oriented political socialization as mere repressive "brain-
washing" conducive to dictatorship and detrimental to individual freedom.
But, if these "liberals" are not to be merely "arm-chair" theoreticians,
they should admit that even with the unpleasant restrictions on
individual liberty well-planned and well-regulated changes are vital in
the process of nation-building. We should bear in mind that nation-
building, as we see, is substantially a hazardous and costly enterprise
that nearly always calls for many painful sacrifices and unaccustomed
efforts. This is particularly true in the case of less developed states.

It is evident that, in emphasizing the need to pursue well-planned
and well-regulated changes through goal-oriented political socialization,
the writer of this thesis is advocating "guided democracy" -- democracy
with a strong, effective and responsible government leadership capable
of engineering the needed changes and efforts for nation-building.
III. Manpower Development for Nation-building

Having an elementary understanding of the meanings of manpower development and nation-building, we should have no difficulty in illuminating the interrelation between the two concepts in practical terms. Although both manpower development and nation-building are "processes" of attaining certain prescribed national goals, they are in essence the indications of two different but closely related states of affairs. Their differences lie mainly in their immediate goals and content. Nation-building, as we have already defined, is the process of attempting to bring about a certain desired state of affairs—a socio-politically and economically integrated society with built-in capabilities for continuous and orderly adaptation and growth. Manpower development, on the other hand, is basically the process of increasing the knowledge, the skills and the capabilities of all the people in a society. Its immediate objective is to acquire and develop effectively the human resources required for the propulsion of nation-building. It is the process by which the "manpower infrastructure" of nation-building—the desirable quantity and quality of skills and knowledge—are brought into being.

Indeed, as we have noted earlier, the dexterity and skills of the people are a major determinant of the wealth and strength of a country. Progress, whether it be economic, socio-cultural or political, is in effect the fruit of human effort. It is merely a truism to say that "countries are underdeveloped because most of their peoples are underdeveloped, having had no [or insufficient] opportunity of expanding
their potential capacities in the service of society." Ultimately, the wealth and might of a nation rest with its ability to develop and utilize the innate capabilities of its people. Manpower development, therefore, is the basic necessary condition for nation-building. Its success or failure can be the success or failure of nation-building as well as the success or failure of a nation. This is true not only of the developing nations but also of the developed states.

Only if we look closely at the world in which we now live, we will ultimately "discover" that the vast majority of the commonly-called "poor" or "underdeveloped" countries are actually not "poor" at all. They are poor only in the sense, as widely perceived, that their "gross-national-product", "per-capita-income" and "standards of living" are not on par with the "average international standards"; or that the majority of their population suffers from starvation, malnutrition, disease, or natural calamities. But they are not poor in the sense that they have nothing at all. On the contrary, most of them are "rich" in natural resources. Judging from the fact that they possess and supply most of the natural materials needed for economic development, they are in a sense wealthier than many economically "rich" or "developed" countries. Japan, for instance, is internationally recognized as the "richest" country in Asia. Nevertheless, when compared with its Asian counterparts (except Singapore) in terms of natural resources, it is seen as one of the "poorest" among them. If we compare the once great colonial powers

such as Great Britain and Holland with their former colonies, we will note that the former were rich in socio-economic life but poor in natural resources, while the latter were rich in natural resources but poor in socio-economic life.

Do we know the basic reason why these naturally rich nations have been socio-economically poor? Anyone who tends to view things superficially may blame this "naturally rich but socio-economically poor" phenomenon on the lack of capital or speedy capital formation on the part of the poor countries. He may also attribute it to the non-existence of certain "ideal types" of socio-political systems and order. But none of these interpretations hits the nail on the head. Only if we examine this phenomenon cautiously, will we realize that it is in effect due to the underdevelopment or imbalanced development of the human resources of the socio-economically poor nations. For these human resources have not been properly developed. Indeed, capital, conducive socio-economic systems and socio-political order are also necessary conditions of socio-economic growth. But they do not come out of the empty air. It takes human beings to acquire, develop and maintain them. Those who tend to blame the emergence of poor or backward societies solely on external exploitation and oppression should also realize that the poor societies concerned should also be blamed for being "incapable" of resisting external manipulation. Such conditions like "independence", "freedom from colonial exploitation", "prosperity" and "justice in the distribution of wealth and power" are all to be brought about by the will, wits and capabilities of the
people who thirst for them. And so, in the final analysis, manpower development is too fundamental to the construction, maintenance and growth of a nation or a people.

As a prerequisite to successful nation-building, manpower development is a means-oriented process. Although nation-building is not entirely an end in itself, it is rather more goal-oriented than manpower development. In this way, the relationship between manpower development and nation-building can be interpreted as one between a means and an end. As a rule, the substance of any "goal-directed" means is determined by the end it serves. Since nation-building is the immediate "goal" of manpower development, its content determines the content of the later. Ultimately, it is the national goals that directly decides the substance of nation-building and indirectly that of manpower development. Acting as an intermediate process, nation-building is at once the "process" of attaining national goals and the immediate "goal" of manpower development. It starts with manpower development and ends with the attainment of national goals.

The goals of nations are political, economic and social as well as cultural, implying the desired future states of affairs nations-states wish to bring about. Broadly speaking, all nations from the days of their formation want to become "prosperous" and "mighty". But this does not mean that the goals of all nations are exactly the same in quantity and quality. National goals, in the main, arise from the subjective "needs" of nations. And, as we know, needs emerge not only from human instinct but also from the interacting relations
between men and the objective setting in which they live. Even those commonly shared basic human needs — the so-called "primary needs" such as that of survival — are responsive to the influences of many environmental factors such as geographical positions, the availability of natural resources and such man-made factors as economic, socio-political systems or organizations. Due to the various impacts of different objective settings, even the impetus or impulse a common basic human need gives to every human agent or group is varied either in essence or in intensity. Certainly, the impulse the need for survival gives to countries which have no survival problems is weaker than the one it gives to countries which are still struggling to survive. It is therefore axiomatic that in view of diverse needs or priority of needs, stemming from different milieu, goals of nations are bound to be varied. It also goes without saying that since the goals or priorities of nations are not precisely alike, no two countries would have exactly the same kinds of nation-building and manpower development processes.

By and large, the human capital for nation-building can be developed and acquired in various ways. It can be developed and accumulated through formal education in schools, technical training centres, colleges, universities and other institutions of higher learning. It can be developed in employment through on-the-job training, in-service programs of formal training, management development schemes, part-time adult education classes, and many other means. It can be developed in employment through better organization of work and better management of people. And finally, it can be
developed as a by-product of collective military training.

Of course, the manpower necessary for nation-building can also be imported from abroad through a variety of means such as technical assistance, expatriate enterprises, hiring of consultants, or immigration. But, strictly speaking, this is not a self-reliant and self-contained approach. As a short-term supplementary measure, it may be quite helpful. But, in the long run, it can be a disadvantage to the country concerned. Except in the case of an underpopulated country, such a measure may not only move a nation into the position of excessive dependency on external manpower supplies but also keep the local manpower resources underdeveloped and underutilized. On the other hand, the reliability of external manpower is also questionable. For instance, can all the manpower a country demands be constantly and satisfactorily acquired through the external sources in both quantitative and qualitative terms? And more important, will the foreigners employed be loyal to the interests of the host country? Will they not go away for some unpleasant reasons or leave for other countries which can offer them better working conditions? In short, can the manpower imported from abroad be effectively utilized by the country concerned to pursue its nation-building goals? If a country wishes to free itself from these misgivings as much as possible, it had better put more effort into the development of its domestic manpower resources and try not to rely too much upon the external sources of manpower. Having suffered from their dependency on
Russia for technical assistance one and a half decades ago, the Chinese leaders in Peking have energetically advocated the principle of self-reliance and self-sufficiency—striving for regeneration and pushing forward with one's own efforts. In view of the visible achievement of China's self-reliant and self-contained nation-building model, we certainly have no valid ground on which to disprove the practicality and the internal logic of such development theory.

With a view to becoming prosperous and mighty, a country certainly needs able and skilled persons of all kinds such as capable political leaders, lawyers, judges, administrators, engineers, doctors, managers, craftsmen, farmers, and journalists as well as artists, musicians and writers to man, to initiate, and to spur all its nation-building programs. Broadly speaking, the leading builders of nations are elites or "advanced workers" of various kinds who organize and lead the march toward progress. These elites may be revolutionary intelligentsia, nationalist leaders, or members of a rising middle class. But, their effectiveness as prime movers of nation-building depends not only on their own development and capabilities but also on the knowledge, skills, and dexterity of those

12 Resenting the Chinese leaders' energetic challenge to its position as the "big brother" or chief leader of the Communist camp on ideological grounds, the Soviet Government withdrew all its 1,390 specialists—engineers, technicians, scientists, and other personnel—from China during July and August of 1960. The pretext of such action was that the Chinese Government had misused and mistreated the Soviet personnel employed in China's service. The dramatic move was
whom they lead. In essence, nation-building is a matter in which every segment of a society is concerned. It is therefore a mass movement. Its driving force stems in large part from the creative energies and efforts of the masses. The "three-in-one" model of the Peoples' Republic of China is apparently based on this awareness. It calls for the coordination of efforts among the leading cadres, workers and technical personnel of the country. There is no denying that without competent and effective leadership the masses will face grave difficulties. But it is also highly inappropriate for a country to place too much emphasis on the competence of the leading elites and overlook the power of the masses. To stress the importance of the common people, a Chinese proverb says, "three cobblers with their wits combined can equal a master mind like Chu Keh-liang." With this in mind, we cannot but contend that in order to activate a mass movement of nation-building, a purposeful and ambitious manpower development process must be "mass-oriented". It should aim at enhancing the skills and capabilities of all the people of the society.

highly reminiscent of the Soviet withdrawal of specialists from Yugoslavia in 1948, but it was on a much larger scale and had major significance for China's reconstruction programs. For a detailed account of this event, see O. Edmund Clubb, China & Russia: The Great Game, (New York: Columbia University Press, 1971), Section 32, pp. 438-450.

Chu Keh-liang was an eminent Chinese military and political strategist who served as the military adviser and commander of Du Empire and engineered many successful tactical military moves against Du's two opponents—Wu Empire and Wei Empire—during the "three kingdom" period (220-588) of Chinese history. In the eyes of Chinese people, he was one of the most intelligent historical figures whom they have respected until today. And so, while its origin remains unknown, this proverb has become common knowledge amongst the Chinese people. In much Chinese literature, "Chu Ke-liang" is a synonym of "master mind".
No matter whether in terms of quantity or in terms of quality manpower requirements and problems of no two countries are exactly alike. Builders of nations need to make a careful and systematic assessment of the human resource requirements and problems in their particular countries. Such assessment is commonly called "manpower analysis". Its objectives are as follows:

1. The identification of the principal manpower problems such as the major critical shortages or surpluses of both skilled and unskilled manpower and the analysis of the reasons for such shortages and surpluses;
2. The identification of manpower requirements in terms of both quantity and quality, and demand and supply;
3. The setting of forward targets for human resource development based upon reasonable expectations of growth; and,
4. The forecast of probable future trends and problems in manpower supply and demand as related to national growth.

Strictly speaking, the content of manpower development as a process for nation-building is vast in scope. In addition to the activities of assessing manpower requirements, locating manpower problems, developing the required manpower for nation-building, and forecasting future trends in manpower supply and demand, it includes the activities of utilizing the developed or developing human resources. However, the main focus of this thesis is placed on the question of the acquisition and development of the desired quantity of good quality manpower which is critical for nation-building. Consequently, the
methodologies of manpower assessments, manpower forecasting and man­
power utilization lie largely beyond the scope of this thesis. They
will be briefly mentioned only when the necessity arises.
The general proposition that manpower development is a prerequisite to nation-building is equally true in the case of Singapore. Before proceeding to analyse the manpower development policies and programmes of Singapore, the writer would like to account for the reasons why human resources and manpower development are important in determining the nation-building progress of Singapore. To maximize the comprehensiveness of this account, he naturally should in the first place make a sketch of the objective settings and national priorities of Singapore. In so doing, he is certain that this chapter will enable the readers to acquire a wide and deep understanding about (1) the manner in which the objective settings of Singapore have helped to shape the national goals of Singapore; and, (2) the manner in which the manpower development policies of the Singapore Government relate to Singapore's nation-building goals. And, he believes, a positive comprehension of these two aspects will convince the readers of the general assertion that a goal-directed manpower development process is answerable to the national needs being conditioned by the objective settings of the country concerned.
I. The Objective Settings of Singapore

Modern Singapore began in 1819, the year in which the small island was transformed into an outpost for the expansion of British imperialist and commercial interests in the Malay archipelago. Its focal and strategic position made it the headquarters of the Straits Settlements and a controlling influence on events in the Malay states. For much of its history Singapore was a colonial entrepot, an appendage of British Malaya. It was only after the Second World War that the Island witnessed rapid constitutional and socio-political changes. A form of dyarchy was introduced in 1955 and ex officio ministers were made responsible for the control of the Island. Four years later, Singapore became internally self-governing. In 1963, as an effort to end its artificial separation from the Malayan peninsula, the Island became a component state of the newly founded

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14 The Straits Settlements made up of Singapore, Penang and Malacca were formed in 1826. Singapore became the centre of government for the Settlements in 1832, because of its proximity to Java as well as those countries to the eastward.

15 Under the Rendel Constitution of 1955, a Legislative Assembly was established with 25 out of 32 members elected, a Governor-nominated Speaker, and a Council of Ministers with a minority of 4 ex-officio members responsible to the Legislative Assembly.

16 Under the new constitution of 1959, all internal affairs were to be managed by a cabinet fully responsible to a Parliament of 51 members all elected from single-member constituencies by citizens. Foreign affairs and foreign defence remained the responsibility of the United Kingdom, while responsibility for internal security lay with an Internal Security Council, on which the UK and Singapore each had 3 members, and Malayan Government one member who virtually held the casting vote. On May 30, 1959, the first election was held. The People's Action Party won 43 seats out of 51.
Federation of Malaysia. This political arrangement, however, persisted for less than two years. On 9th August 1965, Singapore was divorced politically from the Federation and has since then become an independent republic. A new phase in the history of Singapore was launched on that fateful day when the separation agreement was signed between the governments of Malaysia and Singapore.

Singapore today occupies a unique position in Southeast Asia. It is an insular territory of only 584.3 square kilometres (224.5 square miles). It is the smallest and the most densely populated state in the region. At the end of 1976, the population of the Island was estimated at 2,278,200. This implies an average population density of 3,900 persons per kilometre (over 10,100 to the square mile). Of the total population some 76.1% (1,734,600) are ethnically Chinese, 15.1% (342,900) Malays, and 6.9% (156,500) Indians, Pakistanis and Ceylonese, while the remaining 1.9% (44,200) are drawn from all over the world. In consequence, Singapore is the only state in Southeast Asia where the Chinese form an overwhelming part of the population with the Malays, Indians and other races as minorities.

More uniquely, this Chinese-dominated tiny city-state is surrounded by two big conspicuously Malay nations -- Malaysia and

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19 Ibid.
Indonesia, in which the Chinese communities have been resented and suspected. As many political analysts have put it, Singapore is a small island-state situated at the centre of a big "Malay sea". Singapore is so close to the Malayan peninsula that a three-quarter-mile-long causeway, carrying road, railway track and the vital fresh water pipeline from the Johore reservoirs, is all that stands between it and its northern neighbour, the Malayan states of Malaysia. To the East, the Republic faces both the territories of East Malaysia -- Sabah and Sarawak, and the Borneo territory of Indonesia -- Kalimantan. To the South, the smaller Indonesian islands laying off the north-eastern coast of Sumatra are visible most of the time.

Another visible, unique feature of Singapore is that although finding itself in a region which is a major source of tropical raw materials, this island-state is the only Southeast Asian country that has a very poor natural resource base. It does not have any significant natural resources other than a narrowly limited amount of cultivable land and a quite inadequate local water supply. Almost all its industrial materials as well as its food-stuff are imported from its neighbouring Southeast Asian or Asian countries.

The greatest asset that Singapore has is its strategic location at one of the major maritime crossroads of the world. As can be seen on any world map, Singapore occupies a focal position at the turning point on the shortest sea-route from the Indian Ocean to the South China Sea and the Pacific Ocean (see Appendix 1). It was precisely owing to the immense commercial potentialities latent in such a geographical location that the island was brought under British rule in 1819, and was developed
by the British colonial authorities to become the greatest port and the principal centre of entrepôt trade in Southeast Asia. As its founder -- Stamford Raffles -- put it,

The island of Singapore, independently of the Straits and harbour of Johore, which it both forms and commands, has, on its southern shores, and by means of the several smaller islands which lie off it, excellent anchorage and smaller harbours.... Its position in the Straits of Singapore is far more commanding than even Rhio, for our China trade passing down the Straits of Malacca, and every native vessel that sails through the Straits of Rhio must pass in sight of it.20

As an attempt to exploit this locational advantage to encourage the free flow of trade, Raffles established Singapore as a free port. This policy of unfettered trade, still largely in force in the 1960s, has contributed significantly to the success of the Island as a great and busy entrepôt port. Since the days of Raffles, the focal and strategic location has all along played a dominant role in the economic transformation of the Island-city. It has made Singapore the natural collecting and distributing centre for the primary products of South-east Asia and for manufactured goods en route to the region's markets. Except for land-locked Laos, all the Southeast Asian countries have access to the sea. The general tendency for areas of production to be concentrated on coastal and peripheral locations also serves to emphasize the importance of seaborne trade.

Apart from its strategic location, another geographical factor which has also contributed to the development of Singapore as an important trading port is the Island's fine natural harbour. It is its

natural deep-water harbour that has enabled it to become an excellent port for the increasingly important steamer traffic of the region. With its excellent harbour and ancillary facilities and its capabilities to act as a transhipment centre linking the region's major ports with other maritime nations of the world, Singapore has now become the largest trading port of Southeast Asia, the second largest in Asia, and the fourth largest in the world. This Island-state certainly owes its early development and economic prosperity to its strategic geographical position and fine natural harbour and its function as the trading centre for Southeast Asia. In the absence of other natural material resources, these income-earning geographical factors can well be regarded as a natural resource of immense importance for Singapore. It is a resource as real and as important to it as oil is to Brunei and Saudi Arabia.

In recent decades, following the gradual downfall of its traditional entrepôt trade, Singapore has increasingly relied on commerce, servicing and manufacturing for its livelihood. Since the initiation and the implementation of its ambitious industrialization program, the Island's industrial economy has been growing steadily. As is widely accepted, Singapore has become the most industrialized country in Southeast Asia. Its people have enjoyed the region's highest standards of living. It is now a society which is almost wholly oriented towards objectives similar to those found in Western industrialized countries, namely, the acquisition of material wealth and the production of goods and services beyond basic subsistence needs. At the same time, individual initiative and the entrepreneurial spirit are dominant and
actively encouraged, and wants tend to be unlimited. Being the most pro-
perous industrialized and commercialized Southeast Asian state, Singapore
has at the same time become one of the most urbanized societies in the
region. In contrast, most of its Southeast Asian neighbours are tradi-
tional agriculturally based rural societies.

In short, Singapore's position in Southeast Asia is quite a unique
one. As the most densely populated, industrialized and urbanized tiny
island-state with a poor natural resources base, the problems of the
Republic are those of a highly urbanized city-state, and differ markedly
from those of the other Southeast Asian states, where the problems are
rural and agricultural rather than urban and commercial and industrial
in nature. Yet while standing out so distinctively from the rest of the
Region, Singapore has always been and will continue to be part and parcel
of the Southeast Asian scene. It is not only that its history is
inextricably tied up with its neighbours but that its fate and future
are linked closely with those of the region.
II. The National Priorities of Singapore

Ever since Singapore became a sovereign state, its central problem has been one of survival. Needless to say, most of the problems that have challenged Singapore's viability are essentially the result of her unique objective settings.

First of all, due to the absence of a strong natural resource base, the economic foundation of Singapore is far from solid. Until the time of independence, Singapore owed its economic life and progress to its traditional entrepot trade. But since the beginning of the 1960s, its traditional role as entrepot port for Southeast Asia's primary export commodities and consumer goods has been diminishing.\(^\text{22}\) This is mainly because the independent governments of its neighbours have gradually built up their own processing, marketing, and port facilities to bypass Singapore and deal directly with the original suppliers and ultimate consumers.

As early as 1960, the People's Action Party (PAP) government, in power since 1959, realized not only that the Island's economy could no longer depend solely on the entrepot trade but also that adapting to the changing circumstances was necessary. With the advice of a United Nation Industrial Mission headed by Dr. Albert Winsemius,\(^\text{23}\) the

\(^{22}\) The entrepot trade's estimated contribution to Singapore economy has fallen from well over 25% in the early 1950s to about 18% in the first half of the 1960s and is now less than 12%. See Koh Foong Yin, "Singapore: Economic Survey", in Europa Publications Ltd., ed., Southeast Asia: An Introduction, (London: Staples Printers, 1973), p. 149.

\(^{23}\) The UN Industrial Mission conducted a detailed perspective study of Singapore's industrial potential. Its report provided the framework for the policies that followed. After the Mission had completed its task,
Government soon saw a solution to the problem in industrialization. In August 1961, the Economic Development Board (EDB) was established to formulate and implement an ambitious and intensive program of industrialization. Planned industrialization, henceforth, became a conscious strategy of economic development in Singapore. While serving as a fundamental means of diversifying the Island's economy, the government-led industrialization program aimed to create employment opportunities to absorb the growing labour force so as to meet the existing and future unemployment problems. The magnitude of the employment problem was clearly outlined by Winsemius who estimated that to achieve full employment 214,000 new jobs would have to be created in the economy between 1961 and 1970. Other reasons for industrialization include the objectives of increasing the standard of living of the population and net foreign exchange earnings.

Nevertheless, the lack of raw materials is a major handicap to Singapore's industrialization program. Although Singapore can tap the fund of raw materials available from other better-endowed countries at a cost, it has no direct control on these resources. And, tariff barriers or political considerations may put an otherwise easily accessible resource beyond its reach, or stop the flow from an existing source. With a view to reducing dependence on imported primary raw materials, it has been the Singapore Government's policy to concentrate

the Singapore Government retained the services of the Dutch economist who headed it, Dr. Albert Winsemius. For further information on Dr. Winsemius's role in Singapore's development, see J.T.S. George, Lee Kuan Yew's Singapore, (London: Andre Deutsch, 1974), pp. 96-99.

industrialization efforts on second-stage manufacturing and assembly -- to import semi-finished goods for assembly, finishing and packaging. Much emphasis has also been given to "servicing" which is considered to include the repairing and servicing of equipment, machinery and vehicles. But the problem is that as an industry which is less dependent on imported raw materials, second-stage manufacturing is a less labour-intensive industry and is thus less capable of creating job opportunities to meet the pressing employment problem in Singapore. The creation of new employment opportunities in the manufacturing sector in the first five years of industrialization thus fell critically short of the required target.\textsuperscript{25}

Indeed, during the 1960's Singapore suffered three dramatic setbacks: the Indonesian Confrontation campaign of 1963-66, the separation from the Malaysian market in 1965, and the British Government's decision in 1968 to withdraw its forces from the Island. The Indonesian Confrontation meant the official suspension of trade with a major partner. Expulsion from Malaysia dealt a fatal blow to many of the infant manufacturing industries which had been set up in the Island on the assumption that they would serve the pan-Malaysian market. And the uncertainty which followed over the financial relations between the two territories also gave a concern to investors. Fortunately, these blows were neutralized by the construction boom which was kept going during the second half of the 1960s by the Government's accelerated urban renewal program.

\textsuperscript{25} During the period from 1959 to 1966, the average annual increase in the number of workers engaged in manufacturing was only 3,886, or only 39.7\% of the target of 9,800 jobs per year required of the manufacturing section to achieve full employment in the economy. The rate of unemployment, on the other hand, was 10.9\% per annum. See \textit{Ibid.}, p. 135.
and its vigorous push to the lagging hotel industry.26

To encourage more foreign investments in the Republic, the Government in 1967 passed the Economic Incentives Act, offering, among other things, a five-year tax holiday for companies manufacturing approved products, and tax concessions for approved export-oriented companies.27 The EDB also began to concentrate on the promotion of suitable industrial information to international companies interested in setting up manufacturing plants in Singapore. These efforts proved very successful. They were followed by an abundant flow of foreign investment into the manufacturing sector.

But just when the economy began to show sign of recovering from the shocks of Indonesian confrontation and Singapore's separation from Malaysia, the British Government announced in January 1968 their intentions to phase out their defence commitments east of Suez. It would not be an exaggeration to say that this news was received with alarm and despondency in the Republic. Some of the questions widely asked were: What would happen to more than 40,000 base workers who would lose their jobs? How could Singapore make good the loss of its GNP, variously estimated at between 15 to 25 per cent? Fortunately, this setback was


later proved to be a false alarm. When the British Government actuated its military withdrawal at the end of 1971, the steadily growing industry was able to make good the losses that had stemmed from the British action. While the Gross Domestic Product increased from 3,043.4 million dollars in 1965 to 6,680.4 million dollars in 1971, the unemployment rate had fallen from well over 8.7% to 4.8% over this seven-year period. In mid-1973, the unemployment rate was as low as 4.5% while the GDP stood as high as 9,092.8 million dollars. And thus, the problem of unemployment was alleviated.

In recent successive years, manufacturing has remained the main stimulus of Singapore's economy. Its increased earnings accounted for one-third of the total increase of the GDP in 1973. Yet another area in which government encouragement has helped to start a new source of income is banking and finance. Since its inauguration in 1968, the "Asian Dollar Market" of Singapore has been growing.

But unfortunately, "good times never last". In the last two years, the world has fallen on difficult times. It has been experiencing a period of depression. Steeply rising prices for oil, food grains and other natural raw materials have inevitably brought a grave world-wide inflation which proved more disastrous to most of the developing "third world" countries. As an economic entity which has been so vulnerable to external influences, Singapore has been hard hit. Its economic growth rate

29 Ibid.
has fallen from 12% in 1973 to 5% in 1975. In 1974, although the unemployment rate did not exceed 4.5% of 1973, the total number of laid-off workmen amounted to 20,000, accounting for 2% of the 0.6 million workforce. Fortunately, the number of laid-off workmen has gradually gone down as the industries which caused two-thirds of the lay-offs, namely, electronic, garments and timber, have been recovering. Since the end of 1975, Singapore's economic situation has been greatly improved. In order to provide a more reliable and better livelihood to its 2.2 million population, Singapore certainly has no choice but to strive continuously "to achieve at the same time the four objectives of any national economic policy -- first, a rapid economic growth; second, a healthy balance of payments position; third, full employment; and fourth, a slow rate, if not a total absence, of inflation, which would not affect stability in price."33

Apart from the problem of how to provide a livelihood to the population, another grave problem confronting Singapore is the one of how to allocate its extremely limited space to meet the housing requirements of its 2.2 million people. As a port with no hinterland of its own, having an area of only 584.3 square kilometres, Singapore has extremely limited living space. The problem of living space has been

30 Sin Chew Jit Poh, one of the most widely read Chinese newspapers in Singapore, January 1, 1976.
33 These four national objectives were singled out by Singapore Finance Minister, Mr. Hon Sui-sen, for discussion at a seminar. See The Mirror, Vol. 10, No. 16, April 22, 1974, p. 1.
accentuated not only by population growth and increasing housing demands, but also by the need to allocate some of the Island's limited land resources for industry, commerce, agriculture and public uses such as defence installations, water catchment and roads for public transport.

As a matter of fact, as early as the beginning of this century, Singapore had an acute housing problem. But it was not until the coming of Singapore Improvement Trust (SIT) in 1927 that any attempt was made to tackle it. In its 32 years of existence, the SIT constructed exactly 23,019 housing units. This proved grossly inadequate. The bulk of the population was concentrated in the congested slums in the central city area. Those people who were unable to find accommodation in these slums moved out to the fringe of the city where they erected haphazard shelters of wood, attap (coconut leaves), corrugated iron or scrap materials. They eventually grew into squatter resettlements and formed a ring of squalor and misery around the central city area. These areas often became death traps and breeding grounds for disease and crime.

When the present PAP Government came into power in 1959, housing was rated as a top-priority commitment. The Housing and Development Board (HDB) was established in February 1960 to replace the SIT. The Board immediately worked out a ten-year (1961-70) housing development plan, establishing that 150,000 housing units would be required in the following ten years to meet the housing shortage and provide alternative accommodations for people affected by slum clearance and urban

34 Nanyang Siang Pau, December 23, 1974, p. 32.
renewal schemes. Of this, 50,000 units would have to be built by the private sector.\footnote{35}

At the end of the First Five-Year Building Program (1961-65), the backbone of the housing problem had been broken. The Board built some 53,000 flats at a cost of $230 million, housing more than 250,000 people.\footnote{36} During the Second Five-Year Building Program (1966-70), the HDB built over 67,000 flats costing $305 million for about 350,000 people.\footnote{37} Another 113,000 new flats were constructed during the Third Five-Year Building Program (1971-75).\footnote{38} By March 1976, the number of people residing in public housing estates increased to more than half the total population.\footnote{39} At present, the HDB is undertaking its Fourth Five-Year Building Program. The target is to construct another 125,000 housing units.\footnote{40}

The Government's housing policy, in providing houses for the people at rents or prices they can afford, is regarded as a public service. A socialist feature of the public housing program is that its first attention was given to the housing problem of the lower income people.\footnote{41} Since 1964,

\footnote{35 Choe, op. cit., p. 26.}
\footnote{36 Teh Cheang-wan, "Public Housing", in Ooi Jin-bee and Chiang Haiding, op. cit., p. 174.}
\footnote{37 Singapore Yearbook, 1974, p. 220.}
\footnote{38 Singapore Yearbook, 1976, p. 196.}
\footnote{39 Ibid., p. 195.}
\footnote{40 Ibid., p. 196.}
\footnote{41 The first five-year building program emphasized the provision of a basic shelter and amenities with a high ratio of one-room and two-room flats. The second five-year building program had few one-room with more three-room flats. The third five-year program was almost devoid of one-room flats. More and more larger and better four-room and five-room flats were constructed. While the one-room and two-room flats were built to meet the housing requirements of the lower income group, three-room flats
the Government has implemented a "Home Ownership for the People" Scheme to enable the lower income group to own HDB flats. Under this scheme, the purchaser needs only make a down-payment of 20% of the selling price, the balance to be repaid monthly over 20 years. To further assist the lower income people to have houses of their own, the Government in 1968 amended the statute governing employees' compulsory savings to allow the purchaser to utilize his credit in the Central Provident Fund (CPF)\textsuperscript{42} to pay for the flats or to meet the initial down-payment.

Besides trying to tackle the housing problem, the Singapore Government has also launched a nation-wide urban renewal program to re-develop the slum-ridden areas in the strategic and valuable central city area. To prepare for the Republic's growth and ultimate progress, the Government has striven to allocate more strategically located land for the development of trade, commerce, industry, transportation facilities, public utilities, recreational, cultural, educational and environmental improvement facilities. Its major urban renewal task is not only to identify areas that must be demolished and rebuilt, but also to identify those areas worth preserving and initiate a program to improve them and make them habitable with improved environment. Moreover, it has been the Government's responsibility to rehouse those people affected by the renewal scheme.

Since the inauguration of the Urban Renewal Program in 1966, wide

\textsuperscript{42} The CPF is a compulsory savings scheme to which both employers and employees contribute, covering almost all persons employed in Singapore under a contract of service. From July 1, 1973, the rate of contributions applicable to the private sector has been 26% of ordinary wages and contributions at this rate are paid by employers and employees at the rates of 15% and 11% respectively.
ranging new developments have taken place in various parts of the city. More and more slums have been replaced by modern well-planned housing complete with a whole range of socio-economic amenities. By 1975, more than 206 hectares in the central city area consisting of decaying slums had been systematically cleared and redeveloped.\textsuperscript{43} And, 55 urban renewal sites were sold by public tender to the private sector, yielding an investment of $760 million and providing employment for more than 65,000 people.\textsuperscript{44} The construction boom which Singapore has enjoyed since the second half of the 1960s is the net result of the ambitious urban renewal campaign.

Another important emphasis of the urban renewal scheme is to improve the Republic's environment. Aside from providing socially and economically viable projects, there have been ambitious projects to beautify the city and so to provide a more congenial living and working environment for Singaporeans. These include the development of recreational parks, sports complexes, playgrounds, community centres and hawker's centres; the preservation and renovation of buildings and sites of historical or architectural interest; and the development of proper drainage systems, modern sanitation facilities and other anti-pollution measures. As tourism has become an important industry,\textsuperscript{45} the Government has striven to provide more tourist facilities and amenities such as tourist complexes, hotel, shopping centres and landscaped sites.

\textsuperscript{43} Singapore Yearbook, 1976, p. 197.

\textsuperscript{44} Ibid.

\textsuperscript{45} In 1973 alone, there were 1,000,685 tourists in Singapore, compared with 780,000 in 1972 and 710,000 in 1971. Earnings from tourism in 1973 were $528.3 million, an increase of 27.9\% over $412.9 million for 1972. See The Mirror, Vol. 11, No. 33, August 18, 1975, p. 7.
In order to preserve more space for socio-economic development, the Government has striven not only to save living space by building skywards but also to enlarge the Island's land area by reclaiming land from the sea. By March 1976, a total of 1,000 hectares of the east coast had been reclaimed at a cost of $123 million. It is likely that such a "competing with sea for land" movement will continue in the years to come.

In addition to the problems of economic viability and living space, Singapore, like many other newly emergent nations, has also been faced with the dual problems of achieving political integration and protecting her territorial sovereignty. While the former is a matter of internal unity, the latter is a matter of national defence. But they are not two separate states of affairs. Both of them are not only interwoven with each other but also supportive to each other. They are equally important to the overall security and stability of Singapore. Broadly speaking, the complexity of Singapore's security problems stems largely from the geographical location of the Island, the heterogeneity of its population, and its artificial historical origin.

As we have noted earlier, Singapore is a Chinese-dominated tiny city-state surrounded by the big Malay-led states of Malaysia and Indonesia. Quite naturally, the people and the PAP leaders of Singapore have been plagued by an encirclement complex. As early as 1960, the Singapore leaders, in placing a merger of the Island and the Malayan Peninsula in the forefront of their political aims, had envisaged the predicament of an independent Singapore. It was feared not only that

Singapore's political isolation would be inimical to her economic and social stability, but that an independent Singapore would become "an Isreal in Southeast Asia". Unfortunately, for all the effort they invested in bringing merger to fruition, Singapore remained in the Federation of Malaysia for only a year and eleven months. In according Singapore independent status, the act of separation revived the Island's former fears for her territorial security. And obviously, such fears were further sharpened by events in the 1960s. While the two-year Indonesian Confrontation has induced the Republic to perceive Indonesia to be a living potential threat, the hatred generated during the dispute between the PAP and the Alliance Governments has introduced a new animosity in relations between Singapore and Malaysia which prior to their merger in 1963 was not apparent. On the other hand, the large-scale anti-Chinese violence in Indonesia which followed the abortive coup d'etat of October 1965 and the largely anti-Chinese "May-13" communal riots in Kuala Lumpur in 1969 have also given a feeling of danger to the Singapore leaders and people.

Owing to the unusual geo-political character of the Island and the special ethnic composition of her population, Singapore's survival as an independent state has been predicated on her ability to come to terms with her environment. From the very outset of her independence, she has tried hard to maintain good relations with Malaysia and

47 Briefly, the separation of Singapore from Malaysia was attributable to the tangled threads of clashing economic, social, cultural, personal and party interests, ambitions and racial feelings that bound the Singapore and Malayan leaders in conflict. For a more detailed investigation into the causes and reasons of separation, see V. Suryanarayan, "Singapore in Malaysia", International Studies, Vol. 11, No. 1, July 1969, pp. 1-43.
Indonesia. To repudiate the notion that the Republic is a "Third China", the PAP Government has taken great pains to stress Singapore's place as part of the world of Southeast Asia and of Malaysia rather than of China. In reference to Singapore's relations with China, it has made it fairly clear that the Republic would establish diplomatic relations with China only after all the other members of the Association of Southeast Asian Nations (ASEAN) have done so.

Whilst striving to promote a sense of "good-neighbourliness" with its two immediate Malay neighbours and other states in the Region, the Singapore Government has also been trying assiduously to prevent Singapore from becoming "a Chinese state in the Malay sea" or "an Israel in Southeast Asia". Since Singapore's independence in 1965, efforts have been afoot to create a multi-racial, multi-lingual and multi-religious nation of Singapore. The present Singapore leadership believes in a concept of nationalism which is not linked with race, religion or language. It has striven energetically to foster and promote a common Singapore sense of identity -- a sense of Singaporean nationalism on a multi-racial basis. The removal of all barriers of language, race and religion has been seen as the prerequisite to the achievement of this aim.

In Singapore, Malay has been made the national language whilst English, Chinese (Madarin) and Tamil share with it the status of official tongues. Care was taken to choose a Malay as the first and a Eurasian as the second indigenous head of state. Meritocracy has been adopted as the

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48 The ASEAN consists of five Southeast Asian states, namely Indonesia, Malaysia, Singapore, Thailand and the Philippines. Of these five ASEAN states, only Indonesia and Singapore have not had diplomatic relations with the People's Republic of China.
guiding principle for the allocation of employment opportunities, scholarships, government flats and other social services. And, much government's energy has been bent towards maximizing the sense of community between the different racial groups, making them more tolerant of each other's culture. All this is aimed not only at strengthening intercommunal harmony, political integration and civil peace but at curtailing the Chineseness of the Republic. The Singapore Government has recognized that any emphasis on the Chineseness of Singapore would only increase the suspicions of its neighbouring countries that the Island was an outpost of Chinese influence and a potential agent for Peking's ambitions in the Region. In his address to a Chinese clan in Singapore in July 1975, the Foreign Minister of Singapore, Mr. Rajaratnam, solemnly declared:

"Everyone in Southeast Asia is watching very closely for the "real nationalistic feelings" of the Chinese community here.... There are some people who claim that Singapore Chinese are Chinese first and Singaporean second. Unless we convince them that the 80 per cent Chinese population in the Republic regard themselves primarily as Singaporeans and not as Chinese, they will go on thinking this.... You may be a Lee, a Tan, a Ching or Chong, but the fact that you are a Singaporean must come first."

In its regional policy, Singapore has been a staunch member of ASEAN. To the Republic, the regional Association is at once a vehicle for strengthening domestic economies and a clearing house for mutual consultation among member states contributive to the development of intra-regional co-operation and trust. With regard to the question of regional security and stability, the Singapore Government has agreed to the creation of Southeast Asia as a zone of peace, freedom and neutrality. It has advocated that the best way to secure a peaceful neutralised Southeast Asian zone.

49 Straits Times, a most widely read English newspaper in Singapore, July 8, 1975.
is to let all interested powers to come in and develop a stake in the Region, thereby ensuring that no single major power gets into a dominant position. Such a neutralization concept apparently subscribes to the theory that the major powers being global powers with world-wide economic, political and strategic interests will maintain their presence in the Region. It differs from the Malaysian neutralization proposal that the major powers should stay away from the Region.50

In order to promote a regional balance of power underpinned through the play and involvement of multiple external forces, the Singapore Government has sought to represent the Island-Republic as a "global city" with the world as its hinterland. Its main aim is to encourage the major powers to develop a stake in the Republic's continued survival. In delivering his speech at the Eightieth ASEAN Ministerial Meeting on May 13, 1975, Singapore Foreign Minister, Mr. S. Rajaratnam said:

The Singapore Government believes that for Singapore, small countries, the more big powers are around in this area, the better for us because our options are bigger. But if through some unhappy accidents we have to contend and choose only between two powers then life becomes more difficult. Worse still if we have no choice but to come to terms with one power, then that is disaster.51

While striving to promote a balanced involvement of external forces, the Singapore Government has been aware of the need to avoid being involved in the competition and conflicts of the major powers in the Southeast Asian region. It has adopted a policy of non-alignment and neutrality aimed at

50 An explanation of Malaysia's neutralization proposal is proved by M. Ghazalie bin Shafie, a senior minister in the Malaysian Cabinet, in "Neutralization in Southeast Asia", Pacific Community, Vol. 4, No. 2, October 1971, pp. 211-220.

maintaining friendly relations with all countries willing to respect the Republic's integrity.

Partly for the purpose of maintaining internal security and partly for the purpose of assisting in the development of national self-confidence, the Singapore Government has also made a vigorous effort to establish a modest self-defence force sufficient to deter other nations from attacking the Republic. In view of the Republic's limited manpower and financial capabilities, the Singapore ministers and service chiefs in 1967 saw a solution to the defence problem in the introduction of National Service. Since then, the three arms (land, sea and air) of the Singapore Armed Forces have been in the making. The British Government's decision to thin out their military bases on the Island certainly served as a stimulus to the rapid growth of the Singapore forces.

With a view to creating an attractive climate for foreign investment and socio-economic development, the PAP Government has made every endeavour to maintain the civil peace and political stability of the Republic. Besides external infringement, communalism and communism have been seen as another two major threats to the security of Singapore. Whilst striving to promote multi-racialism and to enhance the national consciousness of Singaporeans, the PAP Government has taken stern disciplinary measures to fight local communalism and communism. By banning communally-oriented publications and arresting racial chauvinists, communists and other political extremists, the PAP Government has made clear its attitude that it will stamp harshly on communist subversion, or any attempt to exploit racial or other social issues at the expense of Singapore's stability and security. In its effort to promote industrial peace, the Government has encouraged
consolidation of small trade unions into the larger ones led by the
government-guided National Trades Union Congress and introduced the com-
pulsory arbitration of disputes. In recent years, the PAP Government has
come under increasing criticism for its high-handed social control policies.
But there has been no weakening of these policies. In one of his public
speeches, Premier Lee proudly told his critics:

We are an authoritarian lot because we are prepared to discipline
ourselves. If balancing our budget and refusing to go along with
the fads and fancies of the contemporary permissive societies of
the West, if that is authoritarianism, well, so be it. Singapore
is solvent.\textsuperscript{52}

By and large, in comparison with the other Southeast Asian states,
the political scene of Singapore in the decade from 1965 to 1977 has
displayed exceptional stability. The visible phenomenal success of the
Republic — rapid economic growth and social construction like public
housing, urban development and land area's enlargement through reclama-
tion — is attributable to the civil peace and political stability the
PAP Government has tried hard to maintain. Whether all this can persist
into the 1980s remains to be seen; but what seems certain is that Singa-
pore's central problem of survival is not yet over. Owing to its minute
size, poor natural resource base and exposed geo-political position, the
Republic's nation-building is bound to be a long testing process.

\textsuperscript{52} \textit{Asia Yearbook}, 1975, p.271.
III. The Importance of Manpower Development to Singapore

Although it is a truism that the larger and more varied the resource base of a country, the more potentialities and opportunities it has for economic and socio-political advancement, it must be borne in mind that the mere possession of these resources does not guarantee that such advancement would necessarily take place. It must also be borne in mind that the existence of poor "have-not" countries and rich "have" countries is not a matter of natural arrangement or an arrangement of "God". It is by and large a man-made phenomenon. Even from the most superficial point of view, we are quite safe to say that the rich "have" states are more capable than the poor "have-not" ones in terms of non-congenital capacities and knowledge of their people and leaders. From the positive advancement of those countries which do not have a sound natural base, we should not have much doubt on the believability of the notion that man — man's will and man's power — certainly can overpower natural forces.\(^{53}\)

Indeed, while natural resources count in the nation-building process of a nation, human resources count too. It is evident that the post-independence development history of Singapore also conforms with this re-emphasis accorded to the human factor in nation-building. As a result of its minute size, poor natural resources endowment and exposed geo-political position, Singapore's continued survival as an independent state has consistently been a matter of doubt. Even the PAP

\(^{53}\) This notion is translated from the old Chinese saying, "ren ding sheng tian (人定胜天)". Its superficial meaning is: man (ren) must be able to (ding) overpower or conquer (sheng) heaven (tian). The word "tian" is used by Chinese people to imply natural or superhuman forces.
leaders themselves in the late 1950s and early 1960s described the notion of an independent Singapore as "laughable" and "ludicrous". In 1960, a policy statement by the Central Executive Committee of the PAP eloquently argued:

Merger between the Federation and Singapore is historically inevitable. The man-made boundary at the Straits of Johore will disappear as all the other freak colonial frontiers bequeathed to newly independent colonial territories by the map drawers and surveyors of the colonial era.... Colonialism has made a technically international frontier on the Straits of Johore and created two states. But no soldier can devise a front to make Singapore and the Federation two instead of one military situation. He who conquers Malaya conquers Singapore. The Japanese proved it. And conversely he who holds Singapore absorbs Malaya. Stamford Raffles proved it.... And no politician has yet devised a method to prevent news and events from spreading across the causeway. Every political action in the Federation, in language, education and all other fields of government affects and has repercussion in Singapore.54

In taking the trouble to persuade the Malayan leaders to merge Singapore with Malaya, the PAP Government clearly took the view that Singapore cannot stand alone, and that the road to economic stability and full political development lies through merger. It is for this reason that the PAP leaders and their supporters felt independence was forced on Singapore against their wish by the Malaysian Government in 1965.

When the Malaysian Government's decision to expel Singapore from the Federation of Malaysia came into effect on August 9, 1965, the prospects of the Island's continued survival were as dim as it had been... 

prior to its merger with Malaya. Compounding its difficulties were its declining entrepot trade, its pressing unemployment, its fast growing population, and its weakening defence in the face of impending British withdrawal. With independence forced on it, Singapore was left to its own devices for survival and security. Two of the questions widely asked and discussed were: Was the newly created Singapore state viable and how would the Republic protect itself from the regional resentments and global fluctuation which overhang its future? In the first few years of Singapore's independence, very few people really believed that the Island-State would have survived until today. Many people, especially those who disliked the PAP Government and its leaders, even expected that this infant Republic would collapse and die within a few years.

Unfortunately, such speculation has suffered a crippling blow from the fact that Singapore has not only survived but prospered until today. Even those writers such as T.J.S. George and Iain Buchanan, who have been highly critical of the PAP Government and Singapore's development pattern, have not attempted to deny that the Republic has achieved considerable success in its post-independence nation-building endeavours.

In their attempts to explain the causes of Singapore's phenomenal

55 T.J.S. George, Lee Kuan Yew's Singapore, (London: Andre Deutsch, 1973). The author drastically criticizes Mr. Lee Kuan Yew and his PAP government. He and his readers may be taken aback that this book has not been prohibited in Singapore.

success, writers and analysts differ from each other in their findings and views. Many writers attribute it mainly to the strategic position and deep-sea harbour of the Island. Some analysts view that it is a product of the Island's traditional entrepôt trade. As Iain Buchanan puts it, "... Singapore's prosperity is due to the fact that it is the base for the import of goods from foreign countries and for re-export to Malaysia and Indonesia."\(^{57}\) Besides, some writers tend to hold the view that Singapore's prosperity was related to the Vietnam War because, prior to the end of the War in April 1975, Singapore had been a major trading partner of South Vietnam and the United States had become its largest single source of foreign investment.

Although these views are varied, they seem to imply that the phenomenal success of the Republic is primarily an incidental product of its natural settings, its historical entrepôt trade, and world events. In other words, they share the view that the continued survival and the success of Singapore are a matter of luck. They seem to approve the fallacy that the rise and fall of a country, if it is not an arrangement of nature or "God", is merely a fortuitous phenomenon or a happening by chance. If this is the case, we need not give much thought to explain the rise and fall of all nations. For instance, we can explain the emergence of China as an influential world power as a mere chance because it is gifted with a big territory, a sound natural base and a stimulating world situation "conducive to its development". Of course, by applying the same logic, we may argue that India's current poverty

\(^{57}\) Raman, op. cit., p. 302.
is not attributable to its natural resource endowment but because of the accidental phenomenon that the world tide has been inimical to its advancement or simply that it has no good fortune. The absurdity of such "fortunate-unfortunate" thesis is quite axiomatic. People of this idea commit a common error of neglecting the importance of manpower in the nation-building process of a country. They take no account of the fact that the will, attitudes, latent capacities and expertise embodied in the citizenry influence considerably the pace of development. At the least, people of this view cannot prove that the leaders and people of Singapore have done nothing in the past ten years but just waited for their fortune to bring them prosperity.

Of course, there are many men of opinion who can present a more precise picture of Singapore's development. One of the most comprehensive views is that Singapore's advancement is not only due to its strategic location, fine natural harbour and "chances" to receive benefits from world events; but largely attributable to its other five great assets: efficient and incorrupt government, political stability with civil and industrial peace, a high level of education, an ambitious entrepreneurship, and a hard working population. To put it more precisely, it is brought about by the efforts of Singapore leaders and people. As a matter of fact, such conditions like good leadership, efficient bureaucracy, sound education, quality work-forces as well as ambitious entrepreneurship are all man-made in nature. It is exactly these man-made conditions that have enabled Singapore to adapt to its objective milieu and so to survive and prosper. In reality, even the mechanism of adaptation is also a sort of human ability. We must
be aware that a country which can adapt is also a country which has the capacities to adapt. For the same logic, a nation which can survive and prosper is a nation which has the capacities to survive and prosper. Otherwise, it should have ceased to be a national entity.

As a tiny island with a poor natural resource, Singapore's long-term viability depends ultimately upon the quality and the creative energy of its people. It needs a high quality manpower made up of the local decision-makers, such as governing elites, administrators and entrepreneurs, to initiate, organise and lead its nation-building. It also needs trained technicians, engineers, doctors, social workers, and skilled workers as well as trained soldiers to man and carry out its nation-building programs. It is for this reason that the Island's 2.2 million people have all along been seen as the only reliable major resource of the Republic. In his official address to a youth conference in Singapore, Foreign Minister S. Rajaratnam pointed out:

The only major resource that Singapore has is human resources — intelligence, ability, social discipline, up-to-date knowledge and skills and an infinite capacity for hard work. These are our substitutes for tin and rubber, petrol and iron, rice and copra and all those that come under the term "natural resources"... They are very real and very important. The bustle, prosperity and orderliness which are all the products of the intangible quality we call "human resources". And one thing about human resources is that unlike rubber or oil or iron and other natural resources they are inexhaustible. Not only inexhaustible but they can be expanded and accumulated without limit.58

Therefore, the decisive factor of Singapore's nation-building is the matter of how to develop and increase the knowledge and the

dexterity of its people. Since human resources are the only major resource in which the Republic is not lacking, the success or failure of its manpower development is naturally an integral part of its life and death struggle. Ever since Singapore became a sovereign state, the Singapore Government has placed manpower development in the forefront of its nation-building plan.
In the foregoing chapter, we have asserted both the importance of human resources and manpower development in Singapore's nation-building process and the human implication of the Republic's current development progress in the context of her natural as well as economic and socio-political settings. On the basis of this perspective, the writer is going to lay out in this chapter the major manpower development premises, policies and strategies of Singapore. In so doing, the focus of the writer's attention is placed on two fact-finding attempts. The first one is to single out the special features of Singapore's manpower development policies and measures. The second one is to investigate the validity and legitimacy of the Singapore Government's manpower development policies and approaches in the light of Singapore's objective settings and subjective national needs. By and large, this inquiry is "policy-oriented" both in content and purpose. It is therefore less concerned with the technicality of the subject matters.
I. Basic Manpower Development Premises

In Singapore, the major problems of manpower development have fallen into two broad categories: (1) those related to shortages of "high-level" manpower with critical skills and competence; and (2) those related to surplus of unneeded manpower. While the former stems largely from the intensifying industrialization and other socio-economic development programs of the Republic, the later is mainly due to the smallness, the limited living space and the narrow employment opportunities of the Island-State. In other words, the first problem is a matter of how to acquire the desirable quantity and quality of skills and knowledge required for the actuation of nation-building. The second problem is a matter of how to control population growth so as to avoid population explosion and large-scale unemployment. It is therefore unmistakably clear that Singapore's concerns about the quality of her human resources and the progress of her nation-building work are inextricably bound to those about the quantity of her population.

In order to be meaningful, any statement about the size of the human population must be based on consideration of many environmental and man-made factors, in addition to population density -- numbers of people per unit of land area. Much more critical than population density alone, as we can reason with ease, is population density in relation to available resources, geographical factors like climate, topography and ecological conditions, and such man-made production means like technology and economic organizations. The Sahara Desert, for instance, is populated at a much lower density than the tropical island of Tahiti. However, as Paul R. Ehrlich observes, more people
are able to live well on the resources of the island than they could on the resources of an isolated piece of desert. Of course, the discovery of valuable resources like oil or water under the desert might alter the situation. The oil could be exchanged for food, commodities, other needed materials as well as technological know-how and various services. The water might make possible the conversion of desert into arable land. And, in time, the desert might develop into a local population centre of high density. This, in fact, happens around many cases. The fertile soils of some tropical lands, as in some parts of Africa, are sparsely populated because of the diseases endemic to those areas. Conversely, some poor soils, as in Japan, support dense populations because the inhabitants are capable of building up the resource base of their economy and getting more output from given inputs due to their improving technology. The logical consequence of these observations is that at any time, and for given conditions, the density of population for a given area can be too much, too little or about right. It is very difficult to say what population size in any country is the ideal. Even development planners and economists would be hard put to assert what the ideal population size in a country should be. A general conception can be acquired to serve the purpose of this study is that: the number of people that live in a given area depends on the number of people its current resources, economy and socio-ecological bases can support or accommodate.

Man is no doubt the basic component element of a nation. But, the

size of a population reflects nothing but the numerical strength of a
country. It is anything but a real picture showing the substantial qua-
li ty of the human agents which make up the human grouping. A country
which does not have adequate quantity of skilled and competent people
to spur its nation-building programs is not necessarily underpopulated.
And, a nation which has a big population does not necessarily have an
abundance of skilled and competent nation-builders. What everyone can
see in the third world is an abundance of population. Many developing
states are even overpopulated. And yet most of them are faced with the
common problem of having insufficient good quality manpower to man and
actuate their nation-building processes. The problem of maintaining an
appropriate balance between the quantity and the quality of population
is all too evident.

It is also important to note that the quantitative strength of a
population alone does not tell us anything about the substantial qualitative
strength of a country in economic and socio-political terms. This is
true not only of the countries with small populations but of those
states with large populations. A state of small population is not neces-
sarily weak or poor. And, a nation of large population is not bound to be
rich and strong. From ancient times till now, there have been such
persistent phenomena that while many countries with small populations are
rich and strong, many countries with large populations are poor and weak.
Of course, it has happened that while many states of small population
are poor and weak, many states of big population are strong and rich. It
is therefore obvious that the size of a population is not a comprehen-
sive determinant of the wealth and strength of a nation. Axiomatically,
the wealth and strength of a nation are mainly determined by the
dexterity and skills of its people and not by the size of its
population.

In addition to these recognitions, we should also be aware that
a big or overgrown population may prove to be of no advantage or harm-
ful to the nation-building process of a nation. It is beyond dispute
that man's survival is in essence a natural resource-consuming process.
A living man needs not only oxygen, water and food as other animals and
plants do, but also clothing and shelter. If he is to live more effec-
tively and more meaningfully, he also needs medical care, education and
entertainment. To succeed in attaining these means, a man who is not to
live a parasitical life must have a promising job, whether it be
economic, socio-cultural or political.

A large population or a high rate of population growth may impede
the nation-building progress mainly because: (1) it may consume many
national resources, material and financial, which can otherwise be
employed to accelerate the progress of development plans; (2) it may
result in widespread poverty, food shortages, malnutrition, starvation,
diseases, illiteracy, ignorance, a high rate of unemployment or under-
employment and a persistent socio-political instability; and, even
worse, (3) it may diminish the vitality of a state if it creates a large
quantity of poorly educated, unproductive, or socio-economically redund-
ant manpower. While the resultant dependency burden\textsuperscript{60} may be a crippling

\textsuperscript{60} The dependency burden is here defined as the number of non-
productive persons per productive worker. Logically, the bigger is the
the number of non-productive people, the heavier the dependency burden.
blow to national growth, the lack of quality manpower will eventually deprive a nation of not only its capacity to create wealth but also of its capacity for long-term survival.

It is a great pity that these disadvantages of overpopulation are not merely theoretical. They have been the grim realities facing most of the developing countries. Such striking features of "underdevelopment" like slow socio-economic progress, widespread poverty, ignorance, diseases and large-scale unemployment have been both the products and the symptoms of overpopulation. A large population with a high growth rate has been widely seen as a major liability and not an asset of the developing countries. It is certain that when a country has more people than its current resources, technology and socio-economic organizations can support or use productively, both the quality of its people and the progress of its nation-building efforts are at the same time bound to suffer a decline.

For these reasons, we should think and speak of manpower development as a process with two dimensions. On the one hand, as we have iterated, it is concerned with the problem of how to develop the skills and knowledge of all the people of a state so as to acquire the desired quantity and quality of skills and knowledge necessary for nation-building. On the other hand, it is a matter of how to reduce the rate of population growth and thus the population pressure which may impede the rate of national growth so as to minimize the quantity of redundant, underutilized or even unneeded manpower and the dependency burden. Anyone who tends to look at things superficially may hold the view that these two facets of manpower development are two separate matters.
One is related to the quality of a population and one is related to the quantity of a population. Nevertheless, if we examine them cautiously, we discover that they are in effect not only inter-related but mutually supportive. It is simple logic that, by reducing the amount of redundant manpower and the dependency burden, a country will be able to allocate more resources and initiate more promising efforts to build and increase the knowledge and skills of its people.

In dealing at length on the interrelationships between the quantity and the quality of manpower, we have in fact sketched out the main concerns of Singapore's manpower development. Only if we have some elementary knowledge regarding the objective settings and the national priorities of Singapore, we should be able to appreciate the quality-and-not quantity manpower development premise of the Singapore Government. Since the first day of the Republic's independence, the Singapore Government has realized and consistently made clear to its citizens that if the Republic is to succeed in her socio-economic and defence developments, she has to be a nation of trained and skilled people. And hence, high quality manpower with critical skills and competence has been seen as the only reliable substitute for the Republic's meagre natural resource endowment.

In view of the infant Republic's pressing unemployment problems and its increasingly high population density and serious housing shortages, the Singapore Government also realized that Singapore had

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61 See supra., pp. 27-55.
more people than her current resources and socio-economic organizations could support or use productively. Singapore leaders recognized the necessity to control the growth rate of the population. They have, from the beginning, cautioned the Singaporeans against the danger of the population explosion and particularly of the many ill effects of overpopulation.

In the course of events, in supplementing the Singapore Government's efforts to develop and increase the skills and knowledge of Singaporeans, birth control has become an indispensable part of Singapore's manpower development process. In arguing for the necessity of population control, the Government has energetically striven to bring Singaporeans to recognize the reality that what Singapore urgently needs is not a large population but an appropriate quantity of skilled and competent manpower. While a large population with a high growth rate has been interpreted as a serious threat to Singapore's progress and vitality, high quality manpower with skills and competence has been seen as a prerequisite of Singapore's long-term viability and growth. Precisely because of these considerations, "quality and not quantity" has become the basic premise of Singapore's manpower development policies and programs.
II. Policies for Population Control

In the first two decades of the nineteenth century, Singapore was almost devoid of people. Then came the Island's development as a major entrepôt and strategic centre under the British colonial rule. With the massive influx of labourers from China and India, the Island experienced a steady growth in population. Up to the mid-1940's, as can be observed from the data in Appendix 2, migration was the principal cause of population growth. Before the beginning of the 1920's, relatively low crude birth rates combined with relatively high crude death rates resulted in negative natural increase. But for the large-scale inflow of immigrants, the population would have suffered a decline. Since 1921, however, natural increase became a positive factor in population growth and its importance has grown since. From the 1930's, it became the dominant cause of population growth whilst the increasingly stricter immigration controls imposed by the British and Singaporean Governments brought an end to the importance of international migration as a factor of population growth. The population of Singapore, at any rate, grew steadily with higher rates in the first two post-World War II decades. It increased from 938 thousand persons in 1947 to 1,446 thousand persons in 1957 at an annual growth rate between 2.4 to 3.9 per cent.

When it became an independent Republic in 1965, Singapore had a population of 1.9 million with a growth rate of 2.5%. But, as we know, Singapore is a mere 584.3 square kilometres in land area. With the population density standing at 3,385 persons per square kilometre in 1965, the newly independent Republic was already one of the most densely
populated countries in the world. Although Singapore has never suffered from any large-scale starvation, serious shortages of food, or widespread diseases, it did show other symptoms of overpopulation. Apart from its high population density and growth rate, the Island's other most striking overpopulation features in the pre-independence years were its over 8.7% unemployment rate, its serious housing shortages and its widespread poverty as revealed by the heart-rending slums in the central city area and the miserable squatter settlements around the city.

As a matter of fact, as early as the mid-1930’s, the problems of overpopulation had become a matter of public concern in Singapore. According to the accounts of George G. Thomson and T.E. Smith, the issue of population control crossed the threshold of public discussion in January 1935, when the leading English language newspaper -- The Straits Times -- introduced many arguments for and against family planning and birth control. Religious arguments of the Roman Catholic Church made up the bulk of opposite opinions. Secular progressive opinions based their support for birth control chiefly upon general economic arguments and welfare considerations such as the health of the mothers and the opportunities for the children. Vigorous debates around the subject of family planning continued in the pre-war years, but it was not until the coming of the Family Planning Association (FPA) in 1949 that any substantial attempt was made to introduce birth control. Defining its


aims primarily in terms of individual welfare, the Association said that it wished "to bring to the people of Singapore the means by which those wishing to do so could plan their families and thus help to make happier lives for all". Initially all its work was voluntary. Soon, however, official patronage was sought and obtained. In the first ten years of its operation, the numbers of people using FPA clinics rose from 1,800 in 1949 to 34,551 in 1959. Nevertheless, this proved grossly inadequate. That a much more widespread service was needed was indicated by the data that in the ten years from 1947 Singapore's population had grown from 988,100 to 1,445,900.

On coming into power in 1959, the PAP leadership was apparently well aware of the seriousness of the Island's pressing population problems and the urgent necessity of birth control. In their 1959 election manifesto, the PAP leaders had made clear their commitment to family planning. One part of the manifesto argued:

Unless something is done to restrict this, we shall never be able, no matter how hard we work, to provide the schools, hospitals and the employment our people need. The present family planning arrangements are totally inadequate for the task of spreading knowledge among the masses. The PAP intends to expand the family planning organization considerably so that it will effectively reach the people all over the island.

In the early 1960s, the Government launched a massive family planning campaign to stimulate an awareness of intelligently planned parenthood among the adult population. Starting with a series of large-scale state-sponsored exhibitions, the campaign aimed to set the social

64 Ibid., p. 224.
65 Ibid., p. 225.
climate in which family planning would attract greater public interest. Subsequently, coloured posters and literature on family planning were distributed and displayed throughout the Island. Forums were organized in community centres; courses were held in higher learning institutes and classes were given in junior schools. The traditional and religious attitudes obstructive to the campaign were challenged by official and non-official family planning promoters and their supporters.

In November 1963, in his speech to the Parliament, the Yang di-Pertuan Negara, Singapore's Head of State, made public that plans had been finalized to provide family planning services and supplies at all maternity and child welfare clinics. This announcement visibly implied that the Government was now prepared to play a more active part in the field of birth control. After revising the current social climate and the performance of the FPA, the determined PAP leaders believed that it was time for the Government to take steps to take over all the major family planning work from the FPA. In March 1965, a Review Committee was appointed to suggest which of the current family planning activities were to be transferred from the FPA to the Ministry of Health. The final report of the Committee recommended that the Ministry should take over the responsibility for the provision of family planning services at all except three of the clinics, for which the FPA would continue to remain responsible. The Committee also suggested that the responsibilities of promoting family planning education and research should rest with the Ministry of Health.

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68 Ibid., p. 240.
Just a few weeks after the separation of Singapore from Malaysia, a White Paper entitled *Family Planning for All* was tabled in the Parliament. In endorsing the Review Committee's Report, the White Paper proposed that the first day of 1966 should be the operative date for the new arrangements. Set in the context of Singapore's Second Five-Year Development Plan, the White Paper was in effect a master-plan of family planning. The chief purpose of family planning was defined as to liberate Singapore women from the burden of bearing and raising an unnecessarily larger number of children and so to increase human happiness. As the White Paper put it:

Singapore's present population is over 1.8 million and each year about 60,000 babies are born. Our annual crude birth rate of over 30 per thousand is too high. Far too many mothers are bearing too many children, at the cost of their health and too many bread-winners of families are hard put trying to earn enough to feed the many hungry children that are being brought into the world each year. There is too much unnecessary human misery in Singapore, and this can be effectively stopped through a determined effort on the part of government to provide family planning on a mass basis.\(^{69}\)

To effect the recommendations of the White Paper, the Government launched a National Family Planning and Population Program. In January 1966, the Family Planning and Population Board (FPFB) was inaugurated to function as the sole agency for promoting and disseminating information pertaining to family planning in the Republic. According to the Singapore Family Planning and Population Board Act, it is also the responsibility of the Board to initiate and undertake population control programs and to advise the Government on all matters relating to family planning and

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population control. The establishment of the FPPB signified full government endorsement of family planning.

After its inauguration, the FPPB took over the work of family planning and set about its mass family planning education work with an intensive publicity campaign. As in the past, the emphasis was on the small family. Nevertheless, the appeal was directed more to the advantage of the individual than to the common interest of the society. As slogans of the campaign put it, "small families own more", "small families have more to eat", "small families have a better education", and so, "small families live better". Even so, the social significance of small families has not been totally forgotten. It is self-evident that only when an increasing number of married couples plan for small families, then can the total population be kept within appropriate numerical bounds.

Apparently, what could be a controversial problem is the definition of a small family. Through a survey conducted in 1974, the FPPB found that the desired average family size amongst Singapore couples is 3.6 children whilst the actual completed family size is 4.3 children on the average. If this finding is representative and trustworthy, it reveals that in the eyes of many Singapore adults a small family is one having 3 to 4 children. If Singapore families persist in having 4 to 5 children, however, the population will double to 4.5 million in one generation or about 26 years' time, as there are 4.3 children replacing every married couple. And, if this practice continues, the population will continue to...


double every generation and the nightmares of population explosion will inevitably come to bother Singapore. Largely because of this apprehension, the Singapore leaders and family planning workers have contended that if population explosion is to be avoided, the ideal size for the Republic is 2 children. As Premier Lee put it:

Every person, genius or moron, had a right to reproduce himself or herself. So it can assumed that a married pair will want to be allowed two children to replace them. That is already the average family size of the skilled industrial workers in Europe. In Singapore, the Government still allows for three for good measure.\(^\text{72}\)

In illustrating both the disadvantages of big families and the advantages of small families, Mr. Lee said:

We can reach a point where Singapore becomes so crowded that life is unpleasant and unbearable. Slums in America, the richest countries in the world, are warning examples. Life is barely worth living. Then people take to drugs, hippieism and escapism. Because they need drugs, they need money. Because they need money, they kill to get the money. The ideal family is for two children. If you must have more, then three. Only in this way can we make Singapore a clean, green and gracious place to live, a garden city in which we can nourish and nurture our young for a better future.\(^\text{73}\)

In recent years, though allowing for 3-child families, the Government has made an all-out effort to induce Singaporeans not to have more than 2 children. "Small family" has therefore been officially defined as family which does not have more than two children. And the theme, "stop at two", has become the guiding principle of Singapore's current family planning and population control programs. Since the beginning of this decade, as can be seen from the official pamphlets and posters distributed and displayed for the campaign, the motto of family planning has been shifted from "Singapore wants small families" to "Singapore


\(^{73}\) Ibid.
wants two-child families. With the backing of Radio-Television Singapore and other state-run mass media, the FPPB has embarked on a mass family planning education program to implant the idea of the two-child family in the minds of Singaporeans.

In this mass education process, government officials and family planning promoters have gone all out to uproot those forces standing in the way of family planning progress. Needless to say, the traditional Chinese beliefs that "more sons means more wealth" and the "sons are better than daughters" have been the main targets of public criticism. This traditional bias towards large families and male children is the legacy of old China's agricultural society where it was economically feasible to have many children. In that society, male children were a great asset to the family because they were able to assist with the family agricultural activities at a very early age and hence contributed economically to the family. Parental belief that sons are better than daughters is also attributable to the existing traditional socio-family system that sons bear the family name and continue the family line. Moreover, according to the old marriage customs, girls are "married out" and hence of little economic use to their parents. Boys on the other hand bring home their wives. And as a rule, daughters-in-law are to serve their husbands' parents dutifully while it is the sons' unquestionable duty to support financially their parents to the end of their days. People who uphold these traditional practices naturally find that more sons bring more happiness to them.

In a speech at a conference held on "The Population of Students in the Asian Region", Dr. Wu San-san, a senior doctor of the Singapore Health Ministry, revealed that there were still many old women who did
not have much education unwilling to accept the idea of family planning.
Dr. Wu heard many women, to whom she gave family planning advice, complain
that their traditionally-minded mothers-in-law wanted them to bear more
children and preferred to have grandsons.\textsuperscript{74} Clearly, this must be one of
the reasons why many young couples who wish to have a "two-child" family
cannot "stop at two". If the family planning program is to succeed, the
removal of this traditional attitude is unquestionably a prerequisite. A
new slogan of the campaign therefore says, "Girl or boy, two is enough."

Generally speaking, the family planning campaign of the 1960s was
one of mass persuasion. There was no element of pressure. But, it has been
the Government's conviction that if mass persuasion is to succeed in
stimulating all Singapore parents to keep their families small, it should
be supplemented by certain measures which can discourage the people from
inclining towards large families. Speaking in the Parliament on December
29, 1969, Premier Lee said:

\begin{quote}
Our problem is how to devise a system of disincentives so that the
irresponsible, the social delinquents do not believe that all they
have to do is to produce their children and the government then owes
them and their children sufficient food, medicine, housing, educa-
tion and jobs. Until such time when moral inhibitions disappear and
legislation or administrative measures can be taken to regulate the
size of families, we must try to induce people to reduce their fami-
lies and give their children a better chance.\textsuperscript{75}
\end{quote}

As early as 1965, in his first National Day message, Mr. Lee had pointed
to the anomalies of certain welfare services from a population policy
point of view. He said:

\begin{quote}
We have to revise all our social values so that no one is required
to have a large family in order to qualify for a Housing Board flat,
\end{quote}

\textsuperscript{74} Sin Chew Jit Poh, June 6, 1975.

\textsuperscript{75} Singapore, Parliament, Parliamentary Debates (First Session of
for social relief and so on. Today, strange as it may seem, we are
giving priority to people with large families, thereby encouraging
people to have large families. This requires a revamping of all
our social services, free primary schools, free hospitals and free
maternity clinics regardless of how large the family is and the
bigger social allowance given to the bigger families.76

These statements were not simply brought forward to publicize the
family planning campaign. In reality, they served as the overtures of
the impending government actions. In its efforts to induce the Singapore
parents to be satisfied with small families, the Government has taken
certain administrative measures quite outside the field of family
planning and birth control. The following are some of the administrative
disincentives which have been implemented by the Government.
1. No priority is given to large families in the allocation of HDB flats.
2. Only families with no more than three children will be eligible to
sublet rooms in their HDB or Jurong Town Corporation flats under
certain conditions.
3. No paid maternity leave will be given for delivery of the third and
subsequent children.
4. Delivery charges in government maternity hospitals increase with each
additional child in the following order:

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76 Thomson and Smith, op. cit., p. 252.
5. Lower priority for the choice of primary school for children of the fourth birth order and above.

6. No income tax relief will be given to the fourth and subsequent children born on or after August 1, 1973. 77

Apart from implementing these disincentives, the Government and the FPPB have also done their utmost to devise measures to help Singapore couples exercise birth control. They have realized that there may be many people having large families simply because they do know how to exercise birth control. With the intra-uterine devices and the contraceptive pill proved as safe and effective birth control methods, the Government has made much effort to introduce them to the Singapore people. Advice and supplies for these family planning methods have been made readily available at all maternity and child welfare clinics. Both the contraceptive pill and the intra-uterine devices have been sold consistently at subsidized prices.

With the passage of the Voluntary Sterilization Act in December 1969, sterilization has also become a form of family planning in the Republic. It has been considered as the best method of birth control for those who have completed the number of children they want. The Act was amended in 1972 to simplify the procedures of administering voluntary sterilization.

sterilization and so to secure a wider acceptance of this method amongst Singapore couples. The Bill allowed sterilization not only on medical and therapeutic grounds but also on social grounds such as family size and financial circumstance. In order to encourage more people to accept sterilization, the Government has provided three administrative incentives to persons who are sterilized.

1. Delivery charges for Third Class patients in maternity hospitals will be waived if sterilization is carried out after delivery. Ward charges will be remitted on application if sterilization is accepted by either parent.

2. For those who are sterilized after delivery, medical leave will be issued on generous terms.

3. Priority for choice of primary school for children of the fourth order will be similar to that of the first three children if one of the parents is sterilized.78

The assumption that many people would not have large families if they were given the choice is not a mere guess. It is based on the observation that 500 women on average were annually admitted to hospital after attempted abortions and that the number of illegal abortions actually performed must be considerably greater.79 In the late 1960's, owing largely to the revelation of several deaths from unsuccessful abortions undertaken by unauthorised and unqualified "back lane" physicians, the dangers of illegal abortion were of current public concern.

78 Ibid.

Partly for the purpose of curtailing illegal abortion and partly with a view to minimizing the number of "unwanted" infants in the context of population control and social welfare, the Government decided to enact a new law to make abortion under government supervision a legalized method of birth control. The Abortion Act was proposed in 1967 and finally passed in December 1969. In the process of its enactment, this Act met with strong criticism from doctors and religious groups. The Singapore Medical Association opined that legalized abortion was not a suitable method for controlling population growth because of the significant health and mortality risks it carried. "Unless a liberalized abortion law is applied with care and a full awareness of the possible social medical consequences," its spokesmen said, "it might lead to some women depending on legalized abortion rather than contraceptive methods to control the size of their families...with a possible undesirable impact on our present family planning campaign." \(^80\) The Christian group argued that the Bill would encourage permissiveness in sexual morality which was not only obnoxious to religious feelings but also in contradiction with the long term aim of the Government as revealed by its calls towards ruggedness, discipline and self-sacrifice. \(^81\) In arguing for the passage of the Abortion Act, Mr. Lee Kuan-yew said:

The crucial yardstick by which we shall have to judge the result of the new abortion bill...will be whether it tends to raise or lower the total quality of our population.... Until the less educated themselves concentrate their limited resources on one

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\(^81\) Ibid.
or two to give their children the maximum chance to climb up the educational ladder, their children will always be at the bottom of the economic scale.  

In addition to these birth control methods and supplementary administrative measures, stricter immigration control has also been an important means of population control in Singapore. In the years before the 1930's, as we have pointed out, the rapid growth of Singapore population was chiefly due to the unrestricted and continuous inward movement of Chinese and Indian laborers from their home-lands. First introduced in the 1930's, restrictions on further immigration were enforced during the post-war period. From the day of Singapore's independence, immigration has been virtually prohibited. Entry is restricted to persons who can contribute to Singapore's socio-economic development, those who can provide specialized services not available locally, families of local residents, and others on special compassionate grounds. Under the Constitution of Singapore, Singapore citizenship may be acquired not only by birth and descent but by registration. Besides citizenship certificates, the Immigration Department of Singapore issues six categories of other immigration permits and passes.

(1) Entry Permits for persons granted permanent residence in Singapore under the provisions of the Immigration (Prohibition of Entry) Order of 1973. Eligible applicants are persons who hold professional qualification; who possess specialized and technical skills; and who are wives or children of local residents.

82 Alex Josey, op. cit., p. 59.
(2) Employment Passes for aliens seeking employment in firms established in the Republic. Priority is normally given to skilled and experienced professional workers.

(3) Dependents' Passes for wives and dependent children of persons on Employment Passes.

(4) Professional Visit Passes for artistes and entertainers for the duration of their performances in Singapore.

(5) Social Visit Passes issued to aliens for temporary stay in Singapore, including tourists.

(6) Student Passes issued to foreign students admitted to local schools and institutions of higher learning. 83

Another measure taken by the Singapore Government to strengthen immigration control is the provision that, with effect from July 1, 1973, Work Permit holders wishing to marry Singapore citizens must obtain approval from the Commissioner of Employment. 84 This aims to stop aliens from using marriage with Singapore citizens as a means of acquiring Singapore citizenship. Of late, the Government further proclaimed that the Work Permit holders who "re-apply" to the Government for permission to marry Singapore citizens should sign a "pledge" saying that they will accept sterilization immediately after their second child is born. 85 Clearly, the main purpose of this measure is to ensure that Work Permit workers marrying Singapore citizens with government permission observe the "two-child family" norms of the Republic.

83 Singapore Yearbook, 1974, pp. 72-73.


85 Nanyang Siang Pau, January 26, 1976.
On the whole, it is not an exaggeration to say that the basic rationale of the Singapore Government's population control policies is one of "the end justifies the means". Recognizing the paramount importance that population control plays in the socio-economic progress of the country and the well-being of the people, the Government has persistently instituted nation-wide Family Planning and Population Control Programs and stricter immigration control measures to curb the rapid rate of population growth. While mass family planning education was carried out and indirect incentives were introduced to persuade Singapore parents to plan for two-child family, many administratively-oriented disincentives have been adopted to discourage the people from having large families. In simple psychological terms, these are the means of positive and negative reinforcement the Government has employed to enhance the effectiveness of its family planning and population control programs. Realizing that the traditional attitudes in favour of large families and male children are a serious obstacle to the success of its efforts in promoting family planning, the Government has energetically and consistently striven to mobilize public opinion to uproot them. In order to enable Singaporean couples to exercise birth control more effectively, the Government has enacted laws to introduce voluntary sterilization and abortion.
III. Approaches to Improve the Quality of Manpower

The transmission of knowledge and skills, in the broadest sense of the word, depends on education and training. In this sense, manpower development is in essence an educational process concerned with the development of man's brainpower, skills and dexterity. From the individual's point of view, it is a learning process through which individuals learn to acquire the knowledge and skills which will enable them to put their latent abilities into full use. In Singapore, the educational process of human resource development is quite a complicated one. Broadly speaking, it encompasses five basic constituent and inter-related elements: formal education, vocational education, adult education, youth movement and community development, and compulsory military training.

When Singapore was part of the British-controlled Straits Settlements, education in Singapore was essentially geared to the needs of the Colonial Government. Until the Second World War, education was left in the hands of the Christian missions and various local communities. Education in the various language streams developed independently. The Government officially supported the English and Malay schools while education in the other languages was left to the individual communities. The education provided was a literacy type. While the mission schools concentrated on the local languages and religious instruction, the government-supported English schools emphasized the learning of the English language and secular subjects in the promotion of English civilization. Supported wholly by the Chinese communities, Chinese-medium schools in large measure became instruments for the inculcation and
transmission of Chinese nationalism and culture. English-medium education on the other hand was primarily aimed at providing the necessary personnel to fill clerical and junior administrative ranks in the colonial civil service and in commerce.

In the decade from 1947 to 1957, the development of education in Singapore was greatly fostered by the British Government. With the implementation of the 1947 Ten-Year Plan and the 1950 supplementary Five-Year Plan, free primary education was afforded to children of all races. While primary and secondary education was reinforced, vocational and higher education was generally developed. Following the establishment of the University of Malaya, now known as Singapore University, in 1949, the Teachers' Training College and the Council for Adult Education were set up in 1950, and the Singapore Polytechnic was established in 1954. Much of this expansion, however, was again confined to the English stream. The predominance of English education and the benefits it conferred were naturally resented by other communities. Opposing such an education policy, the Chinese community decided to launch a university to provide tertiary education in the Chinese language medium for the benefit of high school leavers from the Chinese stream. As a consequence, Nanyang University was established in 1956 by means of funds from philanthropists and people from all walks of life.

The appointment in 1956 of an All-Party Committee to examine the situation in the Chinese schools was a significant development in the educational history of Singapore. The most far reaching recommendations

of the Committee were: (1) the parity of treatment for the four streams of education -- Malay, Chinese, Tamil and English; (2) the encouragement of intermingling of pupils from different language streams; (3) the establishment of common curricula and syllabi for all schools; (4) the introduction of bilingual education in primary schools, and trilingual education in secondary schools; and (5) the encouragement of the fusion of the best elements of the various cultures to build up a common local culture. These recommendations were incorporated in the government White Paper on Education Policy published in 1956 and the Education Ordinance enacted in 1957, and were implemented by the PAP Government in 1959.

When Singapore was a component state of Malaysia, it retained autonomy in the fields of labour and education. Its education policy remained unchanged. Both the English and the Chinese systems, inherited from colonial days, continued to concentrate on the learning of the humanities, the civics and the local languages. The objective was to develop a common loyalty through a common content curriculum on the one hand, and the mastery of two or more languages on the other.

Since independence, a major change in the purpose and content of Singapore's educational curriculum has been underway. The days when education was merely an instrument for the inculcation of needed clerical skills have gone. The education system has been revamped to ensure full human development and successful nation-building as well as the collective well-being of Singaporeans in the context of independence.

87 Ibid., p. 212.
The education policy of the Republic has been given a national outlook. Education is a strenuous, costly and time-consuming enterprise. But it is one of the major inputs to the economic growth and social upgrading of a nation. In order to ensure that the Republic's nation-building under its leadership is successful, the Singapore Government has from the beginning taken great pains to foster the development of education.

First of all, as in the case of other developing countries, the Singapore Government has striven to maximize the number of literate people and so to increase the general knowledge level of all Singapore citizens. It is self-evident that only when men are literate and equipped with some basic knowledge, can they fully understand and adapt more effectively to the environment and needs of their society and only then can they be taught to master knowledge and skills at higher levels. In Singapore, schooling at the primary level has been free for all children and financial help has been provided to those unable to afford the supplementary expenses for educational materials. Although fees are charged at secondary and advanced levels, scholarships and other forms of aid are readily available for qualified students whose parents cannot meet these costs. Although there is no compulsory education system in Singapore, it has been the intention of the Government to provide at least ten years of education for every child starting from the age of six.

At the primary level, the curriculum includes a variety of subjects with much emphasis on the medium of instruction and a second language. At present, the Ministry of Education is working on a scheme
to help those pupils who find difficulty in attaining even the basic skills of literacy and numeracy within the present maximum of eight years of primary education. This scheme may include an extension of another year to nine years. At the secondary level, the pupils follow a common curriculum in the first two years. On completion of Secondary Two, they are given the option of joining the academic, technical or commercial streams. Up to 1968, the secondary school system was heavily biased towards academic education. In recent years, however, there has been a shift in emphasis from academic to technical and science education to meet the needs of the Republic's modern and increasingly diversified economy. Students are encouraged to join the technical, science and commercial streams. But the final selection of students for the technical stream is based on aptitude tests and their performance in workshop practice and related science subjects. To enable more students to receive technical education, many technical subjects such as technical drawing, metalwork, woodwork, and basic electricity have been introduced and emphasised in the first two years of secondary education.

In addition to the technical schools at the secondary level, Singapore has two technical institutes at the intermediate level for the education of technicians and advanced craftsmen. They are the Singapore Technical Institute, established in 1969, and the Ngee Ann Technical College, founded as a private institution in 1963 but made a government school in 1967. The vocational and technical educational hierarchy is capped by the Singapore Polytechnic. The Polytechnic gives diplomas for

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88 For an account of this scheme, see "Adjustments in Education Policy", The Mirror, Vol. 12, No. 3, January 19, 1976, pp. 1 & 8.
advanced technical training in the various branches of industrial technology as well as in nautical studies.

Besides the conventional schools, there are twelve government-run vocational institutes in Singapore. They offer training courses in the metal, woodworking, electrical, electronics, manual and applied arts, and building trades at artisan and trade levels. Courses in printing and the hotel and catering fields are available at other training establishments. The Industrial Training Board was established in April 1973 to promote and co-ordinate various forms of industrial training in the Republic. Upon the request of the Government, many private companies have also run their own training programs to inculcate the needed skills. Many well-established firms have even sent many of their employees to local or overseas vocational, technical and commercial institutes for on-the-job or off-the-job training.

Singapore has two universities — the University of Singapore and Nanyang University. Generally speaking, the University of Singapore has put more effort in developing its applied sciences and social sciences; and, Nanyang University has concentrated more on the development of its commercial, arts and linguistic studies as well as mathematics. These


90 The University of Singapore offers degrees in arts, sciences and social sciences, has professional schools in law, medicine, dentistry, engineering, architecture, education, accountancy and business administration, and provides postgraduate training in these fields. In addition, it has research institutes in Economic Research and various medical and biological subjects.

91 Nanyang University gives degrees in the arts, science and commerce, has professional institutes of Asian studies, business studies, natural sciences, mathematics and social sciences, and provides postgraduate education in these fields. The University was founded in 1956 under private auspices but has become increasingly government-regulated and financed.
two universities have become a major source of high-level manpower supply to both the Government and the industrial-commercial sectors. They have produced numerous lawyers, administrators, doctors, engineers, teachers, social workers and other categories of professional personnel.

In recent years, the question as to the role of higher learning institutions has been a matter of public concern. In the eyes of the Government, as pointed out by Premier Lee, the local universities and other higher learning institutes have to fulfill two major missions. First, they should lead informed thinking into the problems the nation faces. In criticizing the previous tertiary education system of Singapore, Mr. Lee Kuan-yew said:

"We have established a more or less educated elite in the sense that they can write, they can read, they can compose their thoughts... but they are unable to increase the things that the people want to consume. Our men who produce our modern industrial society... our technocrats, are missing."

92 Alex Josey, Op. cit., p. 65
93 Ibid., p. 66.

He, on the other hand, believes that "the biggest dearth of talent in the universities in the developing nations, is not just a lack of skills in the technologies required for a developed society, but even more important and urgent, the corps of informed thinking to lead to formulate and guide national thought on constructive lines." By and large, the higher learning institutes of Singapore have continuously adjusted to conform to the policies laid down by the Government. They have been geared to a high output of scientific, technological and managerial manpower to meet the increasing demand for such personnel by the country.
Broadly speaking, education is a social process tied up with all the people of a society. It is not and should not be confined to conventional schools, colleges and universities. In Singapore, adult education has been greatly fostered by the Government and has in recent years become an inalienable part of the Republic's educational system. The Adult Education Board, established in 1964, conducts a wide range of courses for the general public. Besides offering language and general education at secondary and pre-university levels, it also provides commercial and vocational education. With the establishment of their Extra-Mural Studies Department, the two local universities have conducted a varied and continuing education program for Singapore adults. The extramural courses cover various fields, including appreciation of music and the arts, philosophy, natural sciences, economics and management, applied sciences, languages, law and social sciences. Apart from the Adult Education Board and the two universities, the 178 community centres, set up by the Government in various parts of the Island, have also played a significant role in the development of adult education. Educational and vocational classes conducted in the community centres are many and varied, ranging from textile handicraft, decorative arts, cooking and orchid cultivation to language classes.

As a necessary condition for manpower development and nation-building, education in Singapore is in fact a two-pronged process. It aims not only to develop the knowledge and skills needed for rapid socio-economic development, but also to inculcate in Singaporeans the habits, values and attitudes conducive to the development of adaptability, creativity, social responsibility and loyalty to the Republic.

Since Singapore's expulsion from Malaysia in 1965, the City-State's leaders have been endeavoring to foster a separate Singaporean identity
as both the major source of its citizens' personal senses of socio-cultural identity and the primary focus of their social loyalties. Their efforts in this direction are positive and varied. Both in formal schooling and in social activities, all means likely to be effective are employed for infusing the people -- both the younger and older generations -- with strong feelings of pride in the Republic's accomplishments and loyalty to it as a sovereign political entity in the international system. But this task cannot be accomplished quickly or easily because the socio-politicalization and acculturation processes are by nature slow and the particular socio-cultural factors involved are complex and ambivalent in Singapore. The latter characteristics arise largely from the Republic's ethnic diversity and peculiar regional situation. While trying to weaken the ties to China of the Chinese majority and to India, Malaysia and Indonesia of the Indian and Malay minority, the Singapore leaders have been striving to lessen the incompatibilities and resentments among the different ethnic groups. To inculcate a sense of "we-feeling" among the people, the Government has made every attempt to instill into their minds the positive value of multi-racialism, multi-lingualism, multi-culturalism and communal equality. All students of primary, secondary and vocational schools, summoned to attend the "raising-flag" ceremony held every morning before classes, are to sing the national anthem -- Maju-lah Singapura -- and pledge:

We, the citizens of Singapore, pledge ourselves as one united people, regardless of race, language or religion, to build a democratic society based on justice and equality so as to achieve happiness, prosperity and progress for our nation.94

94 The writer himself had taken part in the recitation of this pledge for three years. It is hard to find any school student who does not know how to recite it.
Besides national consciousness and multi-racialism, the Government has gone all out to infuse Singaporeans, especially the young generation, with feelings of social responsibility and discipline and a spirit of industriousness and thrift. Government leaders have availed themselves of every opportunity to urge the Singapore people to exercise self-discipline so as to ensure for themselves a high standard of social order and organization; to work hard and to save to build the planned future; and to think more of the common interests of the society than of their individual or parochial group interests. The other pioneering virtues they have repeatedly stressed are self-reliance and mutual aid to cope with existing problems, understanding of the City-State's difficulties to motivate efforts and sacrifices for national cause, and sound minds in sound bodies to assure the desired quality of life.

In striving to inculcate the attitudes and behavioral norms that are conducive to the improvement of manpower quality, the Singapore leaders do not leave the City-State's people much choice in avoiding those habits and attitudes they consider bad. In order to protect the health of the people from ruination, the Government has frowned on smoking and drinking. No commercial advertisements of tobacco products are allowed in or on local newspapers, publications, TV and radio programs, and sign-boards. Smoking is strictly prohibited on buses and in community halls, cinemas and government offices. In recent years, taxes have been continuously raised on tobacco products and alcoholic beverages. To stop people from becoming social parasites, beggars are apprehended and ordered to be rehabilitated. In promoting the "work ethic", the Government has consistently proclaimed that "nothing is for free" in Singapore. As a move to accelerate the development of Singapore as a clean city and to enhance civic consciousness
and social discipline, the Government has embarked on an anti-litter campaign. Persons who litter are liable to a fine of 500 Singapore dollars.

Since the PAP came to power in 1959, its government leaders have consistently warned against the "unwanted byproducts of the Western way of life". Hippies, drugs, long hair, free sex and unconventional clothes have been thought to be fashionable in North America, Europe and some Pacific countries like Australia and Japan. They have affected the young people of many developing countries. Philosophers and citizens of these modernities may have good reasons to rationalize their fashionable mannerism. It is however the Singapore Government's belief that while hippyism will encourage young people to become permissive escapists disregarding the destiny of their country, drug-taking will stop them from becoming strong-bodied men, and chaotic "free sex" and blind imitation of Western sub-cultures are injurious to public morals and the development of creativity.

In its campaign against "yellow" culture -- pornographic culture, the Government censors movies, TV and radio programs, and publications of all kinds. Playboy, Playgirl, Penthouse and other literature of this kind have been banned outright. Long hair and deviant patterns of dress and behavior are rigorously discouraged in young people and foreign "hippies" are not permitted to remain in the City-State. Policemen are authorized to question any person with long hair and trim his hair. All civil servants are instructed to keep their hair short and dress properly. Those who make regular contact with the public have been directed to send "the long haired people" to the back of the queue. In an effort to prevent the sale and use

95 In government offices posters are displayed showing illustrations of a "reasonable" hair style. According to the Government's definition, long hair is hair that falls across the forehead and touches the eyebrow, or covers the ears, or reaches below an ordinary shirt collar.
of drugs from becoming a serious social problem, flogging and severe prison sentences have been introduced to punish drug addicts and capital punishment is also applied to deter drug pushers.

With a view to minimizing the frequency and necessity of applying these unpleasant disincentives, government leaders of Singapore have not only consistently warned their people of the harm that the "unwanted by-products of Western sub-cultures" can cause to the society and themselves, but also made an all-out effort to induce them to take part in sports, games and socio-cultural activities which they consider healthy.

With the guidance of the Ministry of Education, all Singapore schools have undertaken a comprehensive range of extra-curricular activities. Various sports and games, including martial arts of different sorts, are widely and vigorously promoted at all levels. In every secondary school, varied student organizations have been set up to carry out cultural activities. The most widely established ones are: the Art Association, the Dancing Group, the School Choir, the Bridge and Chess Club, the Chinese Orchestra and Study Societies of the arts, science, commercial and technical subjects. Activities in the fields of art and music are particularly emphasized. In addition, uniformed units constitute another remarkable facet of the extracurricular program. Every secondary school has run its own National Police Cadet Corps, National Cadet Corps, Brass Band, Boy Scout and Girl Guide Groups, and St. John or Red Cross Ambulance Corps. All school teachers are requested to take part in the activities of one or two student organizations as advisers, supervisors or instructors. Teachers who do not have the required skills and knowledge are sent for training or learn by themselves through active participation. The entire extra-curricular program reaches its climax amidst the colour and pageantry.
of the annual (one-month) Youth Festival where pupils demonstrate the skills and discipline inculcated in school. Students earning high ratings in their performances are selected for specialized training to become student leaders in schools or national representatives in regional and international competitions. Although all extra-curricular activities are undertaken on a competitive basis among or within schools, emphasis is always placed on participation.

The youth movement is not confined to schools. There are many socio-cultural organizations in Singapore awaiting young people to play an active part in their activities. The mainstay of the post-school youth movement is made up of those well-established nation-wide social groups like the Singapore Scout and Girl Guard Association, the Singapore Art Association, the Musical Arts Centre, the National Sport Council, the National Theatre Company, the St. John Ambulance Brigade, the Red Cross Association, the Boy Brigade and other social welfare organizations. They run their auxiliary organizations, co-ordinate the functions of other socio-cultural groups, and provide leadership as well as training for student organizations. With the encouragement of the Government, Singapore adults and commercial and industrial groups have also contributed much to the development of the movement. Their personal participation or their generous donations have been very encouraging to the young people.

From the government point of view, the youth movement is a highly desirable mass mobilization process. It is through this movement that the government leaders can inculcate in the people the attitudes and values which are considered conducive to the development of national consciousness and the advancement of nation-building progress. Naturally, it is also an attempt by the PAP leaders to win the "hearts" and "minds" of the
masses. In order to ensure that the youth movement is on the right track or up to its expectations, the Government has remained its chief promoter and director. Incorporated in July 1960 as a statutory authority under the supervision of the Ministry of Culture, the People's Association has become an important government-directed agency entrusted with the responsibility of organizing and promoting mass participation in socio-cultural, educational and recreational activities and, in the process, to establish a dialogue between the Government and the masses. To date, the Association has set up a comprehensive network of 178 community centres in various parts of Singapore.\textsuperscript{96}

In addition to formal education, vocational and technical training, adult education and the youth movement, compulsory military training, is another important facet of manpower development in Singapore. Since the passage of the National Service Bill in February 1967, all young able-bodied Singapore males who reach the age of eighteen have been eligible for conscription for two years. After completing the national service, they return to the normal routine of their civilian life but still remain a part of the reservoir of defence manpower for the next ten to fifteen years. Leaving the army as fully-trained soldiers, each year they are recalled to their reserve battalions for refresher training.\textsuperscript{97} In the early years, due to the underdeveloped training capacity, the Government allowed young men who were already working or planning to go for higher studies to be exempted from national service. But this practice resulted

\textsuperscript{96} For a detailed introduction of the community centres, see Seah Chee-meow, Community Centres in Singapore: Their Political Involvement, (Singapore: Singapore University Press, 1973).

\textsuperscript{97} For a description of the regulations of the National service scheme, see Singapore, Enlistment Act (Act 25 of 1970), (Singapore: Government Printer, 1970).
in a shortage of leadership material as enlisted national servicemen tended to be of rather low education. To make good this shortage, the Government enlisted university graduates as well as recruits into the civil service. In 1970, a decision was taken that young men leaving secondary schools to join universities either in Singapore or abroad must first do their national service. Young men who were born before 1949 or are "unqualified" for full-time military training are required to do part-time national service either with the Special Constabulary or with the Vigilante Corps.

In the Singapore context, this national service scheme is admittedly a pragmatic approach to defence-building. Singapore's population, although considered large in view of the small land area and poor resource base of the Island, is too small in defence terms. If the City-State was to maintain a standing army of regulars, as pointed out by Singapore Defence Minister, Dr. Goh Keng-swee, either it will have to be a small army, ineffective as a deterrent, or else the Government has to spend enormous sums of money in maintaining a larger force.\textsuperscript{98} We know that Singapore is not a rich country with the economic capability of maintaining a large regular army. Furthermore, when a person becomes only a soldier, he does not contribute to the productivity of the country. Therefore, the most economical and best possible way to build up an effective larger defence force for the Republic is to create a "citizens' army" which involves every able-bodied man of the country.

When national service was first introduced, it was repugnant to many. The young people opposed it on the ground that it is an

encroachment upon their personal freedom. The Chinese parents opposed it because they held the traditional view that "good sons do not become soldiers". Soldiers and uniforms also had unhappy memories for the older generation. They have not forgotten the excesses and brutality committed by Japanese troops. The pacifists opposed the idea of compulsory military training because they were opposed to war, arguing that it would make the nation war-minded. Many people even did not see any reason why Singapore should waste its money and manpower resources to establish its own defence force. They argued that due to its small area and population and its economic dependence on sea routes, the Island-state could not be defended successfully against any determined attack by a well-equipped and sizeable combination of sea, air and land forces. But these arguments cannot withstand scrutiny.

All nations, big or small, need a feeling of security. For security is a necessary condition for effective survival. But security is not a state of affairs begotten out of nothing. Its existence or non-existence is largely determined by the defence capability of a country. This is true not only of big countries like China but of small states like Singapore. Defence, in the true sense of the word, is to take precautions against calamity beforehand. Living in a world of grave disturbance and uncertainty where every country is armed to protect its own interests, it is very unwise for a country to disarm. Unless able to obtain protection from other source(s), a completely disarmed state is deprived of the capability to gird up its loins against any hostile attack upon its right to exist. Those people who assert that a small state which cannot be successfully defended against a determined attack by a sizeable force
should not make defence preparations are either defeatists or persons
who are not concerned about the destiny of the country concerned. The
logical consequence of their thinking is that Singapore must accept
absorption by any country prepared to march its troops onto the Island.

Pacifists, who indiscriminately consider Singapore's defence-
building efforts as war-minded, are idealists who either do not know the
actual meaning and purpose of defence or are ignorant of the development
of international reality. No doubt, aggressive war-minded governments
or people may make and employ "defence arrangements" to pursue imperia-
list aggressive conspiracy. This is what the Germans and Japanese did
three decades ago. But, there is also no denying that there have been
many peace-minded people and governments making defence arrangements only
for the purpose of safeguarding their own legitimate rights and inte-
rests. When they initiate military actions to resist external interfe-
rence and aggression or exploitation, as the national fighters of many
developing nations have done, they are actually forced to be "war-minded".
If pacifists advocate that the victims of aggression should abandon their
resistance movements for the sake of "peace", they are not true peace-
lovers. Their "peace-minded" thinking in fact approves the vaulting
ambition and conspiracy of aggressive war-minded nations at the expense
of many peace-minded national defenders. Singapore is after all a small
fish which has the natural desire to live peacefully with other small
and big fish in the international ocean. Even if all its 2.2 million
people are trained to become soldiers, it still does not have the mili-
tary might to pose any serious threat to any other nation. Realizing
that the City-state is too weak to resist a determined attack by a
powerful force, the Government leaders of Singapore recognize that the most reliable way to preserve the state by deterring external encroach-
ment is to enable it to become a "poisonous fish" -- a fish which can hurt or kill its eaters, that is to build a defence force having the capability to make its aggressor or conqueror pay a higher cost. Although Singapore is not without friends who may come to her rescue in her hour of need, it is in her own interest to accept the guidance of the old Chinese saying that "self-reliance is better than relying upon the others". In stressing the importance of self-reliance in defence, Mr. Lee Kuan-yew is quoted as having said:

It will not do merely to depend on others to defend us. We would be in a very difficult situation if there is trouble one day in our country, if there are enemies invading us, and those defending us belong to another state, and are people who are not loyal to our nation but only soldiers employed by us and paid by us. It would then be too late for us to feel sorry about it...99

To make his point more comprehensive, he should also have mentioned that there could be some friendly states which wish to extricate Singapore from difficulties but have no ability to render assistance in her time of need.

In the Singapore context, the build-up of a self-defence force has not only the positive effect of deterring other nations from attacking the Island-state, but also the effects of helping maintain internal security, assisting in the development of national self-confidence, and enabling the state to have an equal place in any desirable regional military alliance. At the same time, it allows Singapore to conduct its

99 Ibid., p. 53.
regional diplomacy from a position of some credibility. To some extent, a national defence force is also necessary for economic reasons. In a public address to students at Nanyang University at the end of 1969, Premier Lee said: "Without adequate security arrangements, investments may slow down. If people believe that we are weak and defenceless, even our own wealthy citizens will move part of their capital abroad."\(^{100}\)

Dr. Wong Lin-ken, the former Minister for Home Affairs, told a group of national servicemen that "no foreign investor will put his money in Singapore, and no one will think this nation has a future, if he does not think that you contribute towards the defence of our country."\(^{101}\)

No one can argue that defence-building by means of national service does not impose sacrifice and hardship on young Singapore citizens. Yet, it is necessary and inevitable for the simple reason that the Republic must rely mainly upon her own efforts to defend herself. And, as we have mentioned earlier, national service is the most economical and best possible way to build up a defence force sufficient to protect the Republic from external encroachment. Viewing "individual freedom" from the perspective of a citizen's obligation to his country, no one can effectively argue that the Singapore Government does not have good reasons to enlist young able-bodied Singaporeans in the Singapore Armed Forces for two-year full-time compulsory military training. No matter under what political system, it has been a universally accepted rule that a legitimate government has both the responsibility and authority to require its citizens to perform whatever duties that are deemed

\(^{100}\) *Sunday Times*, an English newspaper (Singapore) which is no longer in existence, December 14, 1969.

\(^{101}\) *Straits Times*, January 22, 1970.
necessary for the fulfillment of common national causes. Individual liberty is not something untouchable when confronted with the common interests of the society.

As a matter of fact, by serving in the army, they work not only for the security of the nation but for their long-term well-being and that of their families. The relation between the country and them is one between the lips and the teeth. When the lips are gone, the teeth are cold. When the independence of the nation is lost, the personal liberty of its people will be gone. The older Singapore people should know this better. They should remember the inhuman treatment given to them by the Japanese conquerors thirty years ago. They should be able to tell their children what freedom or liberty they had during that period of Japanese rule. With the unhappy memories in mind, are they then rational in holding the traditional view that good sons should not become soldiers? Is this view not merely an unfounded prejudice against soldiering? Have they not realized that this Confucian idea had misled China for centuries? Learning from their history, the Chinese people in today's China have uprooted this fallacy. The Chinese parents in Singapore should do the same if they are to be considered as contributors of the Republic's defence development.

Apart from fulfilling military requirement, the national service scheme has other non-military educational functions also. The foremost among them is that it can help develop a sense of discipline and social responsibility which is called for in every walk of life. The tough training on the other hand gives young Singaporeans a good opportunity to learn to face difficulties and dangers manfully. Moreover, the various establishments of the Singapore Armed Forces (especially the logistic bases) have provided national servicemen with a wide range of vocational or technical
training. When the national service personnel return to civilian life with acquired attitudes and skills in the army which are in demand by industries, they will not only find jobs with ease but contribute directly to the economic growth of the country. Above all, national service greatly contributes towards the creation of a cohesive society by giving young men of diverse ethnic, religious and economic backgrounds the opportunity to live and work closely together. The intermingling of races and classes will have the effects of promoting mutual respect and comradeship, strengthening the sense of national unity, and hence uplifting the national character.

As a whole, manpower development in Singapore is basically a government-run process. In this process, every attempt has been made by the Government to ensure that all the necessary educational and training programs are in conformity with the nation-building goals and strategies of the Republic. Inevitably, as in the fields of family planning and population control, many measures taken for the improvement of manpower quality -- especially those adopted to combat unhealthy Western influences and to implement the national service scheme -- are unpleasant and oppressive to the personal freedom of young Singapore people. Nevertheless, if Singapore is to succeed in her struggle for survival, they are highly necessary.
CHAPTER 4

SINGAPORE'S MANPOWER DEVELOPMENT EXPERIENCE

Having outlined the Singapore Government's manpower development policies and approaches, we shall now proceed to seek a general evaluation of them. In addition to assessing the effectiveness and achievements of the manpower development programs, we shall also assess the manpower development problems still confronting the leaders and people of Singapore. Finally, the author will turn his attention to what the Singaporean leaders and people can do to overcome these problems. Because of the inadequacy of data, many comments and judgements are derived from the author's personal observations and perceptions.
I. The Achievements of Manpower Development Programs

By the "achievements" of manpower development of Singapore, the writer refers to the measurable or visible effectiveness of Singapore's manpower development efforts. In more general terms, achievement also means "output" or "progress". Since Singapore's manpower development is concerned with both the quantity and the quality of the people, the question as to what is its progress should be also divided into two parts. Firstly, has Singapore been able to control effectively the growth rate of its population? Secondly, has Singapore succeeded in its efforts to improve the quality of its people and to allow them to acquire the skills and knowledge needed for its nation-building endeavours?

As can be observed from the data in Appendix 3, the answer to the first question is in the affirmative. During the first five years of the National Family Planning and Population Program, some measure of success was achieved. The target of the First Five-Year Program was to lower the birth rate to around 20 for every thousand persons was achieved. The crude birth rate decreased from 28.3 per thousand in 1966 to 22.1 per thousand in 1970, while the total number of live births decreased from 54,680 in 1966 to 45,934 in 1970. The rate of natural increase, which is the difference between the crude birth rate and the crude death rate, fell from 2.3% in 1966 to 1.7% in 1970. During this five-year period, the number of new family planning acceptors had been steadily increased.

In 1966, the total number of acceptors was 30,410 (see Appendix 4). By the end of 1970, it had reached 165,556. On the other hand, the annual number of female sterilizations increased from 477 persons in 1966 to 2,310 persons in 1970, with the total number of sterilized women raised from 447 to 5,929.

The Second Five-Year Family Planning Program (1971-1975) aimed at lowering the birth rate to around 18 for every thousand persons by 1975. An annual target of 16,000 new family planning acceptors was set for the five-year period. During the first two years of the second five-year program, however, the downward trend in the population growth figures reversed. The crude birth rate rose to 23.1 per thousand in 1972 from 22.1 per thousand in 1970. This was the first time that Singapore experienced an increase in the rate of population growth since as far back as 1956. In reality, there was no indication that the National Family Planning and Population Program has suffered a serious set-back. By the end of 1972, the total number of family planning acceptors rose to 191,971 from 165,556 in 1970. This figure constituted 60% of all married women aged 15-44 years. In addition, it was estimated that about another 20% were practising family planning either on their own or under the medical supervision of private practitioners. Furthermore, the number of women sterilized was on the rise from 5,929 in 1970 to 15,619 in 1972. These figures suggest that family planning had been widely accepted by the people of Singapore. So, where did the problem lie? Demographic studies reveal that the major factor is the increasingly large number of women coming into the reproductive age group.

103 Ibid.
In just seven years between 1966 to 1972, the number of women in the reproductive age group of 20 to 40 years had almost doubled, rising from 57,000 to about 110,000 (see Appendix 5). This was attributable to the "baby boom" of the immediate post-war years experienced in Singapore. Those young men and women who were born in these years are now getting married and having their own babies. Another factor causing the rising population trend is that many people in Singapore still want to have a large sized family.\textsuperscript{104}

Fortunately, this upward trend in the population growth figures did not last long. From the end of 1972, there has been again a steady downward trend. With the total number of live births decreased from 49,700 to 44,100, the crude birth rate decreased from 23.1 per thousand in 1972 to 19.5 per thousand in 1974. Parallel to these, the rate of natural increase had dropped from 1.8% to 1.4% over this two-year period. It is important to note that the crude birth rate of 19.5 per thousand and the natural increase rate of 1.4% were the lowest population growth rates in Singapore's demographic history. When compared with the growth rates of 1966, the crude birth rate had decreased by 8.8 babies per thousand persons and the natural increase rate had dropped by 0.9 per cent. By the end of 1975, according to the demographic data released by the Statistics Department of Singapore, the natural population increase rate was further lowered to 1.3 per cent,\textsuperscript{105} meeting the target of the Second Five-Year Family Planning and Population Program.

\textsuperscript{104} See supra., pp. 70-72.

\textsuperscript{105} Nanyang Siang Pau, February 2, 1976, p. 12.
Evidently, the steady decline in the population growth rates is owing to the continuous increase in the number of family planning acceptors. By the end of 1974, the total number of family planning acceptors was 229,400 persons and the total number of sterilizations numbered 27,850, including 26,714 women and 1,146 men. From 1970 (when the Abortion Bill was passed) to 1974, the total number of abortions done in government clinics was 9,100 (see Appendix 4). And, more than 90% of these abortion cases were those of married women. This data evidently disproves the theory of those who opposed the passage of the Abortion Act that legalized abortion would result in widespread moral corruption. And, the absence of death or surgical mishaps resulting from abortions indicates that legalized abortion is a safe and effective supplementary measure of population control. In addition, the success of family planning and population control is reflected in the fact that the number of infants available for adoption at social welfare homes has been steadily decreasing in recent years. The cases of adoption fell from 247 in 1972 to 101 in 1974. Married couples who wish to adopt a child have now to wait at least three years. The days when there were many "unwanted" infants looking for a proper home are over.

As far as the quality of manpower is concerned, any attempt to evaluate the effectiveness or achievement of a manpower development process is bound to be a difficult task. In a broad sense, manpower quality is made up of many constituent and inter-related elements. In


the context of Singapore, it refers not only to skills and knowledge but also to social discipline, national consciousness, sense of responsibility and capacity for hard work. Nevertheless, things like intelligence, knowledge, skills, discipline, sense of responsibility, national consciousness and industriousness are all abstract and intangible things and cannot be effectively measured with accuracy. First of all, as concepts with built-in ambiguity, these qualitative human values could mean many different things to many different people. Although scholars and researchers of various disciplines have striven enthusiastically to devise methods for measuring these conceptual values, none of them has succeeded in working out a set of comprehensive and "agree-to-all" measurement indicators. Believing that any micro-assessment of conceptual human values will lead us to an indefinite blind alley of philosophical disputes, the writer can only adopt a gross analytical approach to evaluate the manpower development progress of Singapore in qualitative terms. What he goes after is just a bird's-eye view of the subject matter. In applying this approach, he is fully aware that his personal observations will inevitably become a determinant element. And he has to admit that his judgements in selecting measurement indicators are conditioned by the data he has in hand.

To begin with, let us first assess the manpower development progress of Singapore in respect to the literacy rate. Literacy, in the broadest sense of the term, means ability to read and write. In the absence of other better criteria, educational achievement has been widely accepted as a major index of literacy. In most cases, an illiterate rate is defined as a person who has no formal education. This definition imperfectly assumes that a person with no formal education is a person
who cannot read and write. To our regret, we cannot but accept it as an
index of knowledge level. In Singapore, the calculation formula of
literacy rate is:

\[
\text{Literacy Rate} = \frac{\text{Total number of persons with education}}{\text{Total number of persons 10 years of age and over}} \times 100
\]

According to the 1957 population census report, the literacy rate was
52.3\%. By 1970, it had risen to 72\%. From 1970 to 1973, the literacy
rate continued to increase. About 77\% of Singapore's 1,729,034 persons
aged ten years and over in 1973 were literate (see Appendix 6). Of the
economically active population of 837,409 persons ten years of age and
over, about 84\% were literate, while only 68\% of the economically
inactive population of 891,626 persons aged ten years and over were
literate. The steadily growing literacy rate implies that the educa-
tional level of the Singapore people has risen generally.

In Singapore, as we have pointed out, formal education, vocational
training and adult education are the indivisible parts of the manpower
development process. Naturally, we should take the progress of their
development into consideration. Due to the non-existence of other com-
prehensive indices and data, we can only assess them in terms of growth
in student population and educational expenditure. From the data in
Appendix 7, we can see that the number of students admitted to secondary
schools, technical and vocational institutes, universities, and colleges

\[108\] Jacen T. Hsieh, "National Economic Structure", in Singapore,
Committee for Radio Courses, Singapore Economy, 9th issue of radio

\[109\] Asian Yearbook 1970, (Hong Kong: Far Eastern Economic Review
had been generally on the increase in the first ten years of Singapore's independence. As a result, there has also been a steady increase in the government expenditure on education of post-primary levels (see Appendix 8). Only in the primary schools, due to decline in birth rate during the first half of the 1960's, did the enrolment start gradually to decline after 1966.

One of the most striking features of Singapore's post-independence educational development is that the technical, vocational and commercial education have experienced most rapid expansion. The number of students pursuing these three kinds of education has increased at a higher speed. The data in Appendix 9 clearly reveal that a stronger bias towards applied sciences and management studies has also become a matter of fact in the higher learning institutions of the Republic. In the light of the rapid expansion in technical, vocational, commercial and other scientific education, we can safely presume that the educational institutions of Singapore have contributed much to the growth of scientific, technological and managerial manpower to meet the increasing demand for such personnel by industries. It is obvious that the various adult education programs have also given an impetus to the development of skills and knowledge. This observation is evidenced by the figures of Appendix 10.

Generally speaking, the strategic tasks in modern societies are commonly performed by high-level personnel. From their ranks emerge the political, economic, socio-cultural and military leadership. In this sense, insufficient and inappropriate supply of high-level manpower may be a serious impediment to nation-building progress. The labour force in a country can be differentiated roughly by skills levels ranging
from professional men and women to illiterate unskilled labourers. High-
level manpower generally corresponds to the upper segment of this hie-
rarchy. But any definition of high-level manpower is bound to be
arbitrary. The one put forth by Harbison and Myers is no exception. In
their definition of high-level manpower, they include the following
personnel:

(1) Entrepreneurial, managerial and administrative personnel in
both public and private establishments;

(2) Professional personnel such as scientists, engineers, doctors,
architects, economists, lawyers, accountants, journalists, etc.;

(3) "Qualified" teachers, defined as those who have had a minimum
of twelve years of education themselves;

(4) Sub-professional technical personnel, such as agricultural
assistants, nurses, engineering assistants, technicians, senior
clerks, supervisors of skilled workers, the highest level of
skilled craftsmen, and skilled clerical workers; and,

(5) Top-ranking political leaders, labour leaders, judges and
officers of the police and the armed forces.110

According to their definition, such persons in the category of high-
level manpower need to have at least a secondary education. Thus, "the
stock of high-level manpower in a country could be measured by the total
number of persons with secondary education or higher in the population."111

If we analyse the manpower situation of Singapore in accordance with this
criterion, we will come to a general conclusion that the high-level

110 Harbison and Myers, op. cit., p.16.
111 Ibid.
manpower pool of the Republic has experienced rapid expansion. In 1973, the total number of persons who had upper secondary and tertiary education amounted to 76,802, constituting 3.53% of the 2.2 million population. In that year, 7.52% (63,020) of the Republic's 837,409 economically active people had upper secondary or tertiary education. Only 2,362 persons of high-level manpower category were economically inactive.

In reality, as evidenced by the manner in which the Government classifies the labour force, high-level manpower in Singapore has been defined in terms more of skills and occupational positions than of educational achievement. As will be seen, the Singapore way of manpower classification is quite different from that of Harbison and Myers. In a 1957 report on labour force survey, the stock of high-level manpower was distributed into six broad categories: (1) teaching profession, (2) administrative – managerial professions, (3) health professions, (4) construction professions, (5) scientific professions, and (6) other professional, technical and related workers (see Appendix 11).

Since Singapore became independent, these six categories of high-level manpower have been regrouped into two broader divisions. As can be seen from Appendix 12, the first category is "professional, technical and related workers", including professionals and sub-professionals in the educational, medical and engineering fields. The second category is "administrative and managerial workers". In other words, while the second category inherits the "administrative – managerial professions" category of 1957, the first category is a condensation of the other five categories of 1957. Based on the current classification, we note that the 32,822 persons of high-level manpower stock comprised 8,699 administrative
and managerial workers and 24,123 professional, technical and related workers. In the two decades from 1957 to 1976, the strength of these two high-level manpower groups had been growing by steady steps. By the end of 1976, it rose to 114,563 persons at a rate of more than 4,000 persons a year. Comparatively speaking, the growth rate of professional, technical and related workers has been greater than that of the administrative and managerial workers.

Of course, while attending to the development of high-level manpower, we should pay some attention to the development of "lower-level" manpower. As we know, without the efforts of the masses at lower knowledge and skill echelons, the high-level manpower minority will be of no use to the country in the nation-building process. Only a brief look at the data on workers not classified as high-level manpower in Appendix 12 will show that the overall strength of such workers has also been growing. In 1969, one year after the Government began with an all-out effort to promote technical and vocational education, the population of the various ordinary workers was 341,612. In 1976, it was raised to 755,971 and was thus double what it was eight years ago.

Making a start soon after gaining independence in 1965, Singapore has gone a long way towards the build-up of her own defence forces. At the time of independence, the Republic virtually had no defence force of its own. The initial target of the Government was to build a well-equipped, highly trained and mobile defence force consisting of a hard corps of regulars backed up by as many part-time volunteers and national servicemen as possible. The starting point was the passage of the National Service Act and the establishment of the Israeli-assisted Singapore Armed Forces
Training Institute (SAFTI) in 1966. The Israeli advisers, whose numbers reached 42 at the peak, played a crucial role in training and advising the Singapore Armed Forces (SAF). In 1967, just at a time when Britain decided to wind up its military bases east of Suez by the mid-70s, 114 officer cadets — the first graduates of the SAFTI — were commissioned. Since then, with more and more able-bodied young men passed out from their officer cadet and non-commissioned officer training courses, the responsibility of training has been gradually taken over by the various expanding training institutes of the SAF. The number of Israeli advisers was reduced to fewer than a dozen in 1973 and eventually fell to zero by mid-1975. Following the rapid growth of its training capabilities and capacity, together with the steady enforcement of the national service scheme, the manpower base and thus the overall strength of the SAF have been steadily enlarging.

In speaking at the Commissioning Ceremony of SAF Officers on July 12, 1974, Singapore Defence Minister, Dr. Goh Keng-swee, proclaimed for the first time that, after having worked hard in the previous years, the Republic has built up a defence force adequate for her protection. In citing the gradual decline in defence expenditure to substantiate his statement, the Minister said, "In terms of percentage of our GNP, defence expenditure stood around 10% some years ago and had been steadily dropping till now when it is just over 5%. In later years, this will drop below 5%, which is what many countries keep their defence expenditure


at." Data of both government and non-government sources reveal that by the end of 1973 the estimated quantitative strength of the Singapore Armed Forces is as follows:

**Land Forces**

1. 7 active infantry battalions with a commando battalion, organized into 2 infantry brigades having their complement of support arms -- artillery, engineer, signals and armour;
2. 1 armoured unit of light tanks and armoured assault vehicles;
3. 12 reserve battalions of national servicemen, with a growth rate of 3 battalions each year;
4. 8 battalions of People's Defence Force (PDF), including 2 volunteer battalions and a PDF (Women) Company;

**Sea Forces**

5. 1 squadron of six 33.5-metre fast patrol crafts and 6 missile gun-boats equipped with sophisticated weapons, receiving instructions from the Maritime Command;

**Air Forces**

6. 1 squadron of Sisia Marchettis;
7. 1 squadron of BAC 167 Strikemasters;
8. 1 squadron of Alouette helicopter and a squadron of Skyvan; and,
9. 2 squadrons of Hunters supported by a radar unit and a Bloodhounds surface-to-air missile squadron.

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In the fields of internal security, the growing Special Constabulary (SC) and Vigilante Corps (VC) of national servicemen have become two important support arms of the Singapore Police Force. By the end of 1973, the strength of the SC amounted to 9,688 men, comprising 9,020 national servicemen and 648 volunteers, while the Police Force had only 6,458 personnel of all ranks. After passing out from their training courses, the part-time special constables are detailed to perform policing duties, assisting the regular police force in the maintenance of law and order. The VC, originally formed in 1964 as a voluntary social security force to face the Indonesian confrontation, was re-organized in 1967 as an arm of National Service. Since then, part-time national servicemen have been channelled into the VC for training by two intakes a year. Each intake is about 1,500 men. Trained national servicemen of the Corps have been dispatched to provide general community service, civil defence service and community security service.

It is not surprising to learn, as a result of the national service scheme and the extra-curricular programs of various uniformed organizations at school and national levels, that very few Singaporeans aged between 10 to 30 years do not have some association with some uniformed organizations. It is also interesting to note that although Singapore girls are exempted from compulsory military training, their participation in voluntary uniformed activities as part of their school or post-school life has been remarkably keen. One needs only attend the parades of the Youth Festival and the National Day Parade as well as the annual

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117 Ibid., p. 104
parades of some student and adult voluntary uniformed groups, he will find that the numbers of girls standing in the files of marching contingents and brass bands are consistently comparable to those of their male counterparts. Despite the criticism of some people that Singapore is getting more and more militarized, the Singapore Government continues to promote these uniformed and other collectively organized socio-cultural and sport activities. It is through these activities that the government leaders continue to infuse the Singapore people with a sense of multiracial nationalism, social discipline, community responsibility and the spirit of industriousness.

The findings of some social surveys suggest that these organized activities have succeeded in fostering these desired values. For instance, the Singapore National Identity Survey by sociologists of Singapore University confirmed that progress has been made in fostering a sense of Singaporean nationalism on a multi-racial basis. The Survey revealed, though on a rather small sampling, that nine out of ten Singapore citizens now prefer to identify themselves as "Singaporeans" rather than "Indians", "Malays", "Chinese", etc. The Supervisor of the Survey, Dr. J.A. MacDougall, commented:

The vast majority of Singapore citizens of all communities identify themselves as Singaporeans. When confronted with the choice of being called a Singaporean or a member of their own community, by far the most prefer to be called Singaporean. Most want to live in Singapore rather than any other country in the world.\(^{118}\)

In commenting on the same subject, Dick Wilson observed that:

Singaporeans increasingly sense when they travel abroad the extent to which they have become an integral part of their small island-Republic. Singaporean Chinese who visit Hong Kong or even China itself invariably return with unashamed relief to their familiar tropical

\(^{118}\) *Straits Times*, May 11, 1970
environment. To a lesser extent the same is true of Singaporean Indians who journey to India, and of Malay or Javanese Singaporeans who visit Malaysia and Indonesia.\textsuperscript{119}

In a social survey on Singaporeans' racial consciousness\textsuperscript{120} conducted in mid-1970 by a study group of Nanyang University undergraduates led by the author, it was found that a great majority of Singaporeans accept and observe the principles of multiracialism, multiculturalism and multilingualism. They condemn racial chauvinism and feel regret about the bloodshed of "May-13" communal riots in Kuala Lumpur in 1969. Touching on the Kuala Lumpur riots, it is important to mention that although there was a mild spill-over of rioting in Singapore in late May of that year, the racial chauvanists failed to transplant the bloodshed into the Republic. The national service troops thus mobilized for the first time played an important internal security role. Of course, if most Singaporeans had not had a multi-racial consciousness and a sense of social discipline and responsibility, a riot would have been inevitable on the Island. In July 1964, as most Singaporeans would be quick to point out, a racial riot more serious than the May-13 accident broke out in Singapore. Even after the mobilization of security forces and the introduction of a curfew, the riots continued at irregular intervals and with various intensity for some months. The Government had to take the immediate post-independence years to convince the Chinese and Malay communities of the values of communal peace.

\textsuperscript{119} Wilson, op. cit., p. 17

\textsuperscript{120} This study project was approved and assisted by the Department of Government and Public Administration, Nanyang University, and the Ministry of Education. In this survey, questionnaires were issued to 400 secondary school teachers selected from 12 Chinese and English schools on the basis of random draw. In addition to the survey report submitted to GPA Department of Nanyang University, the writer wrote an separate article in Chinese language, entitled "Singaporeans' Racial Consciousness: A Comparative Social Research", in the Journal of Government and Public Administration, (Singapore: GPA Society of Nanyang University), Vol. II, 1969-70, pp. 73-85;
In view of the "facts" and figures presented above, the writer tends to presume that the manpower development programs of Singapore have achieved some measure of success. The declining population growth rates and the increasing numbers of family planning acceptors suggest that the National Family Planning and Population Program is a great success in comparison with the progress of the pre-independence family planning and population control efforts. However imperfect and ambiguous the data and resultant interpretations regarding the development of manpower quality, they do help a great deal to convince the writer that the training and educational manpower development programs have made much progress in enhancing the skills, knowledge and dexterity of the Singapore people and thus in improving the overall quality of Singaporeans. In order not to commit the serious logical error of "seeing only trees but not forests", we should also bear in mind that the phenomenal success of Singapore in her socio-economic developments is the most important and comprehensive indication of the Republic's success in her manpower development enterprise.

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121 See supra., p. 67.
122 See supra., p. 49.
II. Problems of Manpower Development

In the face of the factual data presented in the previous section, the writer certainly has little doubt as to the validity of the overall observation that the various manpower development efforts of Singapore have been quite a successful experiment. Nevertheless, as suggested by this reserved comment, it is by no means certain that Singapore's manpower development experience is a perfect model. On the contrary, it should be noted that, as a process on the march, the manpower development of the Republic has been faced with many problems. Recognizing that a full detailed account of all relevant problems is beyond the scope of this thesis, the writer attempts to give only an overview of the major manpower development problems of Singapore.

First of all, despite the great success achieved in the endeavours of the National Family Planning and Population Program, the possibility of population explosion has not been removed. In spite of the facts that the natural increase rate of the population has decreased from 2.3% in 1966 to 1.4% in 1976 and that over 88% of the married couples have adopted family planning methods to exercise birth control, the population of Singapore is still growing. The main cause of the continuous population

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123 Dr. Liu Ching-sin, the Secretary of the Singapore Family Planning and Population Board, released this information when she spoke at the Conference on "Family Planning and Population Problems" sponsored by the International Labour Organization and the Singapore National Trade Union Congress, held in October, 1974. See Nanyang Siang Pau, October 30, 1974.
growth is that Singapore is by nature a "young" nation. In 1974 alone, 65.8% (1,460,800) of its 2,219,100 population were below the age of 30 years, while the number of women falling in the generative ages from 15 to 44 years increased to 584,800 from 367,900 of 1966. Even with the lower natural increase rate of 1.4%, the population increases at a rate of 100 babies per day. Because of the young age structure of the Singapore population, even if each family has an average of two children today, the population would still continue to grow to about 2 or 3 times its size in the next 50 to 60 years before zero population growth is achieved. In other words, even if the family size is maintained at 2 children, the population would increase to 4 to 6 million before it could stabilize at zero growth rate. Speaking at the Conference on the "Student Population of Asia" held in Singapore in June 1975, the Executive Secretary of the Singapore Family Planning and Population Board, Dr. Margaret Low, pointed out:

In Singapore, the population target is to reach a zero growth rate as soon as possible. The present population density of Singapore is 3,787 persons per square kilometre, and 47 per cent of our population are below the age of 20 years. If the prescribed target of two children per family is achieved and maintained in the years after 1980, Singapore can achieve a zero population growth rate only until 2030. At that time, our population will double and thus increase to 4 million.125

This calculation in fact had been made long ago by Dr. Lee Chiaw-meng, the former Minister for Education. When he spoke at the official opening of the Seminar on "the Education of Family Planning and Population", which was held for Singapore school teachers in March 1975, Dr. Lee said:

125 Sin Chew Jit Poh, June 16, 1975.
We want every child to be wanted and brought up with loving care, i.e. a child who is provided with good clothing, good food, good lodging, good medical care and good education. We can do this only when every family has a smaller number of children. And so, let us stop at two.... But, due to the special feature of our population, even if we achieve the target of two children per family immediately, it will take us 50 years to achieve a zero rate of population growth. At that time, our population will reach 4 million, about 2 times the present size.126

No doubt, the continuous population growth as projected is somewhat beyond the control of the Singapore Government and is thus not a failure of the government-led family planning and population control program. We cannot expect the Government to reduce the population growth rate from 1.4 to zero per cent overnight. But it has caused the Government leaders and people who are concerned about the future of Singapore much anxiety. One of the most fundamental questions is: Will Singapore's economy be expanded fast enough to provide 4 million people with adequate employment opportunities, education, housing facilities, medical care and other socio-cultural amenities? And, when the population grows to twice its present size, can the Singapore people continue to enjoy as high a standard of living as they do now? So far, no one can provide a convincing answer to these questions.

With more and more young Singaporeans graduated from various educational institutions, the manpower base of Singapore's economic development has no doubt been expanding. Yet, shortages of skilled workers, technicians and other high-level manpower have continued to become a common problem confronting the industries of Singapore. In the first ten years of Singapore's independence, the industrial labour

force had increased from 75,000 in 1965 to 231,000 in 1974. Due to the rapid growth in the industrial sector, the demand for industrial workers has been greater than the supply of such manpower. In October 1975, the Singapore Government made public the fact that the Republic would be short of 600 technicians and 3,800 skilled workers each year for the next five years. In disclosing this, the Parliamentary Secretary (Education) Dr. Ahmad Mattar said that the technicians shortage would be felt particularly in the fields of architectural draughtsmanship, electrical and electronic engineering, chemical engineering and mechanical engineering where the shortages range from 11% to 23%. The major skilled workers expected to be in acute shortage between 1976 and 1980 are metal machining, metal fabrication, maintenance fitting, general welding, building and electronic servicing. Shortfalls in these skills are expected to range from 5 to 20 per cent. Although these shortages are attributable to rapid economic growth and not the failure of the manpower development efforts, they may become a great restraint on the progress of the Republic's economic development if they are not properly remedied.

There is no denying that the government leaders of Singapore have been deeply concerned about the "mental health" of the Singaporeans, especially that of the younger generation. As noted earlier, it has been their vigorous attempt to inculcate habits, attitudes and values which they consider conducive to the build-up of a "rugged and prosperous" Singapore nation. It is largely due to their endeavours that Singaporeans

129 Ibid.
have been increasingly known as a hard-working, well-disciplined and well-organized people. But again, this is after all a bird's-eye view of Singapore. If we dissect the social development of the Republic carefully, we will find that there are still many Singaporeans whose social attitudes and sense of social responsibility, community discipline and industriousness are not up to the expectations of the government leaders.

Since independence, Singapore has continuously enjoyed rapid economic growth and rising economic welfare. But, to the disappointment of Singapore leaders, many Singaporeans have been carried away by their new affluence and lulled into a dangerous complacency. Having no knowledge of the bitterness the elders had experienced in the past, many young people of Singapore, especially those who came from richer families, have tended to take everything for granted. They ignore and thus do not try to cultivate the virtue of industriousness and thrift. This helps explain the reluctance of many young Singaporeans to take more menial jobs. In view of the ample employment opportunities made available by rapid economic expansion, young workers and young graduates have become used to hopping from job to job, seeking more comfortable working conditions. As such, they are shying away from construction and other heavy jobs. Some of them even do not bother to start with "hard jobs". They prefer to sit at home to wait for the successful results of their applications for soft jobs. Before they get the jobs they desire, many of them will refuse to become an employed worker. In order to meet the manpower requirements of various menial or heavy jobs, the Government cannot but adopt an "open door" policy in issuing work permits to foreigners who do not mind doing the hard jobs for Singapore. In 1974,
while the local "unemployed" persons numbered 39,000, the estimated strength of non-citizen workers was as high as 100,000. These figures suggest that if the local "unemployed" people did not want to be "unemployed", Singapore should have experienced a perfect full-employment situation and needed only 61,000 foreign workers. This is indeed an abnormal and ironical phenomenon. And yet, it seems that it still exists today.

According to Labour Ministry registers, as reported by Premier Lee in his message to the nation on the eve of the Tenth National Day (August 9, 1975), Singapore had an increase in unemployment to 4.5% (about 39,000 persons). But there has been no drop in the number of work permit holders.

Parallel to the predisposition of young people to find soft jobs, there has developed a widespread and sharpening prejudice against laborious "blue collar" work. Personal observation suggests that even many parents who have been menial workers tend to look down upon menial work. They wish to see that their children occupy a higher position in the ranks of those "respectable" occupations like lawyers, doctors and managers. If their children become blue collar workers, they will feel inferior when they have to mention their children in their conversations with other people. But, if their children are higher ranking white collar workers, they will keep all their acquaintances informed of their children's respectable occupations. The interaction of these inferior and superior feelings has brought about the "social expectation" that good sons and good daughters should not be in the blue collar ranks.


Consciously or unconsciously, instead of resisting the pressure of this unwholesome parental expectation, many young people tend to accept it as a norm. They do not see that this is a social chain of which they themselves are the victims. Consequently, with the white-collar minority feeling great pride in their "occupational achievement", the blue collar majority feel regret at their "occupational failures". This is no doubt a great handicap to the mental health of Singaporeans and the progress of manpower development.

As a consequence of the bias towards white collar work, the already existing socio-psychological prejudice against military service has also been greatly reinforced. No matter judged from what angle, soldiering is a laborious job. The prejudice against laborious jobs therefore helps to support the traditional belief that "good sons should not become soldiers". This way of thinking prevails not only among parents but increasingly among the national servicemen. Thinking that they are forced by the Government to undergo military training, they do not consider their national service as an honourable contribution to the country. Instead, many think that they are being forced to do "hard labour". This attitude, though giving rise to no outright opposition against the national service scheme, is evidenced by the grumblings we can hear from time to time from parents of national servicemen and from the national servicemen themselves. A more serious obstacle to the development of defence manpower is that there are many national servicemen discriminating against people who become regular soldiers or join the SAF as full-time vocationalists. They ridicule these people by naming them as "than-chia-peng"132 -- people who become soldiers to earn a living. This

132 This is spoken in Hokkien, which is one of the Chinese dialects.
insulting nickname has been very discouraging to professional soldiers and national servicemen who are interested in military careers. Echoed by like-minded ordinary people, this prejudice has become a great psychological burden to those uniformed persons who work professionally for the national defence. As far as the writer can see, this irresponsible attitude is in part the cause of the high turnover of many defence workers. In the long run, it is harmful to the morale of the Singapore Armed Forces and thus the development of defence manpower.

On the other hand, the continual stress on economic progress has led to a tendency to equate success with wealth. And there has been concern that Singaporeans are propagating a cult of "moneytheism". As the Foreign Minister, Mr. Rajaratnam has warned, Singaporeans are in the danger of becoming those ugly people "who know the price of everything and the value of nothing". It is not wrong for a person to work hard to earn a considerable income. But there are many Singaporeans who want only money and not work. Some of them even think of getting rich by devious means like gambling, smuggling, robbing, kidnapping, murdering, swindling and corrupt practices. They can do much harm to the law and order of the society. Although the crime rate is under control, it has risen in recent years. Apart from eroding the social morality of the Singaporeans, the growth of "moneytheism" can be a great blow to the work ethic the Singapore Government has striven to promote. It has made many Singaporeans less able to appreciate the values of labour and the socio-economic contributions of the working people. Since "moneytheists"

tend to equate wealth with success, they look down upon working people simply because their incomes are not generally on par with those white collar workers like doctors, company managers and lawyers.

Furthermore, the cult of "moneytheism" and materialism has been contributory to the growth of vanity. As Mr. Lee Kuan-yew has observed, more and more people have been sucked into the consumer society, buying more and more things on credit. Some even tend to buy more than what they can afford. As one Chinese saying puts it, there are people trying to swell up their faces to show others that they are getting fatter. As a state of mind paying more attention to the acquisition of flashy consumer goods than to the virtue of frugality, vanity has tempted many Singaporeans to become more short-sighted, more corrupt and more inclined to indulge in self-glorification as well as self-deceit. Step by step, the people with this mentality become less capable of exercising self-control, less accustomed to hard work and rough living, and thus less able to take care of themselves. This is particularly true of many vain-glorious Singaporean youths. Brought up in an easy environment and accustomed to parental protection, many young Singaporeans appear to have been deprived of the capability and will to become self-reliant.

Moneytheism and materialism have been accompanied by the growth of individualism. Interested only in promoting personal career and acquiring greater wealth, many Singaporeans have paid little attention to the well-being of their fellow countrymen and the destiny of the country. Having their attention taken up by their own interests, very few

self-centred persons have a sense of social responsibility. On the contrary, they tend to think more of what they can get out of the society than of what they can contribute to it. Even when they show much concern about the developments of certain public events, they tend to judge the events mainly in terms of their personal interests. In order to safeguard their self-absorbed well-being, they will oppose any social policy which will benefit the masses and the society at the expense of their interests. And so, some of them pay no heed to the "population explosion" warnings of the Government and persist in having the number of children they want. Some resent the "two-child family" policy and the resultant population control measures mainly because they find that they are contrary to their "big family" aspirations. Many young men resent the national service system only because it has been implemented at the expense of their "freedom" and "easy life". Many parents grumble at the national service scheme because they only take note of the fact that it has brought their beloved sons many hardships. They are not far-sighted enough to recognize that in denying the validity of these manpower policies, they are denying their long-term interests. They even fail to understand the simple truth that when the population explosion occurs and when the nation declines or falls, they themselves and their children will suffer even more.

Singapore's excellent communications with the rest of the world, a great socio-economic asset, has inevitably exposed Singaporeans to the fads and fetishes of the Western societies. Many young Singaporeans, particularly part of the English-educated who have no grounding in their own cultural values, have become the consumers of the "unwanted
by-products of the Western way of life. Believing in hedonism, they have tried to imitate whatever Western youths have considered fashionable. By means of imitation, an increasing number of young people in Singapore are fond of pop songs, psychedelic music and dances, keeping long hair, and wearing strange clothes. As a result, they steadily lose touch with their own cultural values and life styles. If possible, many of them would like to have their hair changed from black to golden yellow, their skin from brown and yellow to white, and their eyes from brown to blue. In warning against the unwholesome influences of the West, the government leaders of the Republic have consistently condemned the blind imitators of the Western life styles and branded them as "WOGs" -- Western oriented gentlemen. In recent years, drug-taking among many Singaporean youth has become a serious social problem. Despite the harsh disciplinary measures taken by the Government to eradicate drug addiction, the number of drug abusers (pushers and consumers) in Singapore has been on the increase. Even more worrying is the fact that the ages of those found to be abusing drugs are getting increasingly lower. It was reported that in 1975, out of a total of 4,201 people prosecuted for drug offences, 2,550 (61%) were in the 14-25 years age group. Since drug addiction is detrimental to both the mental and physical health of the addicts, it has caused concern to parents and government leaders.

135 It is generally believed that most Singaporean drug addicts were either misled by their curiosity about the state of mind that drugs can bring about or trapped by their habits of imitating fashionable lifestyles of the Western youths.

Indeed, the manpower development problems of Singapore are many. Although the existence of these problems does not necessarily mean great failure, they do constitute set-backs and difficulties for manpower development. There is no cause for the leaders and people of Singapore to be complacent or too optimistic about the future progress of the Republic's manpower development and nation-building efforts. They should bear in mind that while the growing population may deny themselves as well as succeeding generations a comfortable and pleasant living, any further decline in the work ethic, mental health and morals of the people will deprive the infant Republic of the capacity to develop herself into a rugged society.
III. Possible Solutions to Manpower Development Problems

Needless to say, if the manpower development work of Singapore is to proceed with greater success, the various problems with which it is confronted should be properly remedied. As to the question of what are the solutions to the problems being spotted, the writer does not pretend to know the actual answers. Nevertheless, as an attempt to play an active part in the discussion of this matter, he has no hesitation in stating and commenting on the methods which he considers conducive to the minimization, if not the complete eradication, of the Republic's manpower development problems.

In the field of population control, the current prescribed mission of the National Family Planning and Population Program is to bring about the state of two children per family and reduce the rate of natural population increase to 1.0% by the end of the 1970s. It is the official demographical projection that if the average family size remains to be 2 children in the coming decades, the population growth rate will be decreased to zero in the year 2030. In presenting this projection, Dr. Wan Fook-kee, Chairman of the Singapore Family Planning and Population Board, explained, "We want to reach replacement level by 1980, that is, a net reproduction rate of 1, but the ultimate aim is to achieve zero population growth in the year 2030, and the population then will be about 3.6 million."¹³⁷ For the attainment of both long-term and short-term goals of population control, the Singapore Government and Family

¹³⁷ Frank Ching, "Defusing a Fertility Bomb", The Asia Magazine, a weekly magazine of Singapore Straits Times, December 29, 1974, p. 27.
Planning and Population Board have steadily added fuel to their already strengthening "stop-at-two" family planning campaign. Even children aged 11 and 12 in the fifth and sixth years of elementary school are taught the importance of small family norms.

So far, despite its vigorous "stop-at-two" family planning campaign, the Government does not deny the right of those who desire and can afford large families to have them. But what can constitute a weak point of the family planning programs is that the Government has not taken enough measures to validate the "two-child family" norm. Up to now, the social disincentives are applicable only to those parents who give birth to their fourth child. It is true that these disincentives do not encourage parents to have 3 children. But they do not discourage them from having more than 2 children. They may induce some parents to think that they are expected to "stop-at-three" and not to "stop-at-two". They may become a counteraction of the Government's two-child family policy. There is no indication that all Singaporeans are prepared to observe the "two-child" norm. As we can imagine, if most or some Singapore families prefer to have 3 instead of 2 children as allowed by the social disincentive scheme, the time for the Republic to reach a zero population growth will be greatly delayed. The population will continue to grow for a longer period and the current family planning and population control program will fail to fulfil its prescribed missions. Based on this recognition, the writer is inclined to opine that if the ideal state of two children per family is to be brought about by 1980 and a zero reproduction rate is to be reached by 2030, the Government should adjust the social disincentive scheme to discourage married couples from having three or more children.
And, if the disincentives introduced are to become more effective
deterrents against the desirability of the "large family", their harsh-
ness should be intensified.

In view of the small size and the vulnerable economy of Singapore,
the writer also tends to hold a pessimistic view that even with a zero
growth rate, a 3.6 million population may still be too big for the
island-Republic. Even if the possibility of a population explosion is
removed, the quality of life in an overcrowded small island with a popu-
lation density of 6,000 persons per square kilometre is unimaginable.
For the well-being of the succeeding generation, Singapore parents should
in fact accept greater sacrifice in their desire for reproduction. As a
rule, it is always better for us to take precautions beforehand to pre-
pare for the worst state of affairs; no matter whether it is predictable or
unpredictable. If Singapore parents do not want their descendants to
experience great suffering and to blame them for it, they should exercise
their reproductive "right" with great care. They should realize that
their reproductive activities may become their inexcusable sins, even
if they have only one or two children. In order to enhance our conscience
and minimize our ignorance, perhaps we should give some thought to one
serious question: Why do parents want to have children or for what
purpose do they give birth to children?

In the case of those who want children, the most probable answer
is: "it is just because we want children". These people can explain in
detail as to the many advantages of having children. In the
case of those who have "unwanted" children, the probable answers are
two. Some may say that they are trying to conform to certain social
expectations, like the traditional bias of some Chinese that "more sons bring more wealth". Some may confess that they cannot exercise birth control. This is particularly true in those societies where people do not have the knowledge of and the devices for birth control. At any rate, all this explains that children are the by-products of their parents' instinctive selfishness or ignorance. Being self-centred and subject to the ruling of their own desires, parents apparently think more of themselves than of their children. Does this fact not depict the true features of "maternal love" "paternal love", or "parental love"? Do the parents not impose their own will on the lives they bring into being? Should they not be held responsible for their children's future well-being? Will they not feel guilty if they see that their children may encounter great suffering or calamity? In putting forth these questions, the writer does not attempt to propose that for the purpose of population control, all Singapore parents should be deprived of their reproductive "rights". Nor does he suggest that Singapore should be left to have no succeeding generation. What he wishes to put across is: (1) that conscientious awareness of these problems may incline parents to have a stronger sense of responsibility and discourage them from having many children; (2) that for the long-term survival of Singapore and the well-being of Singaporeans, birth control is not a sacrifice but a kind of social obligation; and (3) that the Singapore Government has every good justification to take whatever measures seem reasonable to bring about a zero population growth rate as soon as possible.

Interestingly, while taking great pains to minimize the growth rate of her population, Singapore is still a state which is in great need of
skilled and competent manpower. Of great consolation to her is the fact that the magnitude of the shortages in skilled and competent manpower for nation-building has been moderating in recent years. This is true not only in the aspects of socio-economic development but also in the aspects of defence build-up. Having worked hard in the post-independence years, the Singapore Government has built up a systematic educational and training infrastructure. With a view to becoming self-reliant in the acquisition of desired skills and knowledge, the Government has decided to put more investment in the development of educational and training programs and institutions. The Ministry of Education announced in 1974 that the Government had decided to build another 28 primary schools, 26 secondary schools and 10 junior colleges in the following five years.\footnote{138} Plans have also been implemented to expand the capacities of the existing institutes of learning, the universities, the technical colleges, the vocational schools and the combined industrial training centres established by the Singapore Economic Development Board and the sponsoring companies. Again, greater emphasis is to be placed on the technical, vocational, technological and commercial training. In addition, the various overseas training programs have been greatly fostered. Since the inception of the Industrial Development Scholarship Scheme in 1973, more than 600 skilled workers have gone abroad for training. Under the Scheme, skilled and competent workers are trained to become supervisors and technicians in their respective trades.\footnote{139} In the four years between 1971 and 1974, 714 Singapore students have gone overseas to


\footnote{139} "Overseas Training for Skilled Workers", \textit{Singapore Bulletin}, Vol. 4, No. 4, December 1975, p. 3.
pursue specialized undergraduate courses with scholarships awarded by the Public Service Commission.\textsuperscript{140} Many of the overseas scholarships are made available by Colombo Plan and leading Commonwealth states such as the United Kingdom, Canada, Australia and New Zealand.

Generally speaking, Singapore has had the necessary capabilities to acquire the skills and knowledge needed for her nation-building work. Only if the local educational and training institutes continue to expand their enrolments and improve the quality of their programs, particularly in the technical, vocational and commercial fields, will the current and projected shortfalls in the necessary managerial and skilled workers be remedied. It is largely owing to their confidence in the growing potential output of Singapore's educational and training institutes that the government leaders of the Republic do not regard the current shortfalls in industrial skills as an unsolvable major problem. In recent years, they have paid greater attention to the social attitudes of the Singapore people. In their eyes, one of the most serious problems Singapore has now to face is how to put right the attitudes, habits and value judgements of those Singaporeans whose attitudes have been weakened by the current affluence.

To begin with, the present Singapore leadership has embarked on a zealous publicity campaign to warn Singaporeans against the shortcomings and dangers of complacency, "moneythesism", vanity, moral corruption, extremist individualism and such unwholesome imitative behaviors as long hair, unconventional clothes and drug-taking. The rising tide of

\textsuperscript{140} "Ensuring Optimum Use of Nation's Best Brains", Singapore Bulletin, Vol. 4, No. 3, November 1975, p. 3.
this campaign reached its peak in 1974 and 1975, at a time when Singa-
pore's economic growth was hard hit by the world-wide recession. 
Obviously, it has been the attempt by the Singapore leaders to take the 
fullest advantage of the lean times to shake Singaporeans out of their 
complacency. In his message to the nation on the eve of Singapore's 
tenth National Day, Premier Lee warned:

The oil crisis and worldwide recession are factors beyond our 
control. We have to learn to live with these upsets. But some 
factors are within our control, we will improve our investment 
rate, if workers and unions are known to be hard-working, will-
ing to learn and keen to make capital productive.... The days 
when young workers and young graduates were hopping from job 
to job, seeking more comfortable working conditions and more 
pay, are over. The sooner we realize this and shake ourselves 
out of our complacency, the better.... We cannot afford to have 
young men, including NS men (National Servicemen) on Run-out 
date (on completion of National Service), looking for soft jobs 
all the time.141

To give strength to his warning and appeal, Mr. Lee at the same time 
announced that it would be the Government's policy to employ girls for 
all jobs which are physically less demanding, and which girls can do 
as well as boys, and that the Government would ask private firms, 
wherever possible, to do likewise. In other words, most clerical jobs, 
service in shop, restaurants, hotels and light manual work, should be 
done by girls. If this personnel policy is accepted by the private firms, 
it has the effect of stopping many young Singapore men from shying away 
from hard, heavy blue-collar jobs and thus providing a remedy for the 
nominal manpower shortfalls of heavy manual work.

In order to remove the wide-spread prejudice against manual work, 

141 "Shake Ourselves out of our Complacency", The Mirror, Vol. 11, 
No. 33, August 18, 1975, p. 1.
the Singapore leaders have striven to foster the development of a new work ethic to give social approval and status to the blue-collar workers. In their mass persuasion campaign, they have consistently reminded young Singaporeans to take note of the fundamental qualities which had enabled their parents to make Singapore what it is today. One of these qualities is the acceptance of hard work, including the grit and determination to stay on the course with the strength and stamina to ride over rough patches. The bitterness of the past, especially the spectre of unemployment, economic instability and political disorder in the fifties and sixties, is conjured up as an object lesson to today's affluent and carefree youth. No one can argue that the government leaders have made little effort to propagate the virtue of industriousness and the social values of hard manual work. But, as most would agree, social persuasion alone is not adequate to promote the desirable work ethic and the social status of the blue-collar workers. If this campaign is to produce the expected results, it should have a solid economic and material base. This is particularly true in a society where materialism has been a common feature, or where the social status of the individual is generally in terms of his income. The writer believes that if the incomes of most Singaporean manual workers were generally on par with those of the American workers or of the white collar workers in Singapore, there would not be any social prejudice against them. Even the manual workers may hold the views that what they are most concerned about is not the debate as to the respectability of their work but the problem of how to earn a better living. It is therefore the writer's belief that the most effective way to enhance the value of laborious jobs is to improve their working conditions, that is to say, efforts should be made to bridge the income
gaps as well as the social gaps between the blue-collar workers and the white-collar workers. It is encouraging to note that this is precisely what the Singapore Government is striving to do.

In the last few months of 1975, the Singapore Labour Minister, Mr. Ong Pang-boon, had called for a revision of the present wage structures and conditions of service of white and blue collar workers. In making this appeal, the Minister pointed out:

The present structures, which base rewards on educational qualifications rather than on the work done, favoured the white collar workers and are responsible for the increasing number of Singaporeans chasing after paper qualifications and cosy jobs. Consequently, Singapore had to depend on foreign workers to do the blue collar jobs in the building construction, shipbuilding and repairing industries. Mr. Ong apparently holds the view that a revision which relates monetary rewards to work performed and provides unpleasant and hard work with added incentives will check the predisposition of young Singaporeans to seek soft jobs. It is self-evident that apart from being able to narrow the differentials in the incomes of white and blue workers, substantial improvement in the working conditions of hard manual work will contribute towards removing the snobbery attached to white collar or soft jobs. Only when this presumption becomes a fact can the social status of manual workers be substantially enhanced and the desirable work ethic effectively promoted.

At present, the Singapore Armed Forces are reaching the state of consolidation. In saying that the defence forces are adequate for the Republic's needs, the Defence Minister, Dr. Goh Keng-swee, has made

clear, "This does not mean that the time has come for us to let up and
to relax. Perhaps I should have qualified that statement to read 'ade-
quate in number'. There is always room for improvement in quality and
this is what everybody in the SAF should try to do in the years ahead."143
Since this proclamation made in July 1974, members of the SAF, especially
the national servicemen, have been continuously urged to do their work
better and strive to improve themselves by study, by diligent applica-
tion in training courses, and by conscientious effort on the job at hand.
Carefully planned painstaking endeavours have been made to improve the
efficiency of defence administration, the operational effectiveness of
the defence forces, and the quality of the various military training
programs. Apart from striving to better the working conditions of mili-
tary careers, the Government has introduced certain social incentives to
cheer up the working and learning morale of both the regular soldiers and
the national servicemen. The most encouraging ones are: the SAF Scholar-
ship Scheme,144 the SAF Priority Allocation Scheme for the purchase of
government flats,145 the establishment of SAF Economic Supermarkets146 and
the entertainment facilities and activities provided by the various SAF
Clubs and the SAF Music and Drama Company. The Government leaders have

143 "Our Defence Forces are Adequate", The Mirror, Vol. 10, No. 29,
144 Under the SAF Scholarship Scheme, promising servicemen who show
leadership potential in their military careers are sent to overseas as
well as local universities to pursue tertiary studies. Opportunities are
also given to competent servicemen who wish to complete their secondary
education with the Singapore Adult Education Board.
145 The SAF Priority Allocation Scheme is implemented for regular
and reservists as a recognition of their contribution to National Defence.
It reduces the waiting period for the servicemen who want to purchase
HDB (Housing Development Board) flats.
146 The SAFE Supermarkets are operated to help servicemen and their
families to meet the rising cost of living by providing them with essen-
tial supplies at the lowest possible prices.
also availed themselves of every opportunity to induce the general public to honour and respect the nation-defenders. Youths are told that it is an honour and a privilege to serve the state as a soldier. But, men in uniforms are reminded that they should always have standards of moral rectitude and personal courtesy to win the respect and affection of the people. In line with this "morale-boosting" campaign, young men called up are sent off to do their national service with a well-organized community dinner; the families of the national servicemen are invited to witness passing-out parades; and, public parades and road-marches are frequently held. Needless to say, all these government-initiated efforts will greatly contribute towards removing the social prejudice against soldiering. As for the discrimination against military careers existing within the SAF, the writer believes that two remedial steps are necessary. First, in-depth studies should be conducted to unearth the causes of the unwholesome sub-culture within the SAF. Second, appropriate disincentives should be introduced to discourage servicemen from discriminating against those who show a keen interest in military careers.

As a move to prevent the moral consciousness of the Singaporeans from declining, the Singapore leaders have made vigorous attempts to inculcate habits, attitudes and values conducive to the development of creativity, social responsibility, adaptability and loyalty to the Republic. Aside from the strengthening youth movement and social persuasion, another fundamental educational policy has been put into practice by the Government. From the beginning of 1974, "life education" has been introduced as a subject of study in all Singapore primary schools. As one Singapore educationalist puts it,
Judging from the guidelines given by the Ministry of Education, the subject of life education is taught on the basis of ethics and civics. On the one hand, it aims to inculcate in young students the traditional virtues of the East like loyalty, filial piety, fidelity, justice, humanity and peace-loving. On the other hand, it aims to foster the inculcation of such wholesome Western values like law abiding, truth-searching, collective participation and progressing outlook.147

Strictly speaking, only through wider moral and civic education, then can the Singapore youths be effectively protected from "contamination" by the current permissive attitudes and behaviors of Western societies. "Cultural inoculation", in Premier Lee's words, is "the safest way to make the young understand that there are basic traditional values they should hold fast to -- what is good, what is bad, what is to be admired, what is to be despised, who is hero, who is a villain."148

Recognizing that social and moral development of the youths is something beyond their own capabilities, the government leaders and educationalists of Singapore have constantly appealed to parents and the society as a whole to play an active part in this important educational work. Parents are particularly urged to co-operate with school teachers. They are told that for the long-term well being of their children and the society, they should avoid giving love not balanced with a sense of responsibility. Starting from childhood, children should be taught to cultivate the good habits of self-constraint, self-reliance,


industriousness and thrift. It is believed that the combined efforts of the Government, schools, society and parents will steadily enhance both the moral consciousness and the ruggedness of the Singaporean youths.
CHAPTER 5

CONCLUSION

All nations, whether "developed", "developing" or "underdeveloped", are established and run by man. The growth of a nation is in essence the result of human efforts. Stemming from man's ideas, all the nation-building endeavours are ultimately spurred on by men's initiative, talents, will and skills as well as experience. It is beyond doubt that natural resources and capital -- material and monetary resources -- are also basic conditions for economic and socio-political development. Nevertheless, if there are no capable and skilled persons to exploit them, they will not be of any use to their possessors. Good quality manpower, therefore, must be considered the most fundamental factor of nation-building.

Judged from either the academic or the practical point of view, efforts to give greater emphasis to human resources in "developmental" theories and in the nation-building process are both meaningful and constructive. They signify a great shift in our whole thinking about the problems of national growth and development. The fundamental problem is no longer considered to be merely the creation of wealth and strength, but rather the creation of the capacity to create them. Once a nation has acquired such a capacity, the generation of wealth and strength is almost sure to follow. Essentially, this capacity to create wealth and strength resides in the people of a country, in their brain power, their will, their skills and their dexterities. It is inherent in the quality of the people of a nation.
As a process of increasing the knowledge, skills, and dexterity of the people of a society, manpower development is the most fundamental means of enabling a nation to acquire the capacity to bring about its desired future state of affairs. Its importance is reinforced by recognition of the fact that most human ability is learned. The phenomenon that some people are superior to the others in skills, brain power and capability stems chiefly from the fact that they are better educated and trained than others are. It is perhaps true that genetic endowment does give strength to human ability. But at the same time, it is equally true that if genetic endowment is to be converted into functional capability, it should be appropriately developed. Otherwise, it can either be underdeveloped and underused or just simply wasted.

As a prerequisite to successful nation-building, manpower development is a means-oriented process. If a manpower development process is to be "goal-directed", its substance should, in the first instance, be made subject to the needs of nation-building -- the end it serves. But nation-building is not in itself an end. Its content is determined by the prescribed national goals. Finding their place at the top of the "means-and-end" hierarchy, national goals decide the substance of nation-building directly and that of manpower development indirectly. Although stemming substantially from instinctive desires, national needs are inevitably conditioned by the objective setting of nations. They are responsive to the influences of such environmental factors as geographical positions, the availability of natural resources, and such man-made factors as economic, socio-cultural and political situations. Since the objective settings of nations are varied, countries are bound to differ in their subjective needs and goals. And, consequently, no two nations
would have exactly the same kinds of nation-building and manpower development processes.

Singapore's brief nation-building history suggests both that objective setting is crucial in shaping national goals and that good quality human resources and manpower development are highly important in economic and socio-political developments. In the Singapore context, manpower development is basically a two-faceted process. On the one hand, it is a matter of how to control population growth so as to avoid a population explosion and large-scale surplus of unneeded manpower. To meet these challenges, Singapore produced a manpower development process which is basically government-directed. It is designed, actuated and guided by the Government and its bureaucracy, including various ministries, state-run information services, state-owned learning institutes and state-supported statutory organizations like Family Planning and the People's Association. The Government's role is a paternal one. It has been in a position to tell the people what they should do and what they should not do. Social incentives and social disincentives have been put into effect to encourage or discourage popular action as appropriate. Mass education campaigns have remained the basic means of guiding and regulating the thinking and deeds of the people. It is therefore not an exaggeration to say that the basic philosophy of the Singapore Government's manpower development policies and measures is one of "the end justifies the means".

Undoubtedly, the present leadership of Singapore is tough. Inevitably, many of the measures taken for manpower development purposes are unpleasant and obnoxious to religious feelings and some traditional beliefs as well as restrictive of individual liberty. No one can argue
that most of these manpower development methods do not impose sacrifice and hardship on the Singapore citizens. This is particularly true in the cases of the regulative "stop-at-two" population control measures, the national service scheme and the measures adopted to combat unwholesome Western influences and undesirable traditional thinking and practices. Nevertheless, the informed observer of the Singapore scene would be quick to point out that if the Republic is to succeed in her struggle for survival, all these "unpleasant" measures are undoubtedly necessary. Nation-building, after all, is a hazardous and costly enterprise that nearly always calls for many painful sacrifices and unaccustomed efforts. As long as Singaporeans dislike the threat of a population explosion and do not wish their country to be swallowed up by another nation, they certainly have no good reason to deny the validity and legitimacy of the unpleasant manpower development measures. On the contrary, for their own benefit and the long-term well-being of their children and their fellow-countrymen, they should be prepared to tolerate the sacrifice and hardship which has been imposed on them for the desired manpower development purposes. These unpleasant measures are something like the food we eat. So long as we need food for survival and we do not want to die, we have to eat. Without a sense of necessity, the concepts of "right" and "wrong" cannot be objectively defined.

Of course, if a rational social policy is to be implemented, it should be workable and functionally effective. The writer has observed that the manpower development policies and measures adopted by the Singapore Government are not only valid, pragmatic and timely but also quite workable. The success of the National Family Planning and Population Program is illustrated by the speedy decline in the population
growth rate and the steady increase in the numbers of family planning acceptors, voluntary sterilizations and legal abortions. Aside from the upward trends in literacy rate and student numbers, the rapid expansion in education and training capacities and the steady growth of skills and knowledge necessary for socio-economic and defence developments, the phenomenal success of today's Singapore can be seen as the most comprehensive indication of their effectiveness in qualitative terms.

When Singapore was "expelled" from Malaysia, very few people really believed that she would survive even for a few years. To the surprise of many people, the infant Republic has not only failed to collapse and die but, on the contrary, has prospered until today. The Republic has attained a level of per capita income second only to Japan in Asia -- second to none in Southeast Asia (see Appendix 13). There is no denying that Singapore's on-going nation-building progress is in part attributable to her advantageous location, fine natural harbour and "chance" to derive benefits from world events such as the defunct Indo-China War. However, any analysis which tries to explain the causes of Singapore's advance-ment merely in terms of natural setting and chance is unconvincing. In addition to committing the grave error of neglecting the significance of human efforts in nation-building, such a "fortunate-unfortunate" analogy is tantamount to approving the fantastic idea that the rise and fall of a nation is merely a fortuitous phenomenon, an arrangement of nature or a verdict of God. It suggests that the leaders and people of Singapore have done nothing in the past ten years but just wait for good fortune to bring them prosperity. In reality, Singapore's continuing prosperity and impressive success are attributable to her four "human" assets: efficient government and bureaucracy, political stability
with civil and industrial peace, a high level of education, and a hard
working population. To put it precisely, they are brought about by the
will, capabilities, skills and efforts of the Singapore leaders and
people. It is these human factors that have enabled the Republic to
adapt to its milieu and to take full advantages of its "chances" to
survive and prosper.

Even so, Singaporeans should take note of the fact that although
Singapore has done well in her first ten post-independence years, she
is not out of the woods yet. The battle of survival is by no means over.
Singapore is still an easy prey to her environmental conditions. Her
economic, socio-political stability and defence are far from solid. They
are extremely vulnerable to developments in the Southeast Asian region
as well as in the international scene. The Republic's current prosperity
and stability are not firmly rooted. For these reasons, Singaporeans
cannot afford to relax. They have no cause for complacency. For the
future, Singaporeans, especially the younger generation, should have a
mature understanding of the interactions of world political and economic
forces with respect to the milieu and needs of Singapore. They should
keep increasing their knowledge and skills, remaining hard-working and
thrifty, maintaining a higher standard of community discipline and a
stronger sense of social responsibility, and cultivating only those
attitudes and habits which are conducive to nation-building. It is
naturally the responsibility of the government to guide the people and
give them the opportunity to acquire all the knowledge, skills and
capabilities necessary for them to guide Singapore's destiny in the years
to come.
Having done well in the past eleven years, the present leadership of Singapore is credited with the ability to succeed in its search for solution of the existing manpower development problems. The overwhelming victory for the PAP in the 1976 Election\(^{149}\) indicates the satisfaction the electorate has for the Government's past performances and its policies. Few can dispute that Mr. Lee Kuan-yew's cabinet contains some of the best brains in the country. Yet the Government is hardly capable of achieving anything entirely on its own. It needs the support and cooperation of the masses. Mere "strong arm" methods will not produce the expected results. Democratic persuasion is ultimately an indispensable means of widening the "mass base" of the government policies. Only when the people are convinced of the legitimacy and validity of and the necessity for the government policies, will they be induced to support the policies voluntarily. To convince the people of its competence and creditability, the Singapore Government also has to keep up its administrative efficiency, to produce a higher output of "public goods" to serve the needs of the people, and to bridge the socio-economic gaps among the people so as to secure a higher degree of social justice. In a word, to the Singapore Government, the challenge in the years to come will not be primarily to seek those techniques and methods that can be used to better its manpower development and nation-building programs but rather to develop those qualities and strategies that will strengthen its ability to change those socio-political factors that stand in the way of a fruitful development of Singapore's human resources. In the long run, a drop in the population growth and an improvement in the quality of the people can only be

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\(^{149}\) There were 6 political parties (with two independents) and 120 candidates contesting the elections. As a result, all 69 PAP candidates were returned, occupying all the parliamentary seats and hence maintaining the "one-party" situation.
sustained by radical change in social values and attitudes. In this sense, the major challenge to be faced by the Government would be in the field of social education.

While recognizing that the failure or success of nation-building process depends upon the skills, knowledge and capabilities of the people, we should not fail to note that the acquisition and application of the needed skills and knowledge are determined by the attitude and willingness of the persons who are expected to acquire them. As we can imagine, people who think only of themselves and nothing about the common interests of their country may be unwilling to learn and acquire the knowledge and skills necessary for nation-building. They may just indulge in the acquisition of those capabilities which will benefit only themselves. On the other hand, if skilled and competent persons do not wish to do what they can to play an active part in the nation-building work, they are of no use to the country. All of the endeavours made to train them will be in vain. The progress of manpower development and nation-building processes will be set back.

Axiomatically, manpower development of Singapore is a continuous circular process. Since the only major nation-building resource that Singapore has is human resources, manpower development will continue to be an indivisible part of the Republic's life and death struggle. As long as the objective setting of Singapore remains what it is, the guiding principle of the Republic's manpower development will remain "quality and not quantity". So long as the Republic is able to maintain and improve the quality of her people, skilled and disciplined workers with trained and competent technocrats, executives and bureaucrats to form the sharp cutting edge, she will always have the extra to maintain life at a
comparatively higher level.

Judged from whatever angle, Singapore's manpower development and nation-building experience is a product of her unique objective environment. It is, however, the writer's preliminary view that the Singaporean experience does provide the framework in which problems of "manpower development for nation-building" common to a major portion of the "developing world" can be explored. On the whole, most developing countries have also faced two central manpower problems. The first problem is related to redundant manpower. It stems largely from overpopulation. Large scale unemployment, underemployment and poverty are patent symptoms of the excessive absolute pressure of population on the economic and ecological bases of these countries. Periodic shortages of food leading to near famine conditions and the chronic hunger and malnutrition of large segments of their peoples are other symptoms of overpopulation. The second problem is related to shortages of skilled and competent manpower. It arises in a great measure from the fact that the human resources of these developing states have not been properly developed or adequately trained.

It is a logical necessity that if the developing states concerned wish to solve these manpower problems, they should also launch two manpower development programs. One would be to control the growth rate of their population. The other one would be to provide their people with the opportunities to acquire the knowledge, skills and abilities necessary for them to play an active part in the nation-building process of their nations. In other words, the key motto of Singapore's manpower development, "quality and not quantity", can also be the guiding principle of other developing states. But this is not to suggest that the manpower development policies and methods which the Singapore Government has implemented
with much success are necessarily applicable to other developing nations. No matter whether in quantitative terms or in qualitative terms, manpower requirements and problems of no two countries are exactly alike. Thus, there is no one standard way of developing human resources. Each country has to assess its manpower requirements and problems and design its manpower development programs according to its own circumstances, priorities and aspirations. The best possible and workable alternative, in general terms, is one that can "suit the remedy to the disease".

Admittedly, in recent decades, the developing nations of the world have been in a state of revolt. They have rejected the notion that poverty, squalor, ignorance, disease and their inferiority in socio-economic and political development are preordained. No longer are they disposed to entrust their economic and political destiny to the omnipotent judgements of colonial rulers or the will of God. They want to be the masters of their own fate, running their own affairs. They are hoping and planning for accelerated development. In pressing for high-speed development and growth, many of them even think in terms of leaps rather than mere steps forward. But it is important for them to realize that all this desirable state of affairs is to be brought about by the will, wits, skills and endeavours of their leaders and people, and not just by grand words and slogans. Manpower development, in the final analysis, is a prerequisite to successful nation-building.
APPENDIX 1  THE MAP OF SINGAPORE

PENINSULAR MALAYSIA

Main Road
Railway

STATE OF JOHORE

Miles

City Area
Industrial Estate
Completed Coastal Reclamation
Completed Swamp Reclamation
Coastal Reclamation in Progress
APPENDIX 2  SINGAPORE: POPULATION AND VITAL STATISTICS (1901-65)

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<th>Census Year</th>
<th>Population (thousands)</th>
<th>Population Increase (thousands)</th>
<th>Annual Rate of Increase</th>
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<tr>
<td></td>
<td>Total</td>
<td>Males</td>
<td>Females</td>
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<tr>
<td>1901</td>
<td>227.6</td>
<td>170.0</td>
<td>57.6</td>
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<td>303.3</td>
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<td>1947</td>
<td>938.2</td>
<td>515.0</td>
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<tr>
<td>1957</td>
<td>1446.0</td>
<td>762.8</td>
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<td>1965</td>
<td>1886.9</td>
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## APPENDIX 3 POPULATION TRENDS (1966-76)

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<td>Population (million)</td>
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<td>1.98</td>
<td>2.01</td>
<td>2.04</td>
<td>2.07</td>
<td>2.11</td>
<td>2.15</td>
<td>2.19</td>
<td>2.22</td>
<td>2.25</td>
<td>2.28</td>
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<tr>
<td>Number of Births (thousand)</td>
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<td>50.6</td>
<td>47.2</td>
<td>44.6</td>
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<td>49.7</td>
<td>48.3</td>
<td>43.3</td>
<td>40.0</td>
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<tr>
<td>Crude Birth Rate (per thousand)</td>
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<td>23.5</td>
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<td>Crude Death Rate (per thousand)</td>
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<td>Rate of Natural Increase (%)</td>
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Sources:  
APPENDIX 4 FAMILY PLANNING ACCEPTORS, STERILIZATIONS AND ABORTIONS DONE (1966-74)

<table>
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<td>Number of FP Acceptors (thousands)</td>
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<td>19.1</td>
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<td>Number of Abortions (thousands)</td>
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1 43% of all women aged 15-44 years in 1974.
2 5% of all women aged 15-44 years in 1974.
3 Total number of male sterilizations done in the three years from 1971 to 1973.
4 Total number of abortions done since the passage of the Abortion Act in 1969.

(2) Sin Chew Jit Poh, November 10, 1974; February 13, 1976.
(3) Yearbook of Statistics, Singapore, 1974-75, p. 211.
### APPENDIX 5  FEMALE POPULATION BY SPECIFIC AGE-GROUP (1966-74)

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<td>64.5</td>
<td>73.9</td>
<td>82.2</td>
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<td>73.1</td>
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<td>30 - 34</td>
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<td>59.4</td>
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<td>71.3</td>
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<td>35 - 39</td>
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<td>51.9</td>
<td>52.3</td>
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<td>58.3</td>
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<tr>
<td>40 - 44</td>
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## Appendix 6

### Estimates of Persons Aged Ten Years and Over by Educational Attainment and Activity Status, June 1973

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<th>Highest Education Attained</th>
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<th>Economically Inactive</th>
<th>Total</th>
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<td></td>
<td>Working</td>
<td>Unemployed</td>
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<tr>
<td>No Education</td>
<td>130,228</td>
<td>3,113</td>
<td>133,341</td>
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<tr>
<td>Primary</td>
<td>325,301</td>
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<tr>
<td>Secondary</td>
<td>283,323</td>
<td>15,245</td>
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<tr>
<td>Upper Secondary</td>
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<td>41,226</td>
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<tr>
<td>Tertiary</td>
<td>20,613</td>
<td>1,181</td>
<td>21,794</td>
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<tr>
<td>Total</td>
<td>799,510</td>
<td>37,790</td>
<td>837,300</td>
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### APPENDIX 7  ENROLMENT IN EDUCATIONAL INSTITUTIONS (1965-76)

| Year | Total   | Primary Schools | Secondary Schools | Technical & Vocational Institutes | Universities | Colleges  
|------|---------|-----------------|-------------------|-----------------------------------|--------------|-----------
|      |         |                 | Academic          | Others¹                            |              |           
| 1965 | 486,811 | 357,075         | 102,861           | 11,875                            | 1,193        | 8,801     
| 1966 | 511,527 | 364,846         | 116,956           | 15,132                            | 1,409        | 8,321     
| 1967 | 527,857 | 144,448         | 124,701           | 19,747                            | 1,752        | 7,972     
| 1968 | 537,257 | 150,641         | 127,866           | 22,775                            | 2,199        | 6,742     
| 1969 | 531,704 | 147,981         | 131,455           | 16,526                            | 4,129        | 6,115     
| 1970 | 527,668 | 363,518         | 136,782           | 8,958                             | 4,727        | 6,990     
| 1971 | 531,790 | 357,936         | 139,251           | 14,271                            | 6,063        | 7,102     
| 1972 | 537,278 | 354,748         | 144,145           | 17,226                            | 5,841        | 7,822     
| 1973 | 542,442 | 345,284         | 155,050           | 18,059                            | 7,124        | 8,220     
| 1974 | 536,045 | 337,816         | 154,606           | 19,571                            | 6,250        | 8,228     
| 1975 | 532,956 | 328,401         | 153,029           | 23,195                            | 9,830        | 9,961     
| 1976 | 526,602 | 316,265         | 152,713           | 25,279                            | 11,751       | 8,875     

¹ Include enrolment in technical, commercial and vocational streams.

² The 1969 and 1970 figures include the enrolment at the Industrial Training Centres. From 1971, the figure includes the enrolment at the Industrial Training Centres and the Boy's Town Trade School. From 1973, the figures include the enrolment at the Hotel and Catering Training School and the School of Printing.

³ Include Singapore Polytechnic, Ngee Ann Technical College and Institute of Education.

## APPENDIX 8  EDUCATIONAL INSTITUTES AND GOVERNMENT EXPENDITURE ON EDUCATION (1966-75)

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<td>Primary</td>
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<td>460 6.8</td>
<td>450 7.2</td>
<td>437 9.3</td>
<td>427 7.7</td>
<td>419 8.1</td>
<td>414 8.5</td>
<td>410 9.5</td>
<td>396 11.8</td>
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<td>132 3.8</td>
<td>5 4.5</td>
<td>126 4.8</td>
<td>122 4.5</td>
<td>121 4.7</td>
<td>124 6.2</td>
<td>123 7.5</td>
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<td>10 1.7</td>
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<td>3 0.6</td>
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<tr>
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<td>604 29.2</td>
<td>468 30.6</td>
<td>578 41.8</td>
<td>565 35.8</td>
<td>557 38.7</td>
<td>552 41.3</td>
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<td>536 64.1</td>
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Source: Compiled from Yearbook Statistics, Singapore, 1974-75, pp. 188, 190 & 197.
### APPENDIX 9  STUDENTS ADMITTED TO AND GRADUATED FROM UNIVERSITIES AND COLLEGES (1970-74)

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<td>628</td>
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<td>373</td>
<td>445</td>
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## APPENDIX 10  ENROLMENT IN ADULT EDUCATION COURSES (1966-76)

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### APPENDIX 11  PROFESSIONALS OF HIGH-LEVEL MANPOWER (1957)

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<th>Occupation</th>
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<td>Teaching Professions</td>
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<tr>
<td>Administrative - Managerial Professions</td>
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<tr>
<td>Health Professions</td>
<td>5,455</td>
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<tr>
<td>Construction Professions</td>
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<tr>
<td>Natural Sciences</td>
<td>412</td>
</tr>
<tr>
<td>Other Professions, Technical and Related Workers</td>
<td>5,616</td>
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<td><strong>Total</strong></td>
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### APPENDIX 12  PERSONS ENGAGED BY OCCUPATION (1969-76)

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<tr>
<td>Professional, Technical and Related Workers</td>
<td>44,310</td>
<td>46,459</td>
<td>47,880</td>
<td>51,431</td>
<td>54,767</td>
<td>90,526</td>
<td>89,078</td>
<td>86,864</td>
</tr>
<tr>
<td>Administrative and Managerial Workers</td>
<td>13,358</td>
<td>13,409</td>
<td>13,981</td>
<td>15,911</td>
<td>18,370</td>
<td>16,852</td>
<td>23,270</td>
<td>27,699</td>
</tr>
<tr>
<td>Clerical and Related Workers</td>
<td>72,936</td>
<td>82,759</td>
<td>89,880</td>
<td>97,273</td>
<td>110,099</td>
<td>134,478</td>
<td>133,401</td>
<td>137,380</td>
</tr>
<tr>
<td>Sales Workers</td>
<td>44,297</td>
<td>49,164</td>
<td>55,765</td>
<td>59,006</td>
<td>63,581</td>
<td>117,334</td>
<td>127,015</td>
<td>136,159</td>
</tr>
<tr>
<td>Service Workers</td>
<td>54,557</td>
<td>57,410</td>
<td>58,559</td>
<td>61,581</td>
<td>66,446</td>
<td>84,310</td>
<td>95,031</td>
<td>92,701</td>
</tr>
<tr>
<td>Agricultural and Fishery Workers</td>
<td>2,363</td>
<td>2,218</td>
<td>2,815</td>
<td>2,957</td>
<td>3,294</td>
<td>24,477</td>
<td>22,946</td>
<td>23,984</td>
</tr>
<tr>
<td>Production and Transport Workers</td>
<td>167,399</td>
<td>192,466</td>
<td>218,584</td>
<td>259,810</td>
<td>293,988</td>
<td>319,949</td>
<td>294,186</td>
<td>311,001</td>
</tr>
<tr>
<td>Workers Not Classifiable by Occupation</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>36,424</td>
<td>48,598</td>
</tr>
<tr>
<td>Total</td>
<td>399,220</td>
<td>443,885</td>
<td>487,464</td>
<td>547,969</td>
<td>610,545</td>
<td>824,350</td>
<td>833,525</td>
<td>870,443</td>
</tr>
</tbody>
</table>

**Note:** Domestic servants, certain categories of own account workers (e.g. hawkers) and similar itinerant workers are excluded.

**Sources:**
APPENDIX 13  SOUTHEAST ASIA: STATISTICAL INDICATORS BY COUNTRIES (1975)

<table>
<thead>
<tr>
<th>Countries</th>
<th>Key Indicators</th>
<th>Burma</th>
<th>Cambodia</th>
<th>Indonesia</th>
<th>Laos</th>
<th>Malaysia</th>
<th>Philippines</th>
<th>Singapore</th>
<th>Thailand</th>
<th>South Vietnam</th>
<th>North Vietnam</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land Area (square miles)</td>
<td>262,000</td>
<td>70,000</td>
<td>735,381</td>
<td>91,400</td>
<td>127,316</td>
<td>115,707</td>
<td>225.6</td>
<td>198,456</td>
<td>63,360</td>
<td>66,263</td>
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<tr>
<td></td>
<td>Population (million)</td>
<td>31.2</td>
<td>8.0</td>
<td>132.1</td>
<td>33.3</td>
<td>11.7</td>
<td>42.8</td>
<td>2.2</td>
<td>41.0</td>
<td>23.8</td>
<td>21.0</td>
</tr>
<tr>
<td></td>
<td>Population Density (Persons per sq. mile)</td>
<td>110</td>
<td>114</td>
<td>179</td>
<td>264</td>
<td>92</td>
<td>369</td>
<td>976</td>
<td>206</td>
<td>375</td>
<td>317</td>
</tr>
<tr>
<td></td>
<td>Birth Rate (per thousand)</td>
<td>39.5</td>
<td>44.6</td>
<td>44.0</td>
<td>47.0</td>
<td>33.3</td>
<td>41.0</td>
<td>19.5</td>
<td>34.5</td>
<td>37.5</td>
<td>42.0</td>
</tr>
<tr>
<td></td>
<td>Death Rate (per thousand)</td>
<td>15.8</td>
<td>17.0</td>
<td>20.0</td>
<td>23.0</td>
<td>6.9</td>
<td>11.4</td>
<td>5.3</td>
<td>6.4</td>
<td>16.1</td>
<td>24.0</td>
</tr>
<tr>
<td></td>
<td>Population Growth Rate (%)</td>
<td>2.2</td>
<td>2.5</td>
<td>2.2</td>
<td>2.3</td>
<td>2.5</td>
<td>2.8</td>
<td>1.3</td>
<td>2.7</td>
<td>1.9</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>GNP (million US dollars)</td>
<td>2,751</td>
<td>26,309</td>
<td>142</td>
<td>759</td>
<td>14,105</td>
<td>4,858</td>
<td>1,205</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Per Capita GNP (US dollars)</td>
<td>91</td>
<td>190</td>
<td>47</td>
<td>627</td>
<td>334</td>
<td>2,208</td>
<td>282</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unemployment Rate (%)</td>
<td>6.1</td>
<td>7.2</td>
<td>4.8</td>
<td>4.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

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