

CULTURE AND CUSTOM: BARRIERS TO AGRICULTURAL
MODERNIZATION IN JAVA

PUBLIC HOUSING IN SINGAPORE: VEHICLE FOR SOCIAL
MOBILIZATION

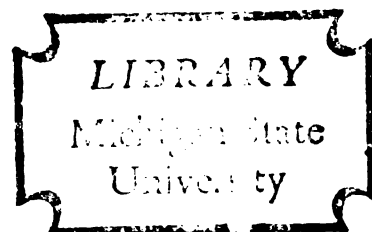
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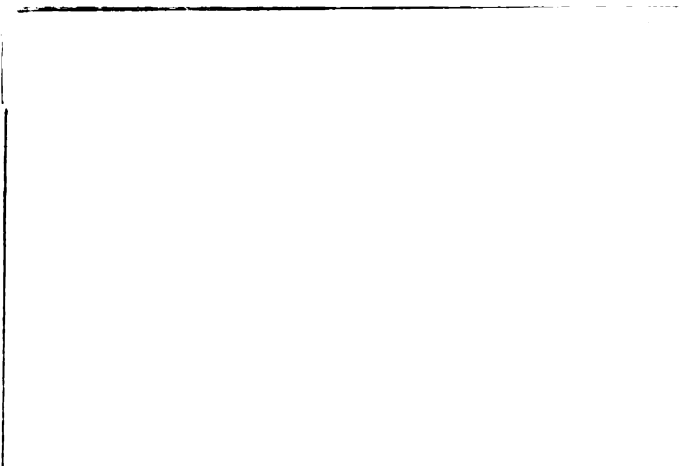
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CULTURE AND CUSTOM: BARRIERS TO
AGRICULTURAL MODERNIZATION IN JAVA

By

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PREFACE

This study is, in part, a result of study and field work carried out in the Jogjakarta region for the period of March 21 to April 7, 1973, under the direction of the American Universities Fieldstaff-University of Hawaii. Enrolled as a student at Gadjah Mada University during this period of study, I was exposed to a wide range of study of the problems of the region and was given access to the various government agencies, both regional and national, concerned with modernization of the agricultural sector. I was also a participant in several trips into the villages for direct field experience and interviews with the farmers and extension workers. Since returning to East Lansing, I have maintained my interests in the "green revolution" in Java. The knowledge and interests of Java's problems have grown over the past two years. Much has not been recorded in this study, but primarily because of length limitations. In the future, it is my hope to expand my research and writings on what is considered to be a very important topic of agricultural modernization in Indonesia--the barriers of custom and culture.

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CHAPTER I

INTRODUCTION

Indonesia is one of the world's poorest countries. Per capita income is around US\$100 per year and the country has the lowest caloric intake per capita of any country in the world.¹ Indonesia possesses all the indicators of underdevelopment: three-fourths of its labor force is in the agricultural sector, there are high levels of unemployment and under-employment, high birth rates and high infant mortality rates, low ratios of doctors and dentists and few visible artifacts of the industrial world such as electric lamps and automobiles. The western traveller in Java, Indonesia's "heartland", quickly notices the ubiquitous presence of extreme poverty and can readily visualize the population density statistics as a part of Javanese reality.

The growing of rice consumes most of the rural labor force and its production constitutes the foundation of the national economy. This is especially true for the island of Java where two-thirds of the Indonesian population live on only 9 percent of the total land area of Indonesia. Java is of the utmost significance in growing of rice as indicated by Table 1. Java cannot be studied in the usual terms of "development" that are applied to the Third World countries. In spite of its fertile volcanic soils, human resources, 150 years of foreign investment, and its rich cultural history, Java is far from the "take-off" stage and is faced with an accumulation of problems and set-backs. The rural infrastructure built up by the Dutch colonial

TABLE 1
AREA HARVESTED AND MILLED RICE PRODUCTION
IN INDONESIA 1958 - 1967^a

Year	Area Harvested			Production			Yield		
	Java	Outside Java (millions ha.)	Indo-nesia	Java	Outside Java (millions ha.)	Indo-nesia	Java	Outside Java (tons/ha.)	Indo-nesia
1953	4.02	2.45	6.47	4.43	2.88	7.31	1.10	1.18	1.13
1955	4.19	2.38	6.57	4.59	2.92	7.51	1.09	1.23	1.14
1957	4.31	2.49	6.80	4.74	2.89	7.63	1.10	1.16	1.12
1959	4.33	2.82	7.15	5.05	3.24	8.29	1.17	1.15	1.16
1961	3.99	2.87	6.86	4.80	3.47	8.27	1.20	1.21	1.21
1963	3.65	3.08	6.73	4.44	3.49	7.93	1.22	1.13	1.18
1965	4.19	3.42	7.61	4.87	3.97	8.84	1.16	1.16	1.16
1967	4.15	3.43	7.58	5.12	4.20	9.32	1.23	1.22	1.23

^aTable adapted from Hanson, 1973.

rulers seriously deteriorated after independence. Roads, irrigation works, grain storage facilities, markets, and railroads were either destroyed during the revolutionary struggle for independence during the 1940s or left to decay under the mismanagement of the Sukarno regime.

The culture of Java and the nature of traditional social relationships neither stimulate nor encourage entrepreneurship and the willingness to take risks. Poverty is accommodated by a fatalistic world view and is shared among the members of Javanese society. The failure of Javanese traditional society to advance to the peasant stage is more a result of colonial domination than of indigenous short-comings. In a society where memories seldom go past the grandparents' generation, the far past becomes irrelevant to the present. The spatial configurations of population distribution and land use patterns were shaped under Dutch rule and to no small extent the cultural landscape of today is a product of colonial rule.

THEME OF THE STUDY

The theme of this study is that culture and custom occupy an important role in the modernization of a traditional agrarian technology; that land use and land tenure systems are culturally determined and unless the social mechanisms that determine these systems are understood they will present insurmountable barriers to the modernization of agriculture. "Modernization" in this study is not synonymous with the term "development". By "modernization" it is meant, quite simply, the adoption of new production and marketing technologies by the peasant

population. The idea is accepted that adoption of new technologies can have far-reaching social consequences. Development means quite another thing, however:

When a country is developing it is also undergoing, or has undergone, considerable structural transformation. By this I broadly mean that there is a shift from an economic structure composed of relatively isolated parts (towns, farms, people, institutions, places) each of which may change and may increase its output but whose change has little dynamic effect in other sectors of the economy, to one where parts are specialised and integrated, so that changes in one usually evoke some sort of response or have some dynamic effect on the others.²

Indonesia has not yet experienced a structural transformation, as will be discussed. "Modernization" is aimed at relatively isolated parts.

FOCUS AND OBJECTIVES

The study will focus on the Jogjakarta region of Central Java where the government has emphasised its rice intensification programs since 1968. The region is considered to be classically Javanese in culture and social organization. The Dutch imposed the Culture System on this region for sugar cane production from 1830 to 1915, and consequently, the elaboration of the social impact of colonial rule has also occurred in the Jogjakarta region.

The objective of the study is to determine whether or not new technology can change land use practices and production related social customs or whether they are barriers to modernization of agricultural technology using the Jogjakarta region as a case study for Java. The objective will be achieved by examining:

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1. The historical processes that led to existing land use practices and production related social customs.
2. The INPRES programs of Indonesia's REPELITA I development plan.
3. Changes that may have occurred in land use practices and production related customs because of the application of new technology and the significance of the changes.

DATA LIMITATIONS

The first, and most obvious limitation is due to an incomplete understanding of the processes of development on the part of researchers and scholars. The second limitation is a result of the unreliable and diffused nature of data on Indonesia. Fortunately, some reliable survey data for the Jogjakarta region have been published since the implementation of the first five-year development plan. The regional government has made efforts to collect income, production, and population statistics and these are accepted as reliable, and are augmented by data collected in a course of study and field observation at Gadjah Mada University, Jogjakarta, from March 21 to April 9, 1973. The Food and Agriculture Organization and Far Eastern Economic Review data is generalized for all of Indonesia and is not relative to a regional study.

ORGANIZATION OF THE STUDY

The study includes a descriptive introduction to the Jogjakarta region and then is organized around the component parts of the objective.

Statistical data is necessary to this study and is generally presented in chart form. Relevant diagrams and maps are included.

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CHAPTER II

THE SETTING

The land surface of Java is characterized by a belt of volcanic peaks extending from east to west through the center of the island. The peaks are separated by gently sloping, interconnected valleys. The physical configuration of the land is reflected by the island's radial drainage pattern. Soils in most parts of Java are fertile volcanic soils, acidic and constantly enriched by volcanic activity. Java has a distinct dry season from May to late October and a rainy season from November to April, with the heaviest rains falling in November, December, and January. The rivers are heavily silt laden and deposit their mineral laden silts on the gentle slopes or delta regions. The terrain is gently sloping except near the volcanic cones where slopes become very steep. An outcropping of limestone in the southern portion of Java is an exceptional feature of the physical landscape.

Both sawah (irrigated fields) and tegalan (dry fields) agriculture are practiced. Both types of fields are terraced in the sloping areas and are an outstanding feature of the cultural landscape. Rice and sugar cane are cultivated in sawah. Corn, cassava, tobacco, and some leguminous crops are cultivated in tegalan. In response to population pressure tegalan has expanded at the expense of valuable forest cover. In the highland areas of central Java the mountainous areas covered with coniferous forests have now been preserved in the form of national

parks. The landscape presents a picture of tiny fields arranged in a kaleidoscopic pattern across the coastal plains, valley floors and winding up terraced hillsides. As in all tropical climates, coconut and nipa palms flourish and bananas are produced in abundance.

The island of Java supports population densities that range up to 1,000 persons per square mile in the south central portion of the island. Jogjakarta region has an average of 800 persons per square mile. Population is concentrated in the rice growing regions where the rural landscape is dotted with closely spaced villages and hamlets surrounded by rice fields. Population pressure has pushed out the boundaries of villages, and houses line the roads, sometimes making it difficult to tell where villages begin or end. This is particularly characteristic of the Jogjakarta region. Java has been described by travellers as a "paradise" and a superficial glance at the landscape would make it seem to be so. The extreme poverty of the Jogjakarta region is readily apparent to the visitor, however, and the myth of "paradise" slowly dissolves into the reality of the situation.

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CHAPTER III

INVOLUTION: THE COLONIAL LEGACY

When the Dutch retreated in 1949 they left the independent government of Indonesia a territory and economy scarred by World War II and a national war for independence combined with a complex set of socio-economic problems. The development potential of the indigenous Javanese economy had been crushed under 150 years of direct Dutch rule. In the period of independence under the Sukarno regime, the government unsuccessfully struggled with that set of complex problems. When Sukarno turned state leadership over to Soeharto the people of Java were demoralized and embittered that independence had only worsened their economic condition. What the leadership failed to recognize during this period were the full implications of the century and a half of Dutch rule.

Certainly, the Indonesian's struggles with these problems in the period of independence have not been happy or fruitful ones--to a large extent because the problems were not fully appreciated nor the struggles whole-hearted or appropriate--but this does not deny the reality or the complexity of the Dutch legacy.³

This section concerns the changes in Indonesian agriculture and rural society under Dutch rule. The changes are viewed as having prevented a restructuring of the indigenous economic and social systems that would have stimulated development potential and, therefore, criticism of Dutch rule is implied. No moral or ethical judgements are

imputed, since the moral or ethical motivations of the Dutch are beside the point in the context of this study. The concern is with the nature of changes in the productive and social systems and how these systems affected post-independence efforts to modernize the rural sector.

Allen and Donnithorne have argued that the Dutch left the Indonesians their capital investments and institutions for scientific research, technical training, communications, modern manufacturing and mining industries, financial institutions, and well developed public institutions.⁴ They claim, in fact, that the Dutch made "lavish contributions" to economic growth,⁵ but this claim ignores the fact that the Dutch never developed the human resource potential of the Indonesians or the institutions basic to social change, and therefore basic to economic change. At independence the Indonesians were not socially or educationally equipped to take advantage of these "lavish contributions".

DUAL ECONOMIC STRUCTURE

The Dutch led the Indonesians by business and administration, but barred them from participation in business and administration. At the end of the colonial period, the Indonesian occupational structure and economy were still primarily agrarian. The agricultural sector diversified its employment structure and increased production during the colonial era through labor intensification, not through capital intensification. "While output per hectare rose considerably, output per capita for much of this period remained more or less stable."⁶

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The surplus for a substantial manufacturing base in the urban areas was not generated by the social and production systems within the agrarian community. Working to make ends meet within the traditional framework of society the systems of rural Java became increasingly complex through the network of interpersonal relationships, but the formal institutions remained static.⁷

Geertz has termed the processes of increasing complexity "involutionary development", which came about through the application and entrenchment of Dutch economic systems in rural Java in conjunction with sustained population increases.⁸ The decline in Indonesia's rice self-sufficiency is, in part, a product of Javanese per capita yields remaining unchanged for long periods of time and then slowly declining as population pressure increased. In the Jogjakarta region, rice yields have not reached self-sufficiency levels since 1930 (see Table 3).

"Agricultural involution" is a term used by Geertz in explaining the way the Javanese agrarian sector responded to population increase and economic demands of the capital sector in the nineteenth and twentieth centuries when the Dutch economic system was expanding and the indigenous economic system remained static. Involution was marked by an intensification of labor, finer methods of cultivation in both the sawah and tegalan, more intricate tenurial relationships in order to maintain employment and subsistence within the village community. The village responded by becoming more internally complicated.⁹ According to Geertz, the problems related to per capita productivity in rural

Java are components of a fact: that during the 150 years of colonialism the agrarian sector did not become modern even though it took a small step out of traditionalism, it became merely "post-traditional".¹⁰

Missner relates involution in rural Java to three factors: 1) the separation of the capital-intensive sector from the indigenous labor-intensive sector; 2) a sustained increase in population from seven million in 1830 to sixty-three million in 1961; and 3) the importance of sugar production in the colonial economy and its ecological links with paddy rice.¹¹ It seems that if some of the factors had been different, for example, Dutch development of a manufacturing sector to absorb excess labor, or a slower rate of population increase which would have forced the Dutch to adopt other, less labor-intensive sugar can production methods, the post-colonial situation might have been much different.

Colonialism creates employment in the foreign sector, particularly in the home country where primary materials are processed and transformed into manufactured goods. It also encourages population increases in the indigenous populations by lowering death rates through medical advances, and elimination of war and famine, or through introduction of a cash economy in the territory.¹² Since the industrial part of Java's colonial economy was made up of capital-intensive plantations, expansion was limited by land, the world market, and demands of the Netherland's economy. Java's economy could not meet the demands for increased employment. The urban areas were not manufacturing centers and thus could not absorb excess labor. Given the limitations of capital and employment in the estate and urban sectors of Java, the

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rural sector was burdened with the increased demands of a growing population. As long as suitable land and new labor-intensive techniques could be developed the rural sector was able to meet the economic needs of its growing population. In Java, between 1830 and 1940 a stable living standard was maintained in the rural sector. However, this did not constitute growth:

Growth depends essentially on increasing man-hour productivity or per capita output, and increases in per capita output can really only be achieved through increasing the ratio of capital to labour.¹³

In this respect, Java's rural population suffered from colonialism and the necessity of absorbing labor caused involution rather than evolution to a market economy.

SUGAR, RICE, AND SOCIETY IN CENTRAL JAVA

Java's problems are closely related to the impact of the cultivation of sugar cane on Javanese society. At the beginning of the Culture System period (1830-1915) the cultivation of sugar cane tended to move into areas of high population density where labor was available. The Dutch sugar-estate was not an estate in the usual sense, but a combination of Dutch power and organization on the one hand and village sawah and labor on the other hand. Under the Culture System, the peasant farmer grew sugar on one-fifth of his land for the Dutch in lieu of land taxes.¹⁵ Under the Corporate System (1915-1942) the Dutch rented the land under a rather complex system:

A village, sometimes willingly, sometimes coerced by its leaders and local civil servants, contracted a 21-1/2 year lease with an estate. The estate then planted

one-third of the village sawah in cane. The cane occupied these fields for about fifteen months; after eighteen months the land was returned to the holders and another third of the village's land was taken for sugar, and so on around the cycle. But as the new planting usually took place before the old one was harvested, any particular field was in sugar about half rather than a third of the time; or to put it aggregatively, a average of about one-half the village's land, now one-third, now two-thirds, was in sugar, and half in peasant crops, either rice, or dry-season second crops such as soya or peanuts. One entire cycle therefore took three years, and seven such cycles could be completed during a single leasehold.¹⁶

The villager was in and out of the estate according to the cycle (Table 2).

The system worked efficiently because sugar and rice shared the same environments. The more sawahs that were developed, the more sugar cane could be grown and a larger labor force could be supported to grow sugar. If sugar markets declined, then the peasant had more land and time to grow rice. The system would continue to work so long as certain constraints operated. First, sawah expansion had to match population growth, and for most of the colonial period this seems to have been achieved, but towards the end the balance was upset. Second, the system depended on the government not overtaxing it by growing more sugar than the subsistence sector could afford, a policy that was not always implemented. Third, and fundamentally, it would work so long as no industrial labor class developed with social ambitions, and so long as the peasant did not grow sugar for himself instead of rice. Any shift to an industrial labor force, or any "drift of the market mentality across subsistence lines" would make it difficult to mobilize peasant land and labor at a low price.¹⁷ The Dutch insured

TABLE 2
CULTURE SYSTEM SUGAR AND RICE ROTATION

Year	Season	First 1/3 of sawahs	Second 1/3 of sawahs	Third 1/3 of sawahs
1	dry	new planted cane	harvestable cane	dry crops
1	wet	growing cane	wet rice	wet rice
2	dry	harvestable cane	dry crops	new planted cane
2	wet	wet rice	wet rice	growing cane
3	dry	dry crops	new planted cane	harvestable cane
3	wet	wet rice	growing cane	wet rice
4	dry	same as year 1	same as year 1	same as year 1

Source: Geertz (1963), Table 3

that the constraints operated: they developed no urban manufacturing sector to draw labor from the rural sector; they controlled wages at the sugar mills and kept the peasant-worker underpaid in menial jobs; and legal restrictions, accompanied by harsh penalties, effectively prevented smallholder cultivation of sugar cane.

The workability of the whole mutualistic relationship depended, in short, on each side 'doing its job'--the subsistence side feeding the labor force, the commercial side producing state revenue.

Nor does this change essentially if, as also soon occurred, forced labor is replaced by paid labor, if land is rented rather than its use appropriated as a form of taxation, if private enterprise replaces governmental managers. Then, it is a matter of holding down money wages and rents and avoiding the formation of a true proletariat with the productive means with which to provide its own subsistence.¹⁸

This particular method became firmly established in Central Java because, during the Culture System period, the Dutch lacked capital to develop new sawah estate areas outside the existing sawah areas. The Dutch were depending on human capital to develop sugar cane industry, not investment capital. To have placed production in the hands of the peasants would have removed Dutch control of the co-efficients of labor costs and quantity control. Thus, the final alternative, which has been discussed, was from the Dutch point of view the most acceptable given a competitive world market. Sugar cane production in Central America was done on smallholdings by "peasant slaves" who lacked peasant traditions or on estates manned by a proletarian labor force.¹⁹ By contrast, the "Javanese cane worker remained a peasant at the same time that he became a coolie. . . having one foot in the

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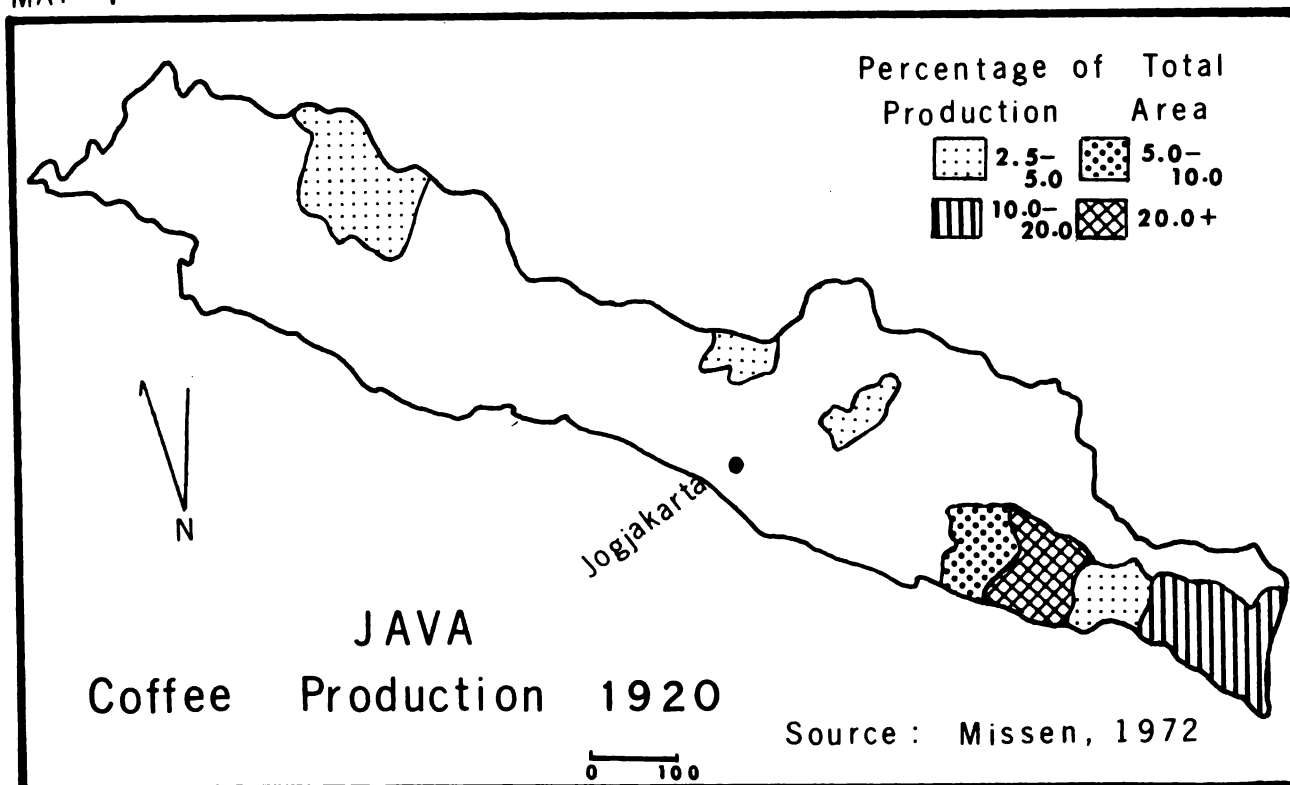
terrace and one in the mill".²⁰ In short, the Javanese village was forced to respond to commercial forces within the context of traditional village patterns. The response was to make those patterns more complicated, or involuted. This took two different forms.

The first response was to raise the subsistence base as population increased, and this was accomplished by working the sawah harder, of absorbing employment through more intricate divisions of labor. The second means was a horizontal expansion of sawah. It can only be guessed that this was adopted because historical geographies on the expansion of sawah in Central Java are not available. Most of the expansion occurred in areas peripheral to the sugar districts whose spatial pattern had been established in the previous century. Sawah for all of Java increased from 6.67 million acres to 8.28 million acres in the period from 1900 to 1940.²¹

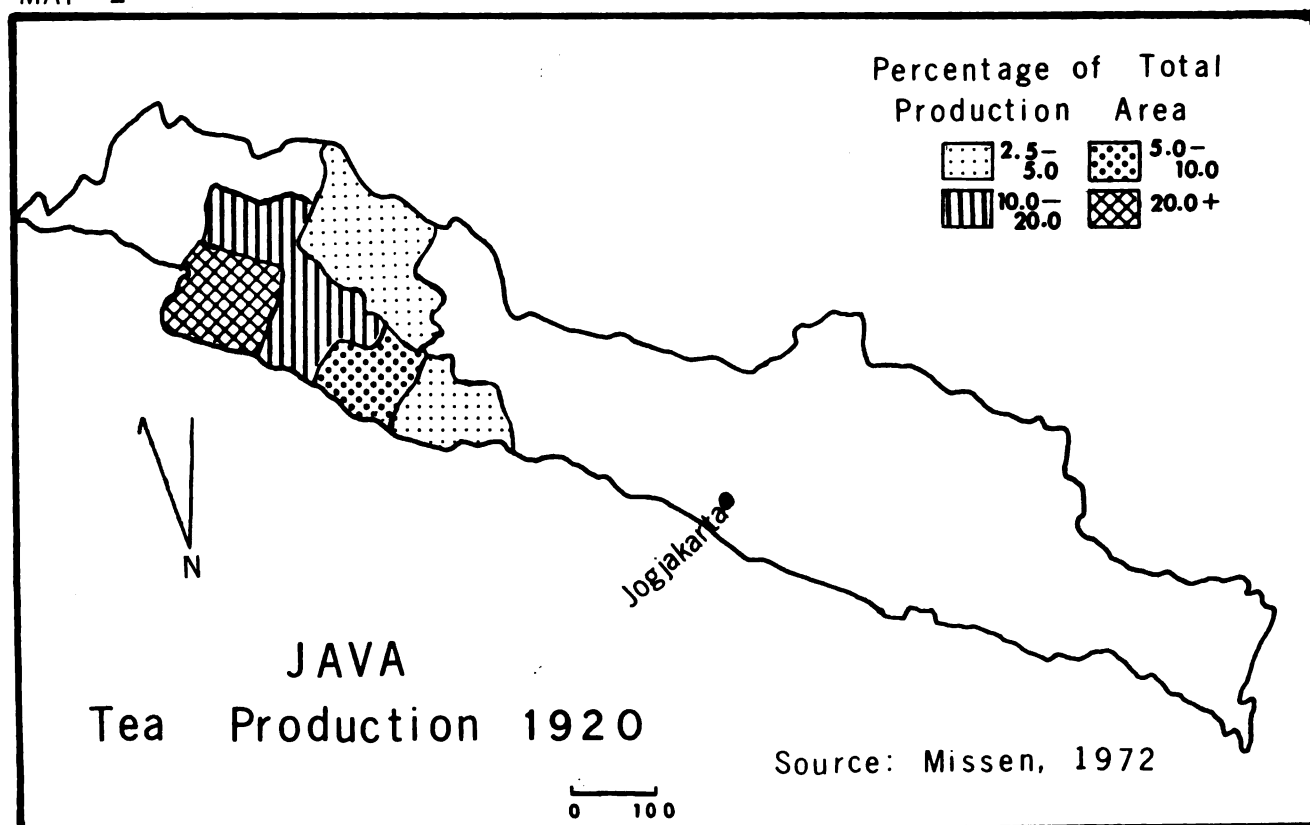
Geertz, studying 1920 data, found that the sugar growing areas had proportionately more sawah, more population, and even though one-third of their sawahs were occupied by sugar, higher rice production was also achieved. Maps 2, 3, 4, and 5 show the relationships. Geertz came to the conclusion, by comparing the non-sugar sawah areas that were lower in productivity, that there was more than a simple accidental link between high density, high proportions of irrigated fields, and high per hectare productivity.²²

Evidently, sugar cultivation, through its improvement of local ecological conditions for rice, bonds those three together when they are found together and pushed all of them to higher than average levels for Java as a whole.²³

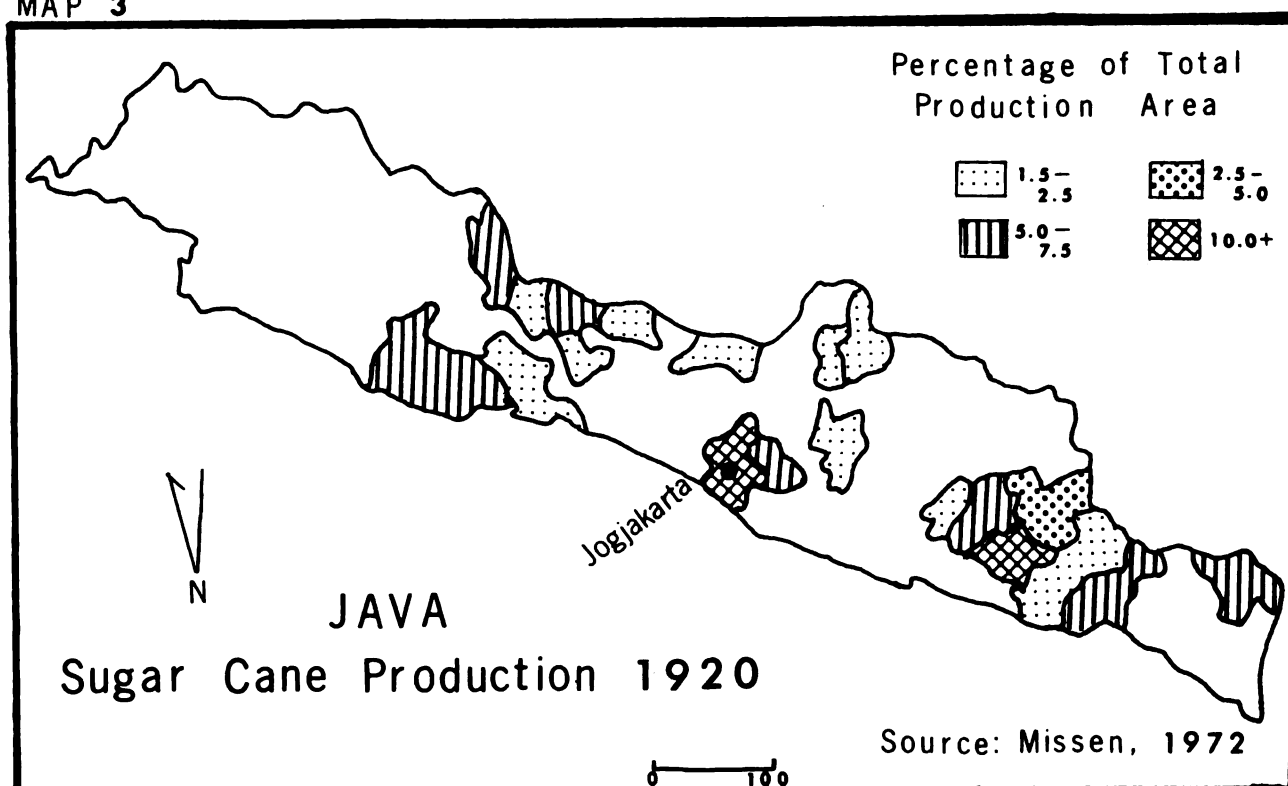
MAP 1



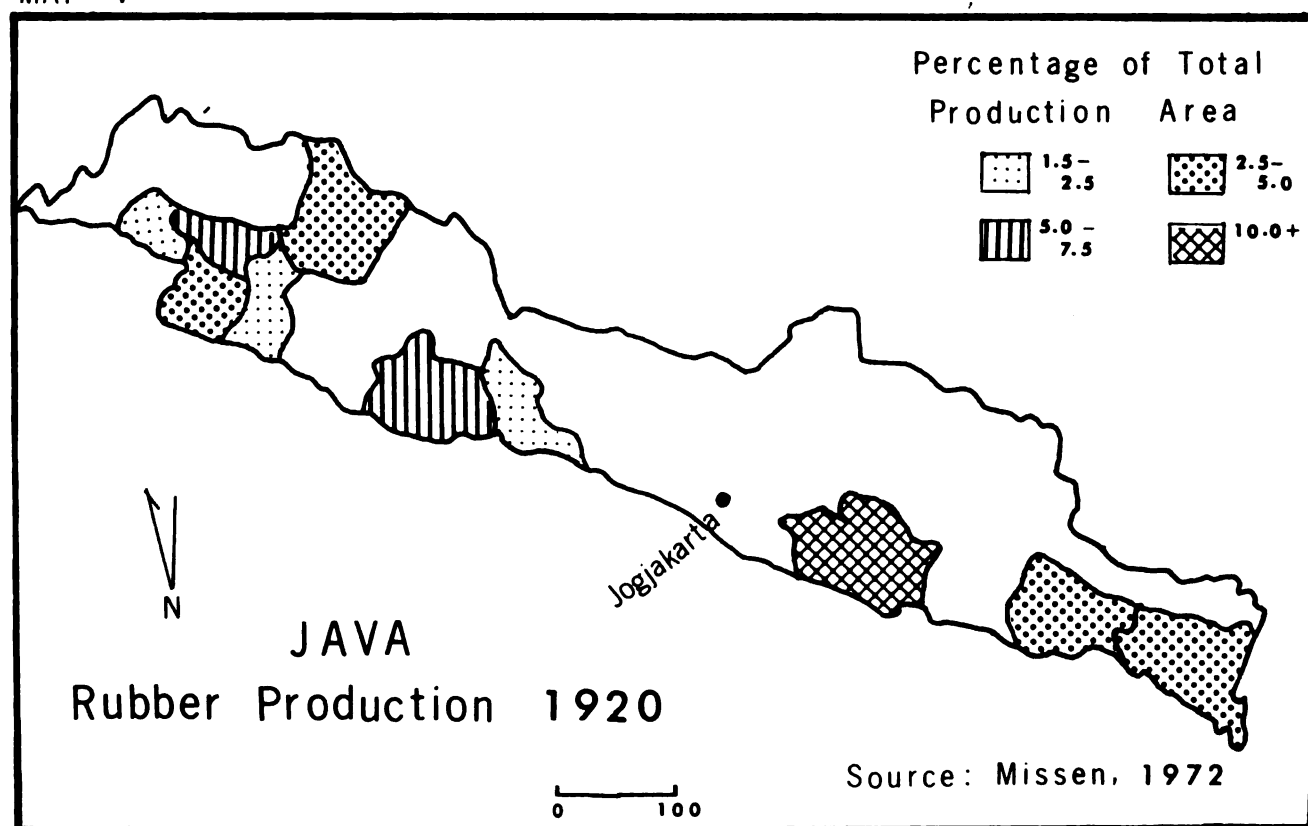
MAP 2



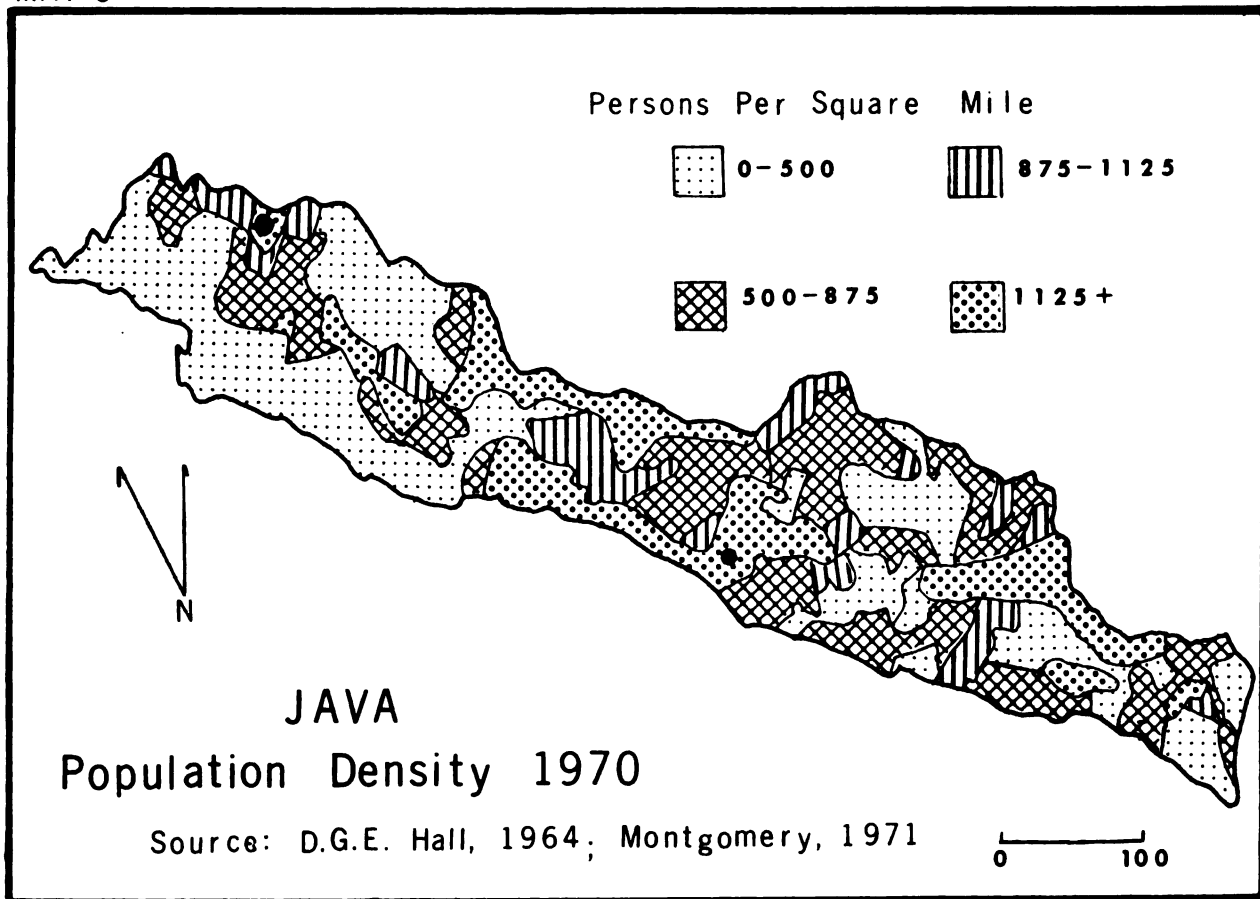
MAP 3



MAP 4



MAP 5



Involution changed the rural landscape over time and this impacted upon production methods in a rather queer, retrogressive way. In the Jogjakarta region, intensification and fragmentation of fields accomplished a reversal to ploughless cultivation because fields were too small to use a water buffalo, and the water buffalo, in effect, also took employment from the peasants.²⁴ The increased appearance of terraced tegalan on hillsides was another landscape change that reflected the processes of involution. Tegal, or dry crops, expanded in the first half of the twentieth century. Crop diversification and systematic dry field cultivation did not represent an expansion of the peasants' horizons but was another response to the failing ecological elasticity of the sawah.²⁵ Tegal was also labor-intensive and served, in the Jogjakarta region, to absorb even more labor.²⁶

Intensification, of sawah or tegal, had its limits. When the village could not respond to the problems of population pressure, increasing dependence upon cash and an external market, and regimentation of labor by intensification, it found yet another means of adjustment. Adjustments were made in the tenurial system, confirming and elaborating the traditional tenurial arrangements of the community. Only a broad picture is available of the early nineteenth century tenurial and social arrangements for the Javanese community.²⁷ Members of the village were subsistence farmers of approximately equal economic and social status. Administrative heads were differentiated from the main village body in terms of social status, but there were no large landholders or landlords. Economic reciprocity and mutual assistance

(gotong royong) typified village social relationships.²⁸ Land and labor relationships were set into a mold of informal mutual self-help teams and assistance.²⁹

One might expect that with the rise of a monetary system land and wealth would have accumulated in the hands of a few individuals, but in Java this did not occur. Faced with a need to respond to pressures from the "outside" and a declining ratio of man to land, the Javanese response was to divide per hectare gains, achieved through labor intensity, fairly equally among its members. This is the process that Geertz calls "shared poverty", which enable households to exist just above or below the poverty line.³⁰ By extending and elaborating traditional principles of reciprocity, all members had some employment even when they owned no land. Share-cropping principles were divided into sets of relations that were composed of renting, sub-contracting, pawning, work-exchange, collective harvesting, and in the last few decades, wage labor.³¹

The dual pressures of sugar and population pushed social and economic relationships into such complexity and so entrenched village communalism that any potential for the rise of a distinct landlord group was suppressed. Missner argues that the absence of such a group probably limited capitalistic development.³² In the longer view of development the large landholders may invest their wealth into industrial development, promote risk-taking, and agitate either positive or negative reactions in the rural areas to help break the bonds of traditionalism. This has not happened in Java.

The cultural barriers to modernization of the rural sector can be viewed in spatial terms of small, fragmented fields and in social terms of elaboration of production, tenurial and distributional customs accompanied by a narrow village-bounded world view that lacks identity with or faith in the national government. These are the barriers to modernization in contemporary Java, and these are also the legacies of colonialism.

CHAPTER IV

RURAL MODERNIZATION IN THE JOGJAKARTA REGION

THE SITUATION

The Jogjakarta region has been the focus of the new programs of REPELITA I, the acronym for the five year plan, "Rencana Pembangunan Lima Tahun" (literally, "plan for building five years"). The REPELITA programs are augmented by limited programs of the regional government which are usually directed through Gadjah Mada University in Jogjakarta.³³ Jogjakarta's per capita income in 1973 was US\$50 per year, compared with the Indonesian national average of US\$110 per year.³⁴ In 1968, the regional government projected that the Jogjakarta region would need 266,000 metric tons of rice to meet normal consumption levels. In that year only 195,000 metric tons of rice were produced.³⁵ By 1972, production of rice rose to 221,000 metric tons, but consumption needs also rose, and the region remained a net importer of food. In 1973, shortages of food, clothing, fuel, and raw materials for local industries were still growing worse.³⁶ The regional government has been searching for foreign investors under the foreign investment law provisions but they have been deeply disappointed:

Although the country is receiving a great many applications from foreign companies under the foreign investment law, none of them dares venture into the Yogyakarta region. A report that Union Carbide was interested in taking over the defunct manganese mines has not been heard of again. There are many reasons why foreigners are reluctant to

venture into the Yogyakarta region. One is the shortage of resources apart from the ocean of unskilled labor. Another is the distance between the region and major harbors, not helped by the awful condition of the roads. The most serious reason is probably food. Not even rich foreigners can secure adequate protein supplies. Yogyakarta has been said to be 'hostile' to foreign capital. It is also hostile to the national government programs. . . We are members of our villages first, if the programs do not help the villages we do not want them.³⁷

In a situation of almost desperate poverty and hostility towards the national government the region is attempting to pull itself out of the extremes of underdevelopment. The hope for the region lies in the success or failure of the REPELITA programs.

REPELITA I AND INPRES

The modernization program of the 1960s was derived from a program piloted at Bogor Institute of Agriculture in central Java. The pilot program was based on the theory that if extension workers introduced new agricultural technology in the form of seeds, fertilizers, and pesticides through the traditional social channels and then worked closely with the farmers to help them learn proper use and application, rice yields could be improved. The Bogor pilot program used one extension worker to every 75 peasants and although the peasants tended to mix the old and the new, acceptance was high and in the first year rice yields increased. The program also underlines a basic uncertainty whether the new methods would endure or whether the peasant would slip back into his old traditional patterns.³⁸

The Ministry of Agriculture greeted the Bogor experiments with great enthusiasm and in 1965 adopted them under a program called "Bimbingan Massal", or mass guidance. The acronym BIMAS was adopted and soon became a political term for all that was wrong with Indonesia's rice production. By too rapid expansion of the program the bureaucracy increased the ratio of extension workers to peasants from 1:75 to 1:350, thus losing the advantages of personal contact. Further, it was decided that the peasant could not be responsible for the choices of inputs and the government prescribed the kinds and amounts of fertilizers and pesticides that should be used, dispensing them in packets. The packet program was designed to reduce the peasant's choice of inputs and to by-pass the market system through which the peasant could have selected inputs. In the Jogjakarta region the program was received with a good deal of hostility and was ultimately sabotaged by the peasantry.³⁹

One of the most frequent complaints of the farmer was that input packages often arrived too late in the season, or not at all. Regardless of the date of arrival of the packets the peasant was still obligated to pay for them. Subsequently, late shipments and excess materials from the packets found their way into the blackmarket. The peasant maximized government inputs in this way, not by increasing his production. Peasant debts to the government steadily increased since price was figured on potential yield per hectare if the inputs had been used.⁴⁰ Peasants resisted payments because of low yields or dissatisfaction with the government. Some of the common complaints were: no instructions on how to use the packets, late arrival of the packets, and partial appropriation of credit repayments and inputs by corrupt officials. Because

of payment default, banks refused to extend credit to the uncooperative farmers with outstanding debts, and the program was effectively subverted.

By 1968, Soeharto's regime had managed to stop inflation and had salvaged what was left of the Indonesian economy after Sukarno had finished with it. The focus was turned to agricultural development, and REPELITA I. This program got off to a very bad start and gained infamy in the world of agricultural development experts. A contract had been taken out with a Swiss firm, Ciba, to uniformly apply fertilizer and spray pesticides for the farmers. Peasants were openly coerced to participate so that contiguous paddy fields could be mechanically fertilized and sprayed with pesticides from the air. Because the peasant had, by now, no trust in the government and refused to obligate himself for unseen returns, the payment for the inputs was set at one-sixth of the yield. This program further preempted the autonomy of the farmer and removed his choice from the village level and traditional channels.⁴¹ The farmer was arbitrarily forced to plant large tracts of land with IR5 and IR8 seeds.

The results of the Ciba program were multifarious. The most immediate results were ecological problems with the pesticides and many of the fish cultivated in ponds were killed. The program covered vast areas of Java, involved millions of peasants, quickly became unmanageable, and suffered from waste and corruption. The peasants falsified production figures and thus paid less to the government than had been anticipated at the one-sixth rate. The government went to a fixed sum but met with even more resistance. Then, BIMAS made the ultimate mistake in attempting

to coerce payment from the farmers. Originally BIMAS announced that the Ciba program was an effort by the government to help the peasant and improve his livelihood, selling the effort under the name of Gotong Royong. In trying to collect payments, however, the BIMAS officials said that non-compliance was undermining the program and thus put an already hostile peasant population in the position of helping the government. When that failed, BIMAS resorted to using military and district heads to secure peasant submission. In the Jogjakarta region, where village administration is deeply entrenched, the peasants viewed this form of coercion as a return to colonial policies. Village heads and subdistrict officers refused to cooperate with BIMAS. Hanson has summarized the reasons for the downfall of BIMAS:

The ultimate demise of the government's rice campaign in 1970 can be attributed to the same factors which engendered the downfall of the pre-1968 program: the persistent attempt to dispense a homogenous and uniform service in a regulated and predictable manner to an atomized and heterogenous clientele whose initiatives and responses were distinguished by a lack of collective regularity and predictability. The basic tenets of this strategy simply failed to accord with the empirical and objective social realities of rice production in Indonesia, and therefore the gap between the intentions of government plans and actual administrative achievements remained irreconciled.⁴²

President Soeharto terminated the Ciba program in March, 1970. In a mood of concern and anxiety the President travelled incognito, in April 1970, to several villages in West and Central Java in order to find out for himself the basis of the mounting animosity and resistance to the government's modernization efforts.⁴³ One month later,

the existing BIMAS programs were terminated. The new programs are popularly called INPRES after Presidential Instruction No. 1 of 1970, and consist of three distinct parts, the Kabupaten program, the Desa program, and a new BIMAS program, known as INMAS (Mass Intensification).

THE KABUPATEN PROGRAM

The Kabupaten, or county level, program allows Rupiah 50 per capita for development of labor-intensive improvements of the rural infrastructure. These are employment projects specifically aimed at rehabilitation of the rural infrastructure. The government requires that the projects be carried out in the slack agricultural season, and insists that sub-district governments do not try to employ the much used custom of gotong-royong in carrying out the projects, in order to avoid association with forced labor. The prevailing local wage is to be paid to project workers. The requirements for a sub-district government to be awarded kabupaten funds are:

1. The project must concentrate on the economic infrastructure with building or improving roads, bridges, irrigation works, markets, reforestation, river ports, drainage, and sewage projects.
2. Two-thirds of the project money must be spent on wages.
3. The projects must be technically simple and quick-yielding in order to show immediate results.
4. Construction periods are not to exceed one year and all costs for completion must be included in the one-year budget.

5. Projects must be medium size to fill the gap between large national and small village-level projects.
6. Projects must be independent and not contingent upon the completion or construction of national or village level projects, or on projects of other government regional agencies.
7. Projects are not to be used as substitutes for already planned activities.
8. Renewal monies depend upon the regional government's efforts to add additional revenues.⁴⁴

The kabupaten program is intended to stimulate local initiative and participation as much as possible. The responsibility for all technical and economic work is in the hands of the bupati (sub-district head) who is appointed as project officer for all projects within his jurisdiction. This mechanism utilizes recognized local officials and circumvents suspicion of the government on the part of villagers. The bupati is supposed to call on the advice of village heads and councils in order to assess what the peasantry views as the most urgent work to be done. A comment on the government's intent is offered by deWit:

For the majority of the Indonesian people the projects under this program, simple and widely spread over the whole country, would constitute the only visible token of national development activities in their neighborhood. It was therefore highly desirable that the purpose and progress of the projects should be easily understood and checked directly by the people.⁴⁵

In the Jogjakarta region a total of 112 kabupaten projects were completed as of April, 1973.⁴⁶ These projects included the upgrading of 30 roads, 10 bridges, 32 irrigation works, the construction of 4 new village markets, 19 drains, and 15 culverts, plus two tennis courts. Most of the projects are rehabilitative which tends to inflate the achievements. On the other hand, this aspect also shows how seriously the rural infrastructure had fallen into disrepair and how urgently a program like this was needed. The new BIMAS program also needs rehabilitation of the infrastructure because its success depends on transportation and irrigation. Also, cash payments help meet the immediate needs of the local population and it is hoped that the spin-off of the extra cash will be invested by the farmer in improvements. In the Jogjakarta region this spin-off may be a long time materializing because most workers will need the extra income to provide basic necessities for their families.

THE DESA PROGRAM

The Desa (village) program allows for a flat grant of Rupiah 100,000 to purchase improvement materials for village rehabilitation or improvement projects. The projects must add to the development potential of the village and benefit all the members of the community. Approved projects are roads, irrigation works, markets, rice storage facilities, rice hullers, drainage systems, schools, health centers, and fishponds.⁴⁷ Desa projects involve field representatives of government agencies, whose role is not to decide on choice of projects, but to advise and give technical assistance. The field representative

is expected to show respect for the village head and to abstain from interference in discussion about the choice of project.⁴⁸ Labor for the desa projects is supplied through the principles of gotong royong. In the Jogjakarta region this is a wise policy because it eliminates a social stigma which would be a barrier to successful implementation of desa projects: a villager would not work for pay on an intra-village project of benefit to the entire village community.⁴⁹ Through the desa program the government hopes to erase the idea that the government never does anything which really benefits the village communities and to show the farmers the immediate benefits of government aid.

BIMAS REVISED

The new BIMAS program has expanded to include sugar cane production and tegalan production in Central Java. For rice production the government made new seeds available, heavy yield varieties that were developed in Indonesia and have a higher level of consumer acceptance. The peasant has been given charge of the pesticide spray equipment which can be rented through a cooperative or purchased outright if the individual can afford it. The farmer is also given a choice in suggested ranges of input intensity. BIMAS has returned to a dependence on local institutions through its sub-agency, INMAS. Extension workers now work at a ratio of 1:150, ideally, and educational meetings are conducted under the authority of the village head. Village banks have been set up to extend credit, and the terms are liberal. The

peasant can shop on the market to decide what kinds of inputs he will use and what prices he will pay. Once the decision has been made, credit slips are obtained from the local bank and the peasant purchases his inputs. This approach is supposed to minimize the feelings of animosity towards the government by giving the peasant a greater freedom of choice in selection of inputs. Local stores have been set up to sell inputs and the fertilizer and pesticide monopoly has been removed from a single company (PN Pertani) in hopes of bringing input prices down under a competitive market system. In the Jogjakarta region credit is extended under the Village Unit Scheme (VUS) devised by Gadjah Mada University economists and implemented by Bank Rakjat. This scheme is not good for poor farmers as it is limited to farmers who have more than 0.4 hectares and who own the land.⁵⁰ In general, the INMAS program is designed to come closer to the farmer and to give the farmer a greater choice in the modernization processes, and to accustom him to dealing with commercial markets.

SUMMARY OF NEW PROGRAMS

Other than labor, the primary inputs into agricultural modernization in Southeast Asia have been expansion or improvement of paddy land, upgrading and building of irrigation works, development of rural transportation systems for more effective distribution of seed, fertilizers and pesticides and increased marketing efficiency, building and improvement of grain storage facilities and the growth of extension services for the farmers. "It is the growth of inputs other than land and labor which is characteristic of modern, highly productive agriculture".⁵¹ One important aspect of REPELITA I is that the plan is

designed to increase inputs other than labor to stimulate mass modernization of the agricultural sector.

REPELITA I also reflects the desperate economic situation in Indonesia which needs to be corrected before development can be planned. The programs are rehabilitative in nature and short-term. The BIMAS program can also be viewed as rehabilitative in that it is trying to regain the confidence of the peasantry. It could be argued that by gearing programs to the existing social institutions and attempting to work within the existing village structures, the new programs will have a further involutory effect since they do not change the traditional institutions. The rural programs of REPELITA I were meant to be rehabilitative, not revolutionary. Given the state of the Indonesian economy at the beginning of the plan in 1969, it would hardly have seemed advisable to try to rip apart the fabric of rural Indonesian society. Developments in the Jogjakarta region may be the test case for success of the new programs in breaking through the barriers of custom and culture in the modernization processes.

MODERNIZATION AND SMALL FARM SIZE

The primary physical restriction on modernization in the Jogjakarta region is small farm size. Nationally, average farm size in Indonesia is 1.46 hectares. In the early 1960s in Java as a whole, one-half of farms were less than one hectare, and eighty percent of farms were less than two hectares.⁵² In the Jogjakarta region, the average farm size seldom rises above 0.5 hectare.⁵³ The reasons for small farm size are due to the traditional land inheritance prac-

tices under which all heirs, male and female, are entitled to an equal share of the parent's land. It seems that in Java, as in the Philippines, the primary cause of land fragmentation is population pressure.

It has already been mentioned that farmers with less than 0.4 hectare are not eligible for credit under the Village Unit Scheme (see page 32), because they are considered poor risks, to pay for inputs necessary to grow high yielding rice. Farmers with short term rental or lease agreements have difficulty obtaining credit under the VUS if they were not established as good credit risks when the program commenced in 1970. Common tenancy arrangements mitigate against capital investment in a high proportion of cases as the profit margin is low in many tenancy arrangements. Canto expresses the view that: "Tenancy does not encourage increases in production. The incentive to produce more is lost when one cultivates land he does not own".⁵⁴ Traditional harvesting practices, which will be discussed below, have also tended to depress the adoption of high yield varieties of rice.

The barriers to modernization posed by culture and custom in Java find their physical and spatial expression in small farm size, especially in the Jogjakarta region. Most of the information that follows is based on a survey carried out in Kabupaten Klaten, in the Jogjakarta region in December, 1972 and January, 1973. Three sample villages were studied by the researchers.⁵⁵ The government has been extensively applying the new rice technology in Klaten since 1968, irrigation water is available throughout the year, and the primary form

of agriculture is rice cultivation. Data were collected from sample farmers, all of whom have planted high yielding varieties since 1968, the year they were first introduced. According to Walters and Willett:

Farmers who are early users of the new varieties tend to benefit from increased production and extra income until competition lowers profits. Thus, farmers who are in a position (because of access to irrigation, location, credit, knowledge) to take advantage of new opportunities may do very well.⁵⁶

The survey was selected for emphasis since findings may indicate future trends for the region of Jogjakarta and Java as a whole.

Land Use and Tenancy

Table 3 shows population and land use in the three sample villages. The area is typified by an increasing tendency towards landlessness and consequently by an increasing dependency of the landless on landowners. In other words, involutary processes are still thriving in the area of the survey. Table 4 shows the distribution of land ownership by type of cultivator. In Nganjat, 136 people own sawah and 174 do not; in Pluneng, only 160 own sawah while 353 do not. Consider that population growth is around 2.2 percent and the picture becomes more meaningful.⁵⁷

Four types of land ownership are commonly found throughout Central Java: sawah kas desa is collectively owned by the village and used to finance village activities; sawah lungguh pamong are plots given to village officials as a substitute for salaries, are inheritable, and average two to three times the size owned by the common villager; tani pituwas are plots given to people for special reasons and are twice the size of ordinary plots, but these are not inheritable;

TABLE 3
TOTAL POPULATION AND LAND USE
THREE SAMPLE VILLAGES IN KLATEN

Village	Total Population	Area (hectares)				Total
		Sawah	Dry Fields	House Plots	Other	
Nganjat	1,466	64.38	.31	8.34	1.86	74.89
Kahuman	3,262	167.04	.82	22.66	4.53	195.06
Pluneng	2,274	99.25	.06	24.43	.19	123.93

Source: Utami and Ihalaauw. "Some Consequences of Small Farm Size".
Bulletin of Indonesian Economic Studies, IX, 2 (1973).

TABLE 4
LAND OWNERSHIP BY TYPE OF
OWNER OR CULTIVATOR

Village	Ricefields and house plots	Number Owning			Landless	Tani Pituwas
		Rice Field Only	House Plot Only	House Only		
Nganjat	129	7	51	49	74	
Kahuman	231	54	145	218	-	4
Pluneng	150	10	133	115	105	

Source: Utami and Uhalauw. "Some Consequences of Small Farm Size".
Bulletin of Indonesian Economic Studies, IX, 2 (1973).

sawah tani are plots owned by common farmers. Table 5 shows the relationship between type of ownership and plot size in the villages.

The larger plots of pamong desa (village officials) and tani pituwas (literally, rewarded farmer) give them obvious economic advantages.

Yields

Table 6 shows the relationship between farm size and yields.

Because of small farm size farmers get relatively small yields. Two usual ways to increase yield would be the expansion of the growing areas by leasing or share-cropping, but for the villages as a whole this is no longer possible. Increase in yield per hectare by intensification of inputs, use of high yield variety seeds, and improvement in farm practices would be another way, but this has already been done to the extent possible. Small landholdings cannot achieve economies of scale necessary to maximize use of inputs. Purchase of inputs is expensive because of handling and transportation costs which increase as volume decreases. Also, use of machinery and modern irrigation techniques designed for larger fields are limited by small farm size. ⁵⁸

Sawahs are marked by elevated ridges, two the three feet high, which serve the dual purpose of containing irrigation water and serving as demarcating ownership boundaries. If ownership changes and the field size expands then the earthen walls also change. High yield varieties are more responsive to well prepared soils. The reversal to hand preparation of the soil has been mentioned, but at this point most of the farmers cannot afford to purchase or maintain a water buffalo. Tillers are available through cooperatives. Even when rental is economically

TABLE 5
RICEFIELDS BY TYPE OF OWNERSHIP AND SIZE OF FARM
THREE SAMPLE VILLAGES, KLATEN

	Nganjat	Kahuman	Pluneng
Total Area in Ricefields (ha.)	64.38	167.04	99.25
Type of Ownership (ha.)			
<u>Sawah kas desa</u>	2.45	23.68	9.81
<u>Sawah pituwas</u>	2.61 ^a	3.24	-
<u>Sawah tani</u> (farmer owned)	50.72	129.82	80.24
Numbers Owning Land:			
Farmers	136	289	160
<u>Pamong desa</u>	7	8	7
<u>Tani pituwas</u>	a	4	-
Average Size of Holding			
a) Owned by all land-owning farmers in village	.37	.59	.62
Sample farmers in village	.42	.52	.75
b) Operated (not owned)			
Sample farmers	.46	.60	.51
<u>Pamong desa</u>	1.23	1.26	1.32
<u>Tani pituwas</u>	-	.86	-

^a There were no tani pituwas in Nganjat so this piece of land was used for village income.

Source: Utami and Ihalauw. "Some Consequences of Small Farm Size". Bulletin of Indonesian Economic Studies, IX, 2 (1973).

TABLE 6
FARM SIZE AND YIELD

	Nganjat	Kahuman	Pluneng
Average farm size (Operated) (hectares)	.46	.60	.51
Average yield per hectare (wet stalk paddy) (metric tons)	5.92	6.54	6.14
Average yield per holding (wet stalk paddy) (metric tons)	2.72	3.92	3.13

Source: Utami and Ihalauw. "Some Consequences of Small Farm Size".
Bulletin of Indonesian Economic Studies, IX, 2 (1973).

feasible for the farmer, the smallness of the field and difficulty of maneuvering the tiller over the field ridges has not popularized their use.

The short growth of high yield varieties and the availability of irrigation water throughout the year has encouraged a new way to increase yields. Some farmers have managed not only to increase yields for each unit of rice but for each unit of time. The new system is called petukan (extra farming). Before the first crop is harvested the farmer uses a small portion of field for the seed bed. Immediately after harvesting, the earth is prepared for tilling, and by the time tilling is completed the seedlings are old enough to transplant.⁶⁰

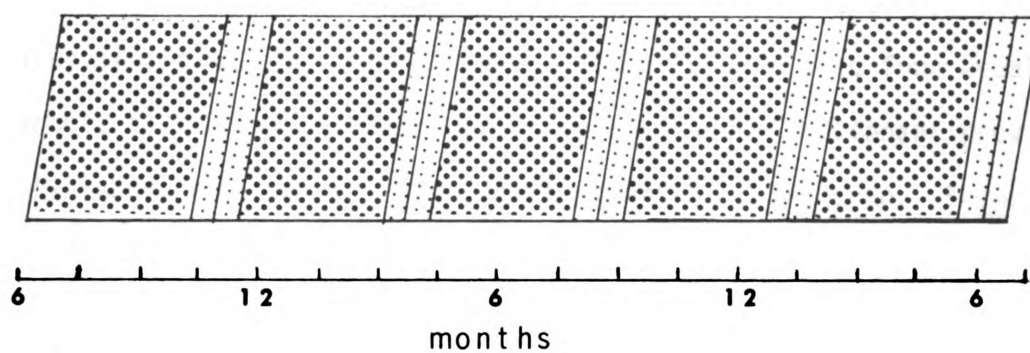
Diagram 1 shows the comparison of the time cycles. This method, however, is more than technically acceptable, because it requires more labor per unit of time as well as more capital, it is capable of absorbing more landless laborers, and the farmer can meet his obligations to employ his neighbors from the village.

Tenancy

Land tenure systems are also affected by small field size in the sample villages. Leasing is usually done for more than one cropping season, and the longer the time of the lease the lower the rental on the land. Rental price depends on the condition of the land and the relationship between the owner and tenant. In a normal leasing situation, the owner pays the land tax and the tenant pays the owner a share of the crop. There are four different forms of share cropping outside of the leasing arrangement. Maro means "divide into two equal parts", the owner pays the land tax and the tenant pays the cost of inputs and labor, and each gets one-half the yield. Maro is common

DIAGRAM I

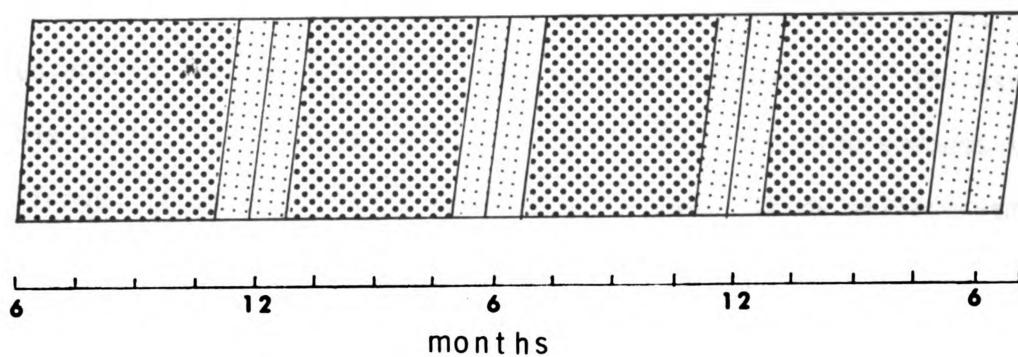
The Petukan System



 one crop period

 seedbed

The Usual System



 one crop period

 seedbed

only between parents and children or between siblings. Mertelu means "divide into three equal parts", has the same tax and input arrangement as maro, but the tenant gets only one-third of the crop and the owner gets two-thirds. Mertelu usually occurs when a common farmer cultivates sawah kas desa. Mrapat, means "divide into four equal parts", is the most common form of tenancy where the tenant provides only labor, and the owner gets three-fourths of the crop. Sromo means "money that unlocks", is illegal but still practised. In a sromo arrangement the tenant pays a set sum in advance, the amount depending upon length of payment time and inputs provided by the tenant, and the share of the crop is negotiable at harvest time. Table 7 shows the economic advantages or disadvantages of the share cropping types for the tenants.

Tebasan and Bawon

In traditional harvesting practices, Javanese do not restrict anyone from the village who wishes to participate in the harvest. Harvesters are mostly women and use a small, straight edge knife, called ani-ani, with which they cut each stalk separately. The use of this knife is associated with the belief that the rice goddess would be offended if any other kind of tool were used. Every village woman owns an ani-ani. The ani-ani is suitable for cutting traditional varieties of rice because they mature at different stages and the length of the stalk varies. Harvesters do not thresh the rice in the field but carry it in sheaves to the owner's house. This method of harvest, called bawon, is very labor intensive and employs as many as 500 persons

TABLE 7
RETURNS TO TENANTS UNDER VARIOUS
TENANCY AGREEMENTS^a

Type of Tenancy	Revenue ^b	Hired Labor	Inputs ^c	Rental	Tenant's Income ^d
<u>Maro</u> (half-share)	7,000	1,440	1,090	-	4,470
<u>Metelu</u> (one-third share)	4,667	1,440	1,090	-	2,137
<u>Mrapat</u> (one-quarter share)	3,500	1,440	-	-	2,060
<u>Sromo</u>					
(inputs paid by tenant)	7,000	1,440	1,090	1,500	2,970
(inputs paid by owner)	7,000	1,440	-	2,500	3,060
Leasing	14,000	1,440	1,090	5,000	6,470

^a Amounts calculated in rupiah. U. S. \$1.00 = 425 rupiah.

^b Assuming a yield of 7 quintals (1 quintal = 100 kg.) from 1 patok (.12 ha.) of ricefield, based on subsidized rice prices.

^c Composed of seed, Rp 240; urea fertilizer, Rp. 600; TSP fertilizer, Rp. 150; and insecticide, Rp. 100.

^d Including unpaid family labor by tenant (estimated here at about Rp 1,080).

Source: Utami and Ihalauw. "Some Consequences of Small Farm Size". Bulletin of Indonesian Economic Studies, IX, 2 (1973).

per square hectare. Payment is made by giving a share of the crop, seven, eight, or nine bundles, to the owner and one to the harvester.⁶¹ After the harvest the owner decides how much to sell on the market and how much to keep for his own consumption.

The traditional methods of harvesting are reported to be undergoing significant changes in Central Java and the Jogjakarta region and could possibly be disruptive.⁶² The changes may also indicate a break from the involuted social constraints on modernization in the rural sector. One factor in the change is population pressure on the land. There are more landless laborers who go further from the home village for work at harvest time. The amount each harvester gets is diminishing because so many people share the harvest. They often pressure the owner for more than the customary share and the farmer subsequently gets less. The small farmers appear to be bound to tradition and do not resist giving more for reasons of shame at giving too small a share to each harvester.⁶³

Tebasan is a new system that is replacing bawon to relieve the tension between the farmers and harvesters.⁶⁴ Tebas is a word that means to "buy an almost mature crop, still in the field". The buyer, or penebas, harvests the field at his own expense. The buyer pays the farmer at the time of harvest if he is from outside the village, but if he is from the village the farmer will be paid in a week of the actual harvest. The new system has spread like "wild-fire" since its appearance in 1971. In the Jogjakarta region it is estimated that in the 1972 dry season just under one-half of the farmers sold some of their crop to penebas, and harvested the rest under bawon to

fulfill social obligations to neighbors.⁶⁵ The main reason that farmers gave for selling crops to penebas was to avoid problems of supervising the harvest and dividing the shares. The farmers are convinced that they receive more if they sell to penebas.⁶⁶

Penebas are really group buyers who come from within the village, from nearby villages, or from the towns. The village heads said most penebas come from outside the village, and if they are from the village, they are usually the people who own larger amounts of land and have a close relationship with the village head.⁶⁷ A farmer can not be his own penebas if he wants to reduce the share of crop he gives to harvesters. The penebas select their harvesters by sending them letters which authorize them to participate in the harvest if the harvesters live in the penebas' village. The penebas usually brings harvesters from their own villages. Penebas groups harvest an average of twenty hectares with the number of plots ranging from twenty to well over one hundred.⁶⁸ The harvesters' attitudes are that the penebas is recognized as a trader and in that role has a right to profit and will accept conditions from a farmer acting as a penebas which they will not accept from him when dealing with his own crop. The number of harvesters are controlled, but the actual share for the harvester is reduced to a ratio of 1:12.⁶⁹

Another result of the tebasan system is a shift from the use of ani-ani to the sickle which is more suited to the high yield varieties and is more efficient. When sickles are used the harvest division is made by weight, not bundles. This important change in technology is possible because it is reasoned that the new rice seeds come from abroad and therefore, the rice goddess will not be offended. When

rice is cut by sickle it is threshed in the field, bagged, and carried to the owner's house where it is weighed. The harvesters must provide their own sickles, threshing mats and sacks. With sickles, only 75 man-days are required for one hectare of rice compared with ani-ani's two hundred or more man-days. The reduction of people required for harvesting is considerable. Man-power requirements are reduced by 18 per cent when tebasan is used in combination with ani-ani, but when tebasan is used with sickles the reduction is sixty percent.⁷⁰

Pamong Desa

In the sample villages the average size of sawah lungguh is twice that of the common farmer. This gives obvious socio-economic advantages to the pamong desa: they can reserve some of their crop for the traditional bawon system and enhance their positions and prestige by allowing relatives and neighbors to participate and share in the harvest; economically, the greater size of their holdings will allow them to expand through leasing and share-cropping arrangements since they can afford rents; and their greater wealth makes them informal sources of credit within the village, especially with those who do not qualify for the Village Unit Scheme. "The processes continue as social and economic positions reinforce each other, and support their political positions."⁷¹ The socio-economic and political positions of the pamong desa are mutually reinforced with the result that these individual's occupy a very important role within the village. "It can be said that, unless the roles of pamong desa are carefully considered, no program or action within the village can be properly implemented."⁷²

IMPLICATIONS FOR CHANGE

It would seem that the farmers are responding to the new harvest system as a way out of a rigidly involuted system. The custom of employing one's neighbors has become so burdensome that in many cases the farmer cannot bear the expenses of land rent or input costs for new high yielding seeds. In the Jogjakarta region, the real income of small farmers declined 14% between 1959 and 1968.⁷³ The spread of tebasan seems to represent a step forward in altering the institutions that are barriers to modernization, but on the other hand, Indonesia does not yet have a viable manufacturing sector that could absorb those who are displaced from the rural systems. The consequences of large scale labor reductions in the rural sector are not yet known, but it would seem almost certain that social upheaval will follow.

The danger for Java is that these changes will widen the income gap between landowners, traders and village leaders on one side and harvesters, especially the itinerant labourers who cannot effectively protest, on the other. From the analysis, it is clear that certain segments of the rural population are gaining at the expense of the poorer groups from these social changes. The process of change has been accelerated, because of the losses that would result through shattering if the new high yielding varieties were harvested in the traditional ways. The use of the sickle is thus a logical consequence of the new rice technology, but the reduction in labor requirements by means of this technique could not be accomplished by the farmer without the penebas' ability to limit the number of harvesters. . . The penebas system emerges as a method of protecting their income and allows them to benefit more from the use of HYVs. . . changes in limiting and selecting harvesters may restrict the benefits of the "green revolution" to only a few people in the village and deny the benefits to less favoured segments of the rural population.⁷⁴

If development means the rise of a capitalist class in the rural sectors who would invest their profits in other, non-agrarian enterprises, as Missner argues,⁷⁵ the pamong desa may very well be the new class. Population pressures causing harvesters to roam to other villages is also a signal of declining village communalism, and as the sense of community begins to deteriorate the pamong desa, suppressed under the involuted village socio-economic system sharing poverty, can now gain social prestige and political power through his larger land holdings, and increase his wealth through accumulation of capital which could be invested in penebas deals as well as the additional inputs necessary to expand petukan cultivation.⁷⁶

The rise of a wealthy land-owning class in rural Java, and in particular, rural Jogjakarta, would be a new phenomenon both spatially and socially. By consolidation of land holdings, not only would the configuration of field patterns change but in most areas of Java large scale mechanization of agriculture would be possible. The social impact would be tremendous, in terms of unemployed rural laborers flooding the urban manufacturing and tertiary sectors. Montgomery has recently concluded, based on his field study, that the drop in rural employment in the Jogjakarta region is causing increased migration to the urban areas by the young, even when the migrants know they have no hope of finding employment in the cities.⁷⁷ The BIMAS programs encourage adoption of the new rice technology and make available to the farmers who can afford them various kinds of mechanized equipment such as tillers and cultivators. Clearly, a continuance of this program will have its effect on rural employment as Montgomery has pointed out.

Table 8 shows the difference in work hours required for the IR-5 rice strain and the traditional varieties. This table does not account for the changes in harvest practices which, if uniformly adopted would drop the woman-day requirements 60% from the traditional variety figure of 214 days.

Land tenure is another area where custom may be radically changed due to increased competition for scarce land resources. The land owner would definitely have the upper hand in negotiations for share cropping and could demand terms which would be far more profitable to him. We have already seen that the system of mrapat (one-quarter shares) is the least advantageous to the tenant, and this is the most widely practised tenancy arrangement. There are indications that the terms for mrapat are changing. The owners now demand that they pay only the land tax and the tenant be responsible for fertilizers, pesticides, and labor costs, and still take only one-quarter of the crop.⁷⁸ Of course, it would be logical to conclude that the tenant will not be in a position to afford the necessary inputs for the new rice strains and may therefore continue to plant the traditional varieties of rice.

It would seem that employment will not be solved through the various work programs of the kabupaten projects even though a direct daily wage is paid. The kabupaten projects are meant to be short term and to provide only temporary relief for the peasant. Their primary aim is to upgrade the infrastructure in order to facilitate modernization of rice production. There is also evidence that the desa projects are not all they could be due to disinterest on the part of landless villagers who view the projects as benefiting only the landowners.⁷⁹

TABLE 8
 LABOR USED (MALE AND FEMALE AND TOTAL)
 PER HECTARE OF RICE PER 4 - 5 MONTH CROP
 YIELDS IN STALK PADDY, JOGJAKARTA, JAVA, 1971

Variety (% of land planted)	Yield, Stalk Paddy (MT/ha)	Man Days	Woman Days	Work Days	Total Work Days Requi- red per MT
IR-5 (38%)	4.52	238	222	460	102
Traditional	3.82	269	214	483	126

Source: Montgomery. "Migration, Employment and Unemployment in
 Java: Changes from 1961 to 1971 with Particular Reference
 to the Green Revolution." Asian Survey, XV,3 (March) p.237.

Lastly, and less speculative and more positive, is the impact that the first few years of INMAS appears to have had on the peasant. The INMAS program has encouraged the development of a "market mentality" by allowing the peasant to deal in the competitive marketplace for his selection of inputs. By selling crops to penebas, however, the farmer shows an unwillingness to deal in the marketplace as a seller. However, the farmer's dealings with the penebas does show a willingness to break out of the traditional harvest practices and whether or not the farmer sells on the marketplace is a minor issue. REPELITA II (the second five year plan that commenced in 1974) is focusing on developing the peasant's marketing skills and expertise.⁸⁰ The penebas are middlemen in the rural marketing sector and the common farmer may not have the opportunity to develop his marketing skills if the penebas system becomes widespread.

It would seem that small farm size is the physical manifestation of a stagnant and involuted social and economic system in the rural sectors. Small farm size is also an impediment to modernization and upgrading of the farmers standard of living. The recent reactions to the system, in the spread of the tebasan harvest practices, the changes in tenancy arrangements, the rise of the socio-economic position of the pamong desa are indicators that the social system is undergoing rapid change. The landscape will probably change accordingly and it would seem possible that rice production will also rise.

CHAPTER V

CONCLUSIONS

Without achievement of rice self-sufficiency, Indonesia will not reach a stage of development high enough to cope with the problems of unemployment and underemployment in both the rural and urban sectors. The tasks of the INMAS section of the BIMAS program were to break through the barriers of culture and custom in order to gain mass acceptance of the new rice technology. Once acceptance of the modern technology was gained, it was assumed that self-sufficiency in rice would follow. The figures for 1974 production are not available yet. The announced figure for 1973 was 14.5 million metric tons, an increase over the 11 million metric tons produced in 1969, but still a long way from self-sufficiency goals.⁸¹

The kabupaten and desa programs, designed to patch up the rural infrastructure may not benefit the masses. It would be realistic to conclude that the major support for these programs are from the larger landowners who will benefit most from the "green revolution". REPELITA I and REPELITA II show no indications that there is serious effort being put forth to solve the problems of rural unemployment. The goal is narrow and straightforward: modernize the rice production technology. Most regional governments have had difficulty in raising revenue to match national government funds, and the programs have not continued.⁸² It does not seem, either, that the consequences of modernization in their social terms have been investigated or been given serious thought

by the urbanized planners who actually understand very little about the rural social structure.

If Indonesia was on a treadmill of development because of an involuted agricultural sector, it seems to still be on a treadmill of development because of the potential breakdown of the traditional rural sector. With no means of absorbing the displaced rural people in the urban sectors, with a policy of modernization of rice technology at any costs, Indonesia, and Java in particular, may be headed for unforeseen social consequences as it attempts to bring a traditional society into the modern world. Even though the data show that small farm size, and traditional tenancy and harvest practices are detrimental to modernizing rice production, without them at the present time Indonesia has no means of absorbing the excess labor being displaced nor the developed institutions to cope with a rising landowning-landlord class. The dilemma raises some interesting questions, and also poses many problems for Indonesia.

FOOTNOTES

1. Food and Agriculture Organization Agricultural Production Yearbook 1968. Also, Colin Clark, "Calories and Proteins", Bulletin of Indonesian Economic Studies, Vol XIII, No. 2 (July, 1972) pp. 98-103. Using data from a variety of sources, Clark concludes that the average daily caloric intake had risen to 1880 calories per day per person. He also concluded that protein from cereal grains only was well below that of India.
2. George J. Missen, Viewpoint on Indonesia: A Geographical Study. (Melbourne: Thomas Nelson (Australia) Limited, 1972.) p. 3.
3. Ibid, p. 143
4. G. C. Allen and A. G. Donnithorne, Western Enterprises in Indonesia and Malaysia: A Study in Economic Development. (London: George Allen and Unwin, 1957.) pp. 264-266.
5. Ibid.
6. Op. cit., Missner, p. 147.
7. Ibid.
8. Clifford Geertz, Agricultural Involution: The Processes of Ecological Change in Indonesia. (Berkeley: University of California Press, 1963.) pp. 77-82, 198-206.
9. Ibid., p. 194-202.
10. Ibid., p. 90.
11. Op. cit., Missner, p. 150.
12. Cyril S. Belshaw, Traditional Exchange and Modern Markets. (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1965). Belshaw treats the topic of the introduction of a modern cash economy into traditional societies in detail, Indonesia is discussed on page 62-68.
13. Op. cit., Missner, p. 154.
14. Most of this section is an unavoidable reorganization and selection from Geertz, 1963. Geertz is the most widely accepted authority on the basic causes of Indonesia's modernization problems, and his work is widely read and referred to in Indonesia.
15. Op. cit., Geertz, p. 55.

16. Ibid., p. 57-58.
17. Ibid., p. 58.
18. Ibid., p. 89.
19. Charles Fisher, Southeast Asia: A Social, Economic and Political Geography. (London: Methuen, 1964). pp. 278-279.
20. Op. cit., Geertz, 1963, pp. 70-77.
21. Ibid., p. 77.
22. Ibid., p. 95.
23. Ibid.
24. Lecture notes, March 27, 1973. REPELITA I briefing session, Gadjah Mada University.
25. Op. cit., Missner, p. 205.
26. Op. cit., Lecture notes, March 27, 1973.
27. Hildred Geertz, "Indonesian Cultures and Communities". In Ruth McVey, Editor, Indonesia. (New Haven: Yale University, 1963).
28. Koentjaraningrat, "Tjelapar: A Village in South Central Java". In Koentjaraningrat, Editor, Villages in Indonesia. (Ithaca: Cornell University Press, 1967) pp. 244-280.
29. Ibid., pp. 261-64.
30. Op. cit., Geertz, 1963, p. 91.
31. Ibid., p. 49.
32. Op. cit., Missner, p. 209.
33. Much of the discussion is based on a program of study of the Jogjakarta region at Gadjah Mada University from March 21 to April 7, 1973. Study under the sponsorship of American Universities Field Staff-University of Hawaii.
34. Dinas Pertanian Rakyat, D. I. Yogyakarta. Notes from offices.
35. Ibid.
36. Dr. Atje Partadiredja, lecturer, March 24, 1973.
37. Ibid.

38. Gary Hanson, "Indonesia's Green Revolution: The abandonment of a Non-market Strategy". Asian Survey, Vol. XII, No. 11 (November, 1972), pp. 932-946.
39. Field notes, March 29, 1973. Also, Op. cit., Hanson, p. 936.
40. Op. cit., Hanson, p. 936.
41. Ibid., p. 940
42. Ibid., p. 940.
43. Kompas, April 14, 15, 1970. Pikiran Rakyat, April 18. Press accounts of Soeharto's visits. The visits have taken on legendary form in the Jogjakarta region.
44. Y. B. deWit, "The Kabupaten Program". Bulletin of Indonesian Economic Studies, Vol. IX, No. 1 (March, 1973). pp. 65-85.
45. Ibid., p. 73.
46. Field data, March 29, 1973.
47. Irene Tinker and Millidge Walker, "Planning for Regional Development in Indonesia". Asian Survey, Vol. XIII, No. 12 (December, 1973). pp. 1102-1120.
48. Field notes, April 2, 1973. Interview with field representative, Desa Blangan, Djepat, D. I, Yogyakarta. This particular field representative was said to have rarely abstained from interference in discussions involving possible projects. The villagers referred to him as "Sudara Bodoh" (Mr. Stupid) and indicated they resented his presence in the village.
49. Field notes, April 2, 1973.
50. Mubyarto, "Economic Developments in D. I. Jogjakarta". Bulletin of Indonesian Economic Studies, Vol. VI, No. 3 (November, 1970). pp. 14-32. The Village Unit Scheme was still operating in 1973, as confirmed by Mr. Mubyarto in discussion at Gadjah Mada University.
51. Harry Walters and Joseph Willett, "The Green Revolution in Southeast Asia in the 1970s." In Asian Development Bank, Southeast Asia's Economy in the 1970s. (Washington: Praeger Publishers, 1971). pp. 108-149.
52. Asian Development Bank, Asian Agricultural Survey. (Tokyo: University of Tokyo Press, 1969.) p. 644.
53. Widaya Utami and John Ihalauw, "Some Consequences of Small Farm Size". Bulletin of Indonesian Economic Studies, Vol. IX, No. 2 (July, 1973.) pp. 46-56.

54. Renato G. Canto, "The Small Farm Economy: Some Perspectives for Development". Economic Research Journal, Vol. XVII, No. 2 (September, 1969). pp. 88-104.
55. Op. cit., Utami and Ihalaauw.
56. Op. cit., Walters and Willett, p. 111.
57. Estimate from Dinas Pertanian Rakyat, D. I. Yogyakarta, obtained April 3 or 4, 1973.
58. Op. cit., Canto, p. 91.
59. Field notes, April 2, 1973.
60. Op. cit., Utami and Ihalaauw, p. 50.
61. William Collier, Gunawan Wiradi and Soentro, "Recent Changes in Rice Harvesting Methods". Bulletin of Indonesian Economic Studies, Vol. IX, No. 2 (July, 1973). pp. 36-45.
62. Ibid., p. 37.
63. Ibid., p. 39.
64. Ibid., p. 38.
65. Ibid., p. 39.
66. Ibid.
67. Ibid., p. 40.
68. Ibid., p. 41.
69. Ibid., p. 42.
70. Op. cit., Utami and Ihalaauw, p. 55.
71. Ibid.
72. Ibid.
73. Paul R. Deuster, Rural Consequences of Indonesian Inflation: Case Study of the Jogjakarta Region. (Unpublished Ph.D. Thesis, University of Wisconsin, 1971.)
74. Op. cit., Utami and Ihalaauw, p. 56.

75. Op. cit., Missner, p. 209-210.
76. Land tenure laws do not permit operating of more than twenty hectares of land by one farmer. The law does not mention ownership. It would be possible for pamong desa to buy land in excess and rent to share croppers.
77. Roger D. Montgomery, "Migration, Employment and Unemployment in Java: Changes from 1961 to 1971 with Particular Reference to the Green Revolution". Asian Survey, Vol. XV, No. 3 (March, 1975). pp. 221-233.
78. Personal communication, February 17, 1975, Sri Sjaan Said, Jalan Colombo, Yogyakarta. Miss Said said that her father, who is pamong desa, has been using this new form of mrapat in his tenancy arrangements for the past two growing seasons, and that this is rapidly becoming common practice. She says tenants will not plant the expensive, high yielding seeds and to save even further, sell their crops to penebas. In the case of her father, he acts not only as landlord, but as the penebas.
79. Ibid.
80. "Indonesian News and Views". (Washington: Information Section, Embassy of Indonesia, March, 1974.) Mimeograph.
81. Ibid.
82. Op. cit., Tinker and Walker, p. 1119.

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PUBLIC HOUSING IN SINGAPORE:
VEHICLE FOR SOCIAL MOBILIZATION

by

Julie Griffing

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PREFACE

This paper is a result of field study and research that was carried out in Singapore from January 3 to February 25, 1973 and from April 18 to May 17, 1973 while I was living and studying in Singapore under the auspices of the American Universities Field Staff. During the period of study the students connected with AUFS had the opportunity to take advantage of the Housing Development Board's library facilities and to interview the policy makers of the HDB. We also were lectured by many different leaders of the Republic of Singapore, including Mr. S. Rajaratnam and Mr. Goh Keng Swee. The lectures were followed up by personal interviews by myself with both Mr. Rajaratnam and Mr. Goh. I also interviewed Mr. S. W. Lim, who is connected with the Singapore Planning and Urban Research Group, a private enterprise that is a leading critic of the HDB. The faculty and graduate students of the Department of Geography, University of Singapore, were also most helpful to my interests and to the development of perspectives on the changes occurring in the urban landscape.

Considering the length limitations of a research paper, much has been left unsaid. Research notes from Singapore are sprinkled with value judgements, not always my own, but a serious attempt has been made to omit such judgements in this paper, as far as possible. Value

judgements that may appear in the text of the paper are considered to be germane to the discussion and without them the discussion might be meaningless.

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CHAPTER I

INTRODUCTION

SOCIAL AND POLITICAL CONTEXT OF DEVELOPMENT

The traditional approach to development planning has concentrated on the transference of technology from the developed countries to the underdeveloped countries. This approach stresses the quantifiable economic factors and ignores the not so easily quantifiable non-economic factors. Marion Levy classified industrial societies into two categories: indigenous developers and late-comers.¹ Indigenous developers gradually evolved social structures suitable to modern production technology over an extended period of time. Late-comers are borrowers from indigenous developers, borrowing the advanced technological, political, economic and ideological systems and grafting them onto their traditional framework. This grafting process did not change the existing traditional social structures and met with resistance from the masses, thus the most conspicuous result of this process was failure.

Karl Deutsch says that development success depends upon social mobilization of the human resources, or masses, of a population and that social mobilization in turn will occur only if the members of a population have developed a national identity, or sense of "nationalism":

" . . . nationalism is the preference for the competitive interest of this nation and its members over those of all outsiders in a world of social mobility and economic competition, dominated by the

values of wealth, power, and prestige, so that the goals of personal security and group identification appear bound up with the group's attainment of these values."²

Spengler identifies three basic elements which are also crucial to the success of development plans: economic potential, administrative capability, and political will, or leadership commitment.³ Waterson suggests that given the economic potential and administrative capability, development will succeed only if a strong leadership commitment exists. Only by selecting from proposed alternatives and setting the targets will the leadership follow through to achievement of national planning goals.⁴

It would be impracticable and foolish to assume that development planning would succeed without technological borrowing by the late-comers. Technological borrowing is practical but will not succeed without changes occurring concomitantly in the traditional mass society that provides the human resource base. Waterson recognizes the necessity of national identity and goals, and the existence of Spengler's basic elements, but also says that all these depend on structural and institutional modifications in the society that will promote social change along with economic growth.⁵

Development can be defined as "a process of mobilizing and organizing a country's resources--natural, human, industrial, institutional, and others--for the acceleration in the rate of economic and social progress."⁶ Development planning and success can be seen, then, as an integrated and continuous process that involves a country's total resources. Singapore has followed a development policy that adheres to the definition of

development given, officially incorporating into concrete practice the borrowing of technological, ideological and economic systems, and the promotion of a national identity (nationalism), with the development of a viable political system. The Republic already possessed economic potential, administrative capability and political will. In summing up the philosophy and direction of development in Singapore Prime Minister Lee Kuan Yew said:

There must first be the will to want to be developed, a will so passionate that no effort is too strenuous . . . There must first be the willingness to work and learn, and to reshape the social structure of one's society to fit in with the needs of the industrial technology.⁷

FOCUS AND OBJECTIVES

Development planners and scholars recognize and widely agree upon the theoretical generalizations that have been presented. There is, however, widespread controversy on how the theories should be operationalized. The cultural geographer approaches an assessment of social and technological change in terms of a particular group's impact, over time, upon the landscape of its territory; in Singapore, the changes are obvious, but changes are meaningless without analysis that penetrates beneath the veneer of the urban landscape. The focus of this paper is on the role of public housing in national development in Singapore and the socio-economic results of the spatial redistribution of the population, both horizontally and vertically.

The organizing theme is how public housing has served as a vehicle in operationalizing the abstract ideas of "social mobilization" and "development of national identity" in Singapore. Large-scale public housing in underdeveloped countries produces permanent changes in the urban morphology, political processes, issues and participation, community organization, and the socio-economic patterns of the individual's life. These changes are essential in transforming theory and hope into practice and concrete reality and are directly relevant to national development policies.

✓ The specific objectives of the paper are:

1. Examine predevelopment-era housing spatially and explain its impact on urban morphology, community organization, and socio-economic patterns.
2. Explain current public housing policies and their place in the overall development planning in Singapore.
3. Examine spatial changes in housing and their impact on urban morphology and the changes in community organization, and socio-economic patterns.
4. Analyze the changes effected by public housing in terms of their impact on social mobilization, national identity, and achievement of national goals.

Organization

The paper is organized to give first a geographical, economic, and political overview of Singapore and its relationship to the Southeast

Asian region in order to elucidate the Republic's choice of developmental options. The following four sections are organized in the order of the four objectives. A concluding section will discuss the implications of Singapore's housing program for other non-socialist developing countries. In all sections maps will be used as conceptual tools and statistical data will be presented when germane to the discussion.

Sources of Data

Statistical data on population is derived from the 1970 Census of Singapore, the 1970 and 1974 Housing and Development Board Report, and the 1970 and 1974 Annual Report from Singapore. These are generally reliable data, agree with data collected by the United Nations, and are the most recent. Research which supports the theme of the paper has been derived from numerous periodicals and from books and articles on housing development in Singapore, general material on geography, history, and politics, and field notes of research carried out in January-May, 1973. A formal, expository review of literature will not be done as it is too lengthy for a research paper. References will be discussed when relevant.

CHAPTER II
OVERVIEW
LAND AND POPULATION

The Republic of Singapore is located at the tip of the Malay Peninsula with its southernmost boundary just 77 miles from the equator. It is one of the smallest sovereign states in the world with a land area of 225 square miles. The main island of Singapore accounts for 207 square miles of land territory and the remaining 18 square miles is distributed among 62 smaller islands. The land on the main island is generally low-lying with a few hills that are above 350 feet.

The most conspicuous "physical" features of the island are man-made. Three reservoirs are located in the central area of Singapore Island. These reservoirs are used for water conservation and as wildlife and forestry reserves. An eastern "coastal plain" occupied 1,290 acres as of May 1973, and another 2,000 were scheduled for reclamation by the end of 1974. This project involved the excavation, transportation, deposition and compaction of 24 million cubic yards of earth that were obtained by tearing down hills in the north of the island.⁸

Singapore has a monotonously hot and humid monsoon climate. Most of the 96 inches of precipitation falls between August and April with the heaviest rains in November and December. Usually, May, June, and July are hot, dry months. Soils are red laterite and not good for farming, but in the northeastern and northwestern portions of the island low-lying

swamp land has been converted to intensive vegetable farming land.

Singapore's most important physical assets are its natural deep water harbor and its strategic location in the Moluccan Straits between the trade routes of the Indian Ocean and the South China Sea. Today it is described as the "linchpin" of Southeast Asia because of its location in the region.⁹

The city of Singapore occupies 50 square miles of the southern and southeastern portion of the main island, but the entire island can be considered urbanized. The modern city skyline is characterized by 40 to 60 story-high skyscrapers of the new commercial district and the high-rise public housing estates such as Queenstown and Toa Payoh. Tourist hotels and multi-story shopping center complexes also add to the vertical picture of the urban landscape.

The people of Singapore are immigrants or their first generation children, from China, India, and Malaysia. Of the 2.2 million inhabitants in 1974, 75 percent were of Chinese origin, 15 percent of Malaysian origin, 7 percent of Indian origin, and the remaining 3 percent were European or from other regions of the world. Women did not immigrate in significant numbers until the 1930's and even today the sex ratio of males to females is biased toward males--1065 males to 1000 females. The population is youth-ful; in 1970, 44 percent of the population were under 15 years of age.¹⁰ In 1957 Singapore had a rate of natural increase of 4.4 percent but by 1969 the rate had dropped to 1.5 percent.¹¹ Even with such a currently low rate of natural increase the government projects

that by the year 2000 population will reach at least 3.5 million persons. Since World War II migration has played a minor role in population growth and the migration restrictions passed in 1974 places the immigrant laborer in the category of a temporary migrant worker.¹²

THE COLONIAL BACKGROUND

Singapore was established as a British trading and military post by Sir Stamford Raffles in 1819. By 1823 the post was prospering as an entrepot for European trade in the region and as a central clearing house for Chinese and Indian laborers seeking work in the primary producing hinterlands of Malaya, Burma, and the Dutch East Indies. Because of its location and port the colony became the focus of not only the British interests, but also the French and Dutch imperial interests.

It was as a colonial 'middleman' that Singapore was developed by Raffles. . . certainly, it was the existence of Singapore, and the commercial interests based there, which encouraged Britain to consolidate control over the Malay States and the Borneo Territories; but the settlement's early growth and meaning lay in entrepot trade--without and direct control of Malaya and Borneo, beyond the Straits Settlements.¹³

The nature of Singapore's colonial trade is best shown by Table I. Textile piece goods, manufactured in Europe were most important in value. After 1870 the values of tin and gold would exceed all others as opium declined. In the early 20th century rubber also increased in value. After the opening of the Suez Canal, the absolute volume of trade through Singapore increased, but the pattern of colonial trade

TABLE I

MAJOR IMPORT-EXPORT ITEMS-SINGAPORE 1836

<u>Commodity</u>	<u>Imports</u>		<u>Exports</u>	
	\$ Value*	Percent	\$ Value*	Percent
Food, Drink and Tobacco	1,025	22.3	1,318	28.3
Opium	1,083	23.6	795	17.0
Metal Ore and Concentrates**	686	15.0	990	21.2
Textile Unwoven	237	5.2	283	6.1
Textile Woven Piece Goods	1,304	28.4	1,056	22.6
Miscellaneous	265	5.5	224	4.8
	<u>4,600</u>	<u>100.0</u>	<u>4,666</u>	<u>100.0</u>

*Value in thousands. (Malaysian dollars, U.S. \$1.00 = M \$3.00)

**Mainly gold dust and tin.

remained--imported European manufactured goods and exported primary products.

As entrepot trade increased, Singapore grew as a primary colonial city and attracted ever increasing numbers of Chinese and Indian immigrant workers. A large number of these immigrants moved into Malaya, the Borneo territories or the Dutch East Indies. Of the many who stayed in Singapore, most were men, laborers or petty traders who left their families behind and regarded Singapore as a temporary home. This "transient mentality" persisted even after independence with second and third generations born in Singapore.

Sustained immigration created an increasing homogeneity in the racial composition of the population. Table II shows the percentage increase of ethnic Chinese and decrease of others over time.¹⁵ By 1891 the racial composition of Singapore had been established as predominantly Chinese.

The increasing homogeneity of racial composition did not encourage cultural and social integration. Significant minorities of Malaysians and Indians remained. Among the Chinese there was little interaction because of the existence of differing linguistic and ethnic "subcultures", and unbalanced sex ratios, combined with the "transient mentality" of the people. The only common bond among the Chinese was their identification with China as their homeland and the economic motives which brought them to Nanyang, the "southland", and the competitiveness engendered by these motives did not increase solidarity among the different Chinese communities. Further, colonial policy as established by Raffles dictated

TABLE II

CHANGE IN ETHNIC COMPOSITION OF POPULATION
1871-1970 BY PERCENTAGE OF RACE¹⁶

	1871	1891	1921	1947	1971
Chinese	54.6	67.1	75.3	77.8	76.2
European	2.5	2.	2.	1.5	--
Indian	11.5	8.8	7.7	7.4	7.0
Malay	26.1	19.8	12.8	12.1	15.0
Other	5.3	2.3	2.2	1.2	1.8*
TOTAL	100.	100.	100.	100.	100.

*Includes Europeans.

strict zoning not only along racial lines but along socio-economic lines within the segregated communities. Thus, it was by colonial rulers' fiat that the individual's social, political, and community attitudes, which were later to be a possible impediment to national development, were shaped.

By 1830 Singapore eclipsed the other British "Straits Settlements" of Malacca and Penang as the focus of British colonial interests. Until 1873 direct control and management of the Malayan resources had been left to the Chinese entrepreneurs while the Europeans concentrated their administrative and trading facilities in Singapore. The economic and political system in Malaya was growing chaotic due to conflict over tin mining concessions and supplier monopolies between the Chinese businessmen and Malaysian aristocrats. Fearing decreases in production and the intervention of other European interests, the British government issued a policy statement in 1873 that read:

Her Majesty's government find it incumbent to employ such influence as they possess. . . to rescue, if possible, these fertile and productive countries from the ruin which must befall them if the present disorders continue unchecked.¹⁶

Tighter political control over the peninsula was highly profitable for Britain. In 1895 the Federated Malay States were established, and Malaya was producing half the world's tin, by 1919 she was producing half the world's rubber. These developments changed Singapore's economy from entrepot trade to direct import-export dealings with Malaya's primary resources. In 1936 tin ore, rubber, and liquid fuel accounted for 55 percent of imports and 79.8 percent of exports.¹⁷ As Malaya's export economy

developed, the trading economy of Singapore also developed. Singapore acted as the primate city for the Malayan hinterland, its main outlet for primary exports, and the main entry for manufactured goods, capital, technological skills, and labor. The city of Singapore served no more than the middleman economic function for its Malayan hinterland.

In this respect, Singapore was in no sense a viable and independent economic entity: it was both parasitic and dependent upon its primary-producing Malayan hinterland, and heavily reliant upon European investment in the region.¹⁸

The future economic problems of both Malaya and Singapore were shaped by colonial economic policies. A disparity developed between the primary producing hinterland and the tertiary urban center of Singapore. Tertiary activities such as shipping, finance, commerce, and servicing were centered in Singapore and this concentration of activities was accompanied by an accumulation of capital. A good proportion of these profits were retained in Singapore, which meant an excessive concentration of wealth in a very small area, out of proportion to the ability of the local economy to utilize such a vast amount of wealth productively. Thus, the disparity was one of an economic gulf between the poorer hinterland of Malaya and the tertiary urban center of Singapore. This gulf in wealth, existing also in the Malayan economy where wealth was represented to the Malaysian by the presence of the Chinese entrepreneur, set the stage for the conflict in the modern era between Singapore and Malaysia.

The colonial economy did not encourage the development of manufacturing except for primary processing, servicing of primary production and transport, the manufacture of food and beverage products for a small

local market, and the assembly of some durable consumer goods. Between 1900 and 1960 the percentage of workers in the tertiary sector changed very little: in 1900, 70 percent of workers were in the tertiary sector and 70.9 percent in 1960.¹⁹ The tertiary sector contributed 80-85 percent of the gross domestic product during these years while manufacturing contributed only from 5-7 percent of the GDP.²⁰ Thus, at independence Singapore's fortunes were dependent upon the Malayan hinterland. Singapore's economic, social, and political institutions had developed according to colonial policies and so had its relations with its neighbors; its role was essentially exploitative within the network of colonial economic systems.

The British colonial economy into which Singapore was bound had become dualistic. At a microcosmic level the dualism was expressed in the relationship between the British administrator and manager, the local Chinese middleman, and the subsistence level Malay peasant; and it was expressed at a macrocosmic level between Britain, Chinese Singapore, and the underdeveloped rural Malayan hinterland. At independence these differences were glaringly reflected in the Malaysians' attitudes towards the Chinese minority in the Malayan states who were accorded only second-class citizen status and the Malaysians' fear that the Chinese in Singapore would somehow wrest political and economic control from the Malay people.

On September 16, 1963 Singapore entered the Malaysian Federation. The union was short-lived. On August 9, 1965 Singapore's ties with the federation were broken. Singapore faced independence with an economy

dependent for its survival upon the handling of raw materials from a politically hostile hinterland. Compounding her difficulties were strained political and economic relations with Indonesia between 1962 and 1966. The economy's growth rate had been tortuously slow from 1960 to 1967. In 1963 and 1965 rioting occurred in Singapore over unemployment and racial issues. After breaking off from the Malaysian Federation, Singapore was faced with a multitude of internal economic problems, racial diversity and hostility, and the situation of a primate city with no national hinterland.

CHAPTER III

PRE-DEVELOPMENT HOUSING

Until the 1960's most of Singapore's population was crowded into the Central city area (Map 1 and 2). Table III shows the population density figured by number of buildings for the years 1907, 1931, 1947 and 1958.²¹ The building count does not include warehouses, factories, or squatters shacks, but does include administrative and business office buildings. By 1958 the living space problem had become a crisis.

Until after the Second World War population increase was largely due to immigration. The major racial categories of immigrants have already been discussed. Even among the Chinese there were distinct ethnic divisions: Hokkiens, Cantonese, Teochius, and Hakkas. Most immigrants had two things in common: they were poor, and they were transient. The transient nature of the immigrants meant that society was unstable and male-predominant. A plural society evolved, urbanized, poor, and unsettled. Chinese, Indian, and Malay communities localized in accordance with Raffle's original ethnic zoning.

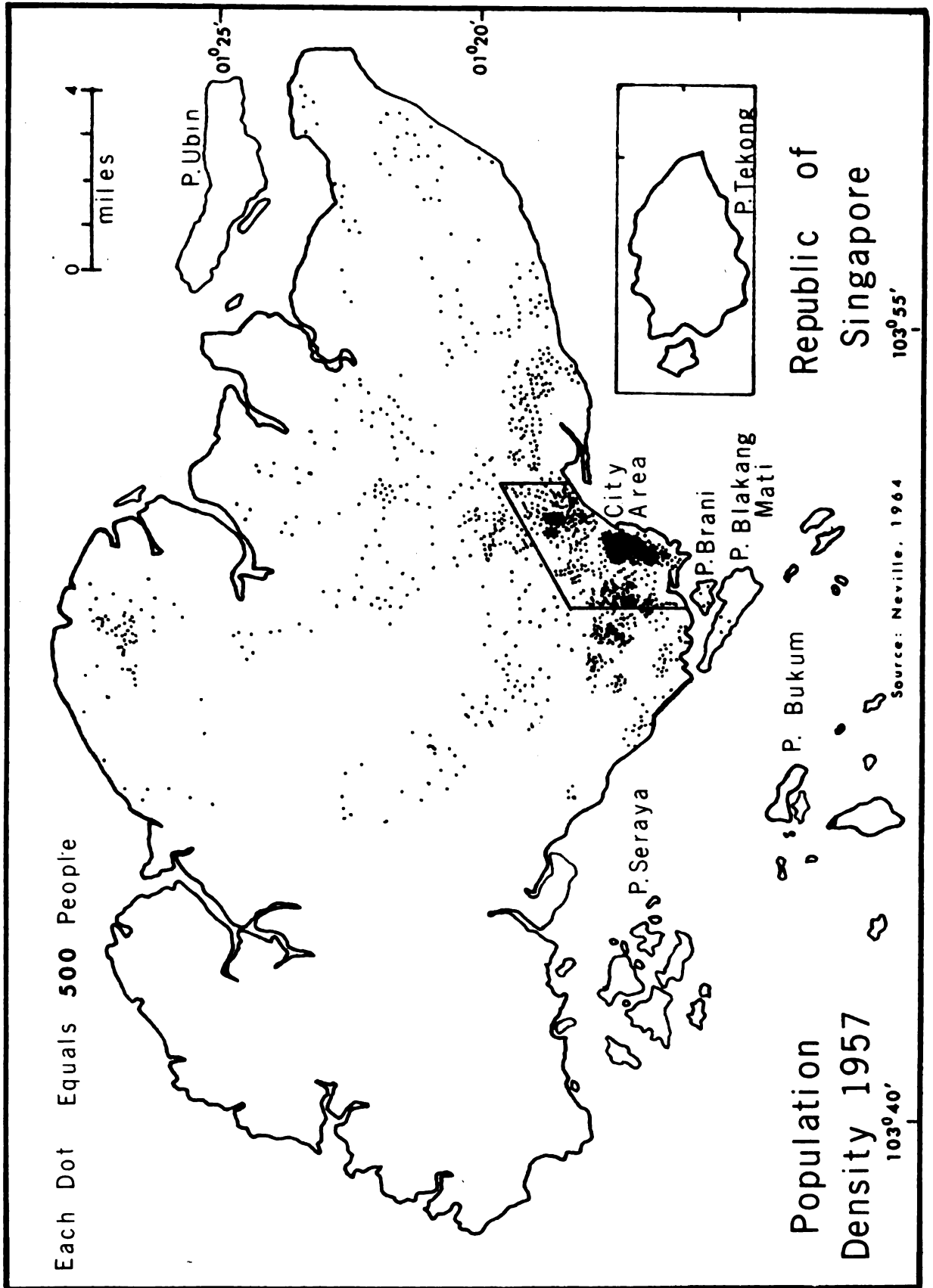
Ethnic localization combined with the concentration of economic activities around the port and Singapore River lead to the growth of the densely populated residential and commercial "central area" within the confines of the "Old Chinatown" south of the Singapore River and the "New Chinatown" north of the river. Residential plots were divided and subdivided to accomodate as many shop-houses as possible. The shop-houses

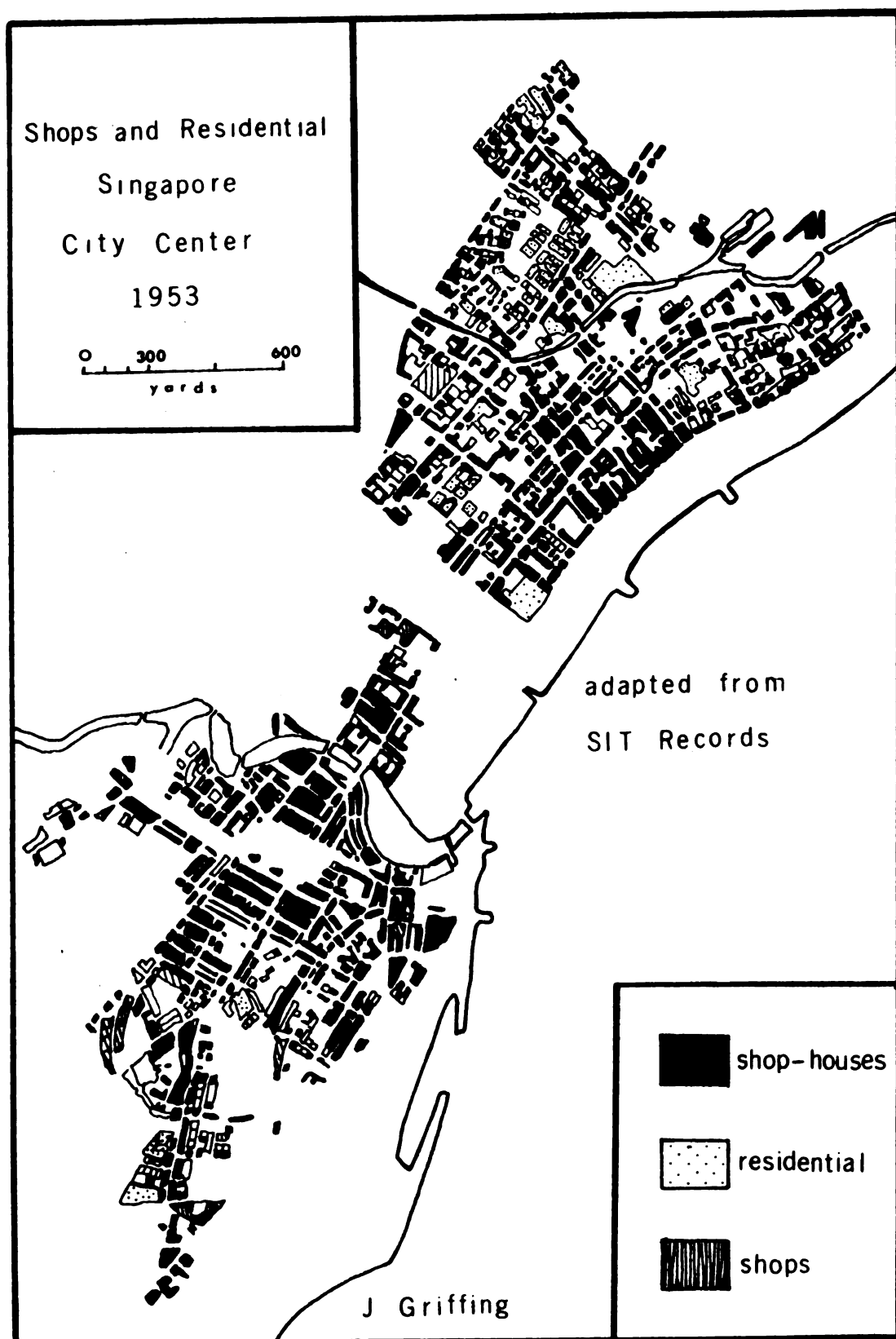
TABLE III

POPULATION DENSITY PER BUILDING IN
CENTRAL CITY AREA

<u>Year</u>	<u>Number of Buildings</u>	<u>Number of People</u>	<u>Average Per Building</u>
1907	20,000	250,000	9.7
1931	37,000	567,000	15.0
1947	39,000	700,000	18.0
1958	43,000	1,180,000	27.4

Source: Housing and Development Board, compiled from collected data. Data adjusted to accord with Yeuman-Yeung, National Development Policy and Urban Transformation in Singapore: A Study of Public Housing and the Marketing System. (Chicago: 1973), pp. 44-45.





were built on street frontages of 16' and depths of up to 200' and extended vertically from two to four stories; rooms were added and rooms were subdivided again and again into tiny airless cubicles.

Female immigration started in the 1930's and when families began to form and settle in the city, the conditions in the slums worsened. The buildings were old and dilapidated, the first floor used for shops or other commercial uses, and the upper floors used as living quarters. The original living quarters were intended as dormitories for the male population and not as family living quarters. Entrance was gained by stairs and doors to the room opened from a dark hallway. Windows were on the front of the building and not usually placed in back, resulting in poor ventilation.

"As more and more families settled in the city, living conditions deteriorated further: families literally lived under the beds of other families, and densities of five families to a room were common."²² Needless to say, living conditions were appalling. Soo Chin Bee, a relocated seamstress said that she, her husband, mother-in-law, sister-in-law and five children lived in a room above a dish shop on Cross Street and shared a communal kitchen and one toilet with 17 other persons.²³

People spilled out into the narrow streets where they conducted their economic and social activities, using the living quarters only as places to sleep. Sanitation was poor and in some cases nonexistent.

"Old Chinatown", south of the Singapore River and adjacent to the city's central business district occupied about one square mile land and 130,000 persons lived in the shop-houses where densities ranged up to

1,000 persons per acre.²⁴ From this core, Chinese shop-houses, built in typically Southern Chinese style with narrow fronts and covered walkways, gradually extended along all major roads and formed urban links to former rural villages. The peripheral land was once used for market gardening but after the 1930's squatter colonies rapidly spread in the peripheral areas behind the permanent shop-house buildings and by 1955 more than 400,000 people were living in attap huts, built of wood, and scrap materials, within the city limits.²⁵ By 1960, the city

was literally enclosed by a ring of squatter settlements, wedging into every available nook and cranny, stretching across vast expanses of underdeveloped land, straddling swamps and overflowing into cemeteries, railway land, derelict mansions, and factory 'backyards'.²⁶

The masses of the Chinese and Indian populations in Singapore were compressed into the Central City shop-houses and attap huts of the squatter slums. They were already a sophisticated, highly urbanized group who more readily accepted the crowded conditions than the relatively unurbanized Malay groups. The Malays settled in kampongs, or neighborhoods located on the perimeters of the Central City, or in open spaces within the city. The kampongs were laid out in rows of wood and thatched or zinc-roofed houses on raised platforms. One nuclear family per house was typical with relatives residing on the same "street" within the kampong. Narrow ditches running behind the houses received waste and each kampong house usually had a small garden plot for vegetables and a few coconut trees which were owned by individuals. Employment activities were carried on outside the kampong and it was unusual for a Malay to conduct business within the home. A central well provided the

fresh water needs of the community and this area of the well also functioned as a social gathering place for women and children and as a marketplace for hawkers selling food and small sundry items. The kampongs usually had a mosque where the men congregated to carry on social activities. In this spatial and morphological composition, the Malay kampong represented a distinct racial and ethnic grouping.

RENT CONTROL AND THE TAX STRUCTURE

Rent control and the tax structure were two serious barriers to the maintenance of existing properties or to the expansion of rental properties in the Central City area in the post-war period. The Rent Control Ordinance of 1947 declared it unlawful for any landlord to charge any tenant, whether business or residential, "in excess of the standard rent which has been fixed by the Rent Conciliation Board or the rent of the premises as of August 1, 1939."²⁷ The law also gave tenants the status of "statutory tenants," meaning in effect that landlords could not evict tenants in order to convert the use of the property, to make improvements or to bring in new tenants who would pay a higher rent. Rents did not keep up with the actual increases in the market value of the property under the Rent Control Ordinance and landlords showed no willingness to increase the value of their properties through improvements under the restrictive law.

The other problem of tax structure also mitigated against property improvement or maintenance. A general rate of 36 percent per annum tax was charged on rental properties, calculated on the gross rent receipts.

Koh says that this rate, although generating 13 percent of government revenue (1967 figures) that could be reinvested in public housing development discouraged the maintenance and development of properties by private owners and developing firms.²⁸ A United Nations Mission reported that

strict conformity to the tax requirement frustrated any new rental transaction for few ventures paying 36 percent of annual value would leave enough for operating expenses and mortgage interest and still justify investment of fresh cash.²⁹

Summary

The extreme crisis in housing in Singapore was a result of the colonial zoning laws and economic systems, and led to the creation of some of the world's worst slums. The Rent Control Ordinance and the tax structures were originally designed to protect the tenant and to pump money into housing which would improve the conditions of the masses of people. Until 1965 the effects of the rent and tax laws actually worked against the poor, working class, and lower middle classes of Singaporeans. The pre-independence housing situation has been discussed in its spatial terms, but the consequences of the housing distribution in socio-economic terms were to prove to be a major stumbling block in the processes of social mobilization and the development of a national identity.

SOCIO-ECONOMIC CONSEQUENCES OF PRE-DEVELOPMENT HOUSING DISTRIBUTION

It is a matter of historical record that spatially reinforced ethnic exclusiveness was a deliberate product of colonial times in Singapore. Even had colonialism not deliberately fostered the separation of ethnic groups, the prevailing economic conditions would have been a powerful force of separatism. Iain Buchanan summarizes the effects of economic instability:

"Assimilation, and the willingness to assimilate, presuppose a sense of national belonging and a sense of economic security. When both are lacking, one reaches for the familiar--and in a society such as Singapore's, the familiar is the communal group, the people who speak the same language, come from the same home province, or belong to the same clan. Economic insecurity does not encourage assimilation--and in this respect Singapore merely dramatizes tendencies among immigrants in many of the world's large cities, both Western and non-Western."³⁰

OCCUPATIONAL SPECIALIZATION

Occupational specialization according to ethnic group membership in Singapore is usually associated with residential localization, and is a consequence of colonial policies. The tendency to specialize can also be ascribed to some other general factors: patterns of economic activities, social and cultural prejudices, and influence of the ethnic community in obtaining jobs.

The Chinese brought with them a great skill for enterprise in Singapore. Once the pioneer immigrants from China acquired some form

of skills and livelihood, later arrivals of the same clan or dialect tended to concentrate around the established nuclei. The Chinese sense of kinship consolidated clan and dialect associations and entrenched the lines of occupational specialization. Skills were learned within the kin group and employment was within the group. Many kin groups became very wealthy, particularly when membership was drawn from the established merchant class. Poorer Chinese tended to dominate lower grade occupations, such as the women construction laborers of the Saam Shui dialect group,³¹ and Heng Hua trishaw-pedalers mutual aid association. These groups are small minority dialect groups, whose members concentrated within the same spatial territory in the city and whose smallness combined with the relative poverty of its members to enhance the sense of group identity.

The Malays were less assertive than the Chinese and were largely satisfied with filling menial and subordinate servicing roles within the economy and particularly within the colonial government administration. It has already been mentioned that the Malays prefer not to conduct business within the kampong and culturally preferred to work outside of the residential neighborhood. The Malays did not traditionally settle near the city center and today they still occupy some noticeably Malay areas. Early Malay settlement was almost entirely rural around the eastern coast and the interior of the island, even though they worked in the city.

The Indian and Pakistani influence within the Singapore economy and professions is out of proportion to its numbers.

What others could or would not do, the Indians did: railway, road, and port construction; the initial complementing of British police and military forces, and the later maintenance of military bases; lower and middle echelon civil service; and a variety of residual trading activities--or trading activities particularly well developed by Indian merchants, such as the import and export of textiles.³²

It would seem that the British view of the Indian as a neutral administrator between the rulers and the laboring masses, and the British preference for and trust of Indians due to their long experience in India, combined to give the Indians a superiority in educational opportunities. They were trained for the legal, medical and educational professions, English language for administration jobs, and they also took the lead in trade union leadership.³³

Indian settlement originally concentrated adjacent to the CBD--mostly the financiers, money-lenders, petty traders, and quayside workers, who have been displaced since 1965 to the Anson Road area. The High Street area is still predominantly Indian textile retailers, and the Serangoon area is composed of Tamil merchants and the residences of Indian professionals and bureaucrats. Indians are also located in small concentrations around the old British military complexes in Sembawang.³⁴

Residential localization and economic specialization were two distinctly interrelated factors that served to reinforce specific employment attitudes. In all three major ethnic categories another economic activity, hawking and petty trading, were related to other factors and the overall problem of poverty will be discussed in that context. More importantly, localization and specialization led to the entrenchment

of social and political attitudes which were not conducive to national development goals of the independence period.

POVERTY AND CULTURE

The meaning of "poverty" can be statistically measured and defined as a state of existence. It can also be analyzed as a kind of sub-culture within a broader society. The only statistical definition of poverty ever carried out in Singapore was done in 1953-1954 by Goh Keng Swee, an economist who is now Singapore's Minister of Defense.³⁵ During the same time span a sociologist, Barrington Kaye, conducted a study of the sociological aspects of poverty in Singapore's Old Chinatown.³⁶ Oscar Lewis defined the "culture of poverty"³⁷ and many of his generalizations describe the processes that, in Singapore, worked against the government's national goals, and in fact, impeded attainment of these goals.

Official figures for measurement of poverty level have never been calculated in Singapore. Goh's estimates of under S\$175 for a family of five will be accepted for the predevelopment era.³⁸ His estimates were based on the costs of maintaining minimum standards of nutrition, clothing, housekeeping, transportation, and rent expenditures. Goh concluded in 1954 that 19 percent of households in Singapore, or 25 percent of the population were in poverty.³⁹ When school expenses were deducted, 24 percent of households were in poverty, or 30 percent of the population.⁴⁰ The report also estimated that 90 percent of all urban households, or 82 percent of the total population of Singapore, did not earn household incomes exceeding S\$400 per month.

What were the socio-economic effects of this poverty and near poverty in Singapore? Before development Singapore's economy was heavily tertiary (see page 12), and under-employment was endemic in the Central City.⁴¹ The type of under-employment that dominated Singapore was the under-employment of expansion which occurs during periods of economic growth. According to Navarette this kind of under-employment grows out of "the failure of capital and of most complementary means of production to increase at the same rate as the supply of labor in secondary and tertiary activities".⁴² It is typified by the absorption of immigrants into economic activities having a very low productive value:

peddlers of all kinds of goods and services requiring little or no capital outlay, such as vendors of fruit. . .cigars, lottery tickets, newspapers, or else car-washers, bootblacks, porters, waiters, and shop-assistants.⁴³

This kind of under-employment was a reflection of unbalanced growth and capital concentration in the tertiary sector in a population which was predominantly urban. Singapore was never subjected to the pressures of heavy rural migration, or intra-national migration, but rather it was subject to international migration and excess population could not be reabsorbed into a rural hinterland. Although the economy expanded in Singapore, the low labor requirements of the tertiary sector could not absorb excess immigrants. The excess labor was absorbed in the marginal occupations of "hawking" (petty trading), domestic service, shop-assisting, short-run transport services, and small-scale industries. All of these activities are marginally productive and marginally profitable.

In Singapore hawking was the prime expression of under-employment. It was also an integral part of slum life. In 1954 Kaye estimated that 17 percent of males and 7 percent of females in the slums earned their living solely by hawking.⁴⁴ Very few hawkers had "beats" outside the slum area and most hawked within their own ethnic community. Goh's survey revealed that of 140 workers, 32 were engaged in hawking as the only means to support a family, and 6 as part-time hawkers.⁴⁵ In other words, nearly 25 percent of households derived income from hawking. The range of income derived from full-time hawking was S\$60 to S\$250 per month, but only one (the \$250 monthly it is assumed) made over the poverty level of income as determined by Goh. Table IV shows the growth of hawkers in Singapore's total population but does not account for part-time hawking or family members who work labor free in the hawking enterprise.⁴⁶

Statistics on hawkers tell little in terms of assessing the quality of life or the extent of deprivation. They do not speak of the involuntary aspects of hawking or of the protection rackets associated with hawking. What the statistics reveal is one aspect of the extensive under-employment that pervaded Singapore's predevelopment economy. Field observations and interviews in a squatter slum or a Chinatown street will disclose more information about the hawker or stall-keeper than statistics which tend to sterilize reality.⁴⁷ Hawking was a direct attempt to cope with poverty, a marginal enterprise, in response to marginal living conditions. It is a response common to most underdeveloped countries, and is a distortion of the tertiary economy. The success of Singapore's development schemes, of social mobilization and the reordering of identity was to be measured in terms of the decline of the hawker population.

TABLE IV

ESTIMATES OF SINGAPORE'S HAWKER POPULATION
BETWEEN 1931 AND 1967

<u>Year</u>	<u>Population</u>	<u>Hawkers</u>
1931	557,747	11,000
1950	1,048,673	26,580
1957	1,445,929	37,180
1962	1,732,800	50,000- ^a 60,000
1967	1,955,600	40,000- ^b 60,000

a: Lower figure estimates of Department of Social Studies, University of Singapore, higher figure by Superintendent of the Hawkers and Market Department.

b: Lower figure estimated by Minister of Health, higher figure by Teo Eng Siong, M.P., reported in S.T., 8-8-67.

Source: Superintendent of the Hawkers and Market Department, Singapore.

In analyzing the rationale for Singapore's choices of development options and the perceived need for a spatial reorientation of their population it must always be borne in mind that two different social systems had to be dealt with. The first system was a national framework of institutions and relationships--the social, economic and political structure of an emerging nation, its rationale for its sovereignty, its functional relationships to the geographic region, its external and internal problems and its barriers to development. The second system was represented by its slum life and its people--their economic activities, family and community life, their attitudes, their problems. Both of these systems were symbolically related but each had an identifiable structure into which social, economic, cultural, and political realities were woven into the fabric of a working system.

For a long time Singapore's social and economic structure was imbalanced, or in a state of what Buchanan terms "regressive disequilibrium,"⁴⁸ that prevented sustained and balanced economic growth. The economy was dependent on foreign capital and its needs and heavily tertiary in function, was for long incapable of providing adequate employment opportunities or utilizing skilled labor, and conspicuously displayed a wide disparity in the distribution of income. The most apparent expression of these features were the slums of Singapore. Within the slums dwelled the "marginal" people of Singapore's economy and privileged society. What was marginal within the broader national framework was institutionalized in the slum,--a complete system geared towards finding security in an insecure economy.

If the wider economy and society function within a state of 'regressive disequilibrium', the same cannot so easily be said of slum life. An essential feature of life in the slum is that some form of equilibrium has evolved: some of the most glaring contradictions evident in the wider socio-economic structure have been resolved, or at least submerged, within the fabric of slum life. Those who are marginal gravitate together and create the slum, and the slum--in its turn--helps justify or encourage a host of marginal 49 means of employment to keep such people going.

Equilibrium was achieved through the formation of institutions. They established occupational specializations and patterns of spending. They saved and loaned money through their own formal or informal groups, family and clan relationships, which in China had been weakened by poverty but grew stronger in Singapore. Secret societies flourished, as well as political and religious organizations. Most of these groupings were strongly tied to the search for economic security. The definition of security and the means to achieve it differed, however, between the three main ethnic groups.

To the Chinese, the search for security meant the differentiation in the division of labor with wives and children often being employed. 50 Associations extended beyond the kin groups: informal tontine groups; people of the same clan or dialect groups or occupations formed associations and guilds for the purposes of mutual assistance; men formed secret societies in order to establish a group identity, pride, source of income or influence in the business life of the outside community. Also of particular importance to the Chinese slum system was a marked political unity in the predevelopment era.

The Malays were the least "urbanized" and "individualistic" in temperament, social life, and economic activities. Even in poverty the Malays maintained a distinct division of labor in the family, with the woman at home and the man providing income. Worship at mosque did not carry the economic implications that Chinese temple worship carried. Kampong solidarity was an ideal, but in terms of Malay poverty, the patterns were rarely achieved.⁵¹ The Indian population banded together to protect their traditional lines of occupations and within the temples rationalized their poverty through the spiritual fatalism of Hinduism.

One of the results of poverty is the alienation of the poor from the wider society not only by their own attitudes but by the attitudes of the more well-off members of the broader society. Alienation of the poor from broader society has specific features which tend to operate against integration of the poor into the national framework. First, poverty enhances the feelings of economic, social and political unity among the poor. Secondly, the slum institutions operate beyond the realm of the laws of the establishment because poverty encourages and makes economically necessary the avoidance of regulations such as licensing fees and its evasive nature makes surveillance and enforcement of laws nearly impossible. In Singapore, unlicensed hawkers, "pirate" taxi drivers, illegal rice-wine distilleries, opium dens, prostitution, protection rackets, and secret society groups tended to enhance the "outlaw" character of slum life. Third, from this "outlaw" character grows an antagonism towards law enforcement personnel, a suspicious attitude towards the administrative institutions of the establishment

and mistrust of government in general. Finally, the alienation of the poor becomes institutionalized in political movements which tend to sharpen the awareness of class differences.⁵² In Singapore, during the 1950's the Barisan Socialist Party and radical left-wing organizations had strong appeal and a solid base of support among the poor. Even today, while the government has banned the publication of the Barisan Socialist papers and other socialist publications one can obtain mimeograph and outlaw newspapers if known in the community by asking a question, "ada kapar?" (any things), the password for obtaining the newsheets which are written in Chinese. Political repression served to "force" the issues and heighten solidarity in the slum districts of Singapore.

The two characteristics of Singapore's slum system which were viewed by the establishment as barriers to social mobilization were its internal coherence and lack of integration with the national society. Oscar Lewis says that the evolution of the "sub-systems" of security within the poor culture allows them to deal with broader problems that affect their economic security at a local level.⁵³ Those in poverty achieve through their institutions a measure of social security, and a group identity which they would not otherwise have developed. But the processes serve to accentuate the contradictions of the national systems, between the rich and poor. Those who, in the past, became marginally productive through no choice of their own, will, over time, remain marginally productive through their own choice.

CHAPTER IV

CHOICE OF DEVELOPMENT OPTIONS

CONSIDERATIONS

Singapore's future expansion as an entrepot was limited by the development in the other Southeast Asian countries of adequate port facilities to provide direct shipping services and thus bypass Singapore. The urgent need for Singapore to diversify its economy was reflected in a rising rate of unemployment--12.5 percent in 1964, combined with entrenched attitudes about the right to remain underemployed. The need for social welfare programs and housing programs were directly related to the question of urban renewal and slum clearance. These operational factors were generated by the need to effect a massive social mobilization and build a national identity in Singapore in order to diversify and modernize not only the economy but the society. Prime Minister Lee Kuan Yew stated Singapore's most urgent need in 1968 as "the need to transform Singapore from a non-cohesive migrant society to an increasingly stable, orderly, and socially cohesive nation-state, willing to work and be aware of its problems."⁵⁴

Besides the social and economic problems of the slums, the wealthy elite and intelligentsia had established ties in China, Malaysia, and Indonesia. In reality, most of the wealthy Chinese ties were actually in Malaysia with other Chinese kin and much profit outflow went directly into Malaysian Chinese hands to be reinvested in European enterprises.⁵⁵ Another problem with the intelligentsia was identified as "Chinese

chauvinism" and communism. The Chinese of the upper and middle classes tended to identify with communism because it was seen as being Chinese and because of this tended to promote Singapore as a "Third China".⁵⁶ By utilizing the talents of the intelligentsia in national development schemes it was thought that the focus of identity would be turned to Singapore as a nation-state, rather than Singapore as an overseas post of China.

In his early political career Lee Kuan Yew was pegged as a communist, particularly by American journalists.⁵⁷ This gross distortion was due to the fact that American educational institutions usually ignores the study of political systems outside the capitalist systems, and that Americans are indoctrinated to think of terms such as "democratic socialism", "socialism", and "communism" as being synonymous terms. The fallacy of thinking that Lee Kuan Yew was a communist could have easily been corrected by knowledge of the facts. He was a leader, since 1955, of a party that could not have allowed the rise of communism in Singapore because Malaysia, Britain, and Indonesia would have reacted swiftly to this threat and it would have meant the loss of the tertiary sector of the economy, leaving Singapore virtually without any type of major employment sector. At the time of independence U. S. influence in the Southeast Asian region was dominant but Singapore was not much affected until involvement in Indochina by the U. S. Instead, Singapore's position vis-a-vis international politics was, according to Buchanan, mostly within Britain's sphere of influence:

Whilst most of the surrounding region has
been drawn decisively into the domain of the

United States' interest, both Malaysia and Singapore have remained largely within Britain's sphere of interest. This naturally meant a strong concern with maintaining non-socialist systems of government and suppressing left-wing opposition. From independence onwards, both territories have been administered by pro-Western and right-wing regimes. In Singapore, however, the People's Action Party Government has retained the veneer of a peculiar form of 'democratic socialism' -- a unique blend of one-party authoritarianism, bourgeois liberalism, devout anti-Communism, state welfareism, unbridled free enterprise, and Chinese chauvinism.⁵⁸

The possibility of the rise of communism in Singapore was viable. The internal problems, particularly the socio-economic conditions in the Central City Area have already been discussed. The choice of development options, the urgency of mobilizing the human resources of Singapore and the development of a national identity was also tied to the external political realities. By early 1966 the official ideology of the government was survival as a nation-state under democratic socialism and capitalism. In the words of the Prime Minister it was stated as possible:

It is possible, through trade and the borrowing of technological and capital resources, for democratic socialism with less ruthless methods of human organization to match and even outpace the rate of economic change which communist systems can bring about in under-developed countries.

A new society had to be created (see quote page 3) and to do this the Prime Minister said of his government:

We shall inject massive amounts of additional expenditure into the public sector. It will be more through voluntary and induced savings, rather than increased taxes. In addition, we shall have

loans and grants from abroad. Several projects, originally planned for the middle and late 1970's will be brought forward. Express highways, a second industrial complex like Jurong, land reclamation, earth moving and site preparation with roads, water, power, sewerage for luxury hotels and apartments, accelerating urban renewal with maximum private participation, and a heightened tempo of Housing Board building of new townships.⁶⁰

Rather than wait for a new society to emerge and gradually determine the impact of its social and political institutions on the landscape, the thrust was towards changing the landscape, and hopefully, the society would adjust itself to its environment.

PUBLIC HOUSING POLICIES AND THEIR ROLE IN NATIONAL DEVELOPMENT

Singapore Improvement Trust

The first statutory planning body in Singapore was created in 1927 with the enactment of the Singapore Improvement Ordinance. The Singapore Improvement Trust was established to implement the provisions of the Improvement Ordinance, and to devise an "improvement plan" for the island, especially the city. This "plan" consisted of a series of cadastral maps which recorded all decisions of the "plan" regarding disposal and use of land, of planning schemes and designs approved by both the Governor-in-Council and the Trust.

Written permission had to be obtained from the Trust to lay out any road, street, or backlane or to erect any building which was "contrary to the General Improvement Plan".⁶¹ The SIT was also to prepare improvement schemes for slum clearance and road improvements. In actuality,

the SIT did not succeed either in planning or improving the city because:

. . . the Trust is little more than an authority for devising road improvements. It has certain powers for approving or disapproving what are termed 'lay-outs', a phrase unknown to planning law elsewhere. But these powers are essentially futile. As long as certain elementary requirements for access (such as prescribing a 36 foot road, which is expensively wide considered as access, but too narrow for a traffic route) are complied with, the Trust has no power to control development. What is required is a plan for the whole island, showing not only roads, as at present, but what land is to be developed, and how it is to be developed, and what land is not to be developed.⁶²

In 1949 the Singapore Improvement Ordinance was amended to allow the SIT to conduct a diagnostic survey of Singapore and submit to the Governor-in-Council a report of the survey and a Master Plan for the entire island. The result of this survey was the Master Plan of 1955.

MASTER PLAN OF 1955

The Master Plan was a statutory rather than advisory planning document. Island-wide development was to follow a predetermined plan which was similar to British town-planning traditions and methods. The principal proposals of the Master Plan were: 1) a green belt arcing about the city in order to prevent urban sprawl; 2) the relocation of about 1/6 of the population in the slums; 3) the construction of three New Towns at Jurong, Woodlands, and the Yio Chu Kang Road area; 4) prescription for average and maximum net residential densities in each planning area and maximum plot ratio for each block in the Central Area.⁶³ The Plan was to be effective for the years 1958-1972 but was not officially adopted until 1958. The creators of the Master Plan were unable to predict the political and social developments of the

post-1959 period and the fact that by 1972 the population would exceed their projected 2 million by 240,000 people.⁶⁴ They envisioned, also, that Singapore's economy would remain primarily dependent on entrepot trade.⁶⁵ The Master Plan required by law review every five years and this did not occur until late 1965.

THE PAP AND NEW DEVELOPMENT POLICIES

When the PAP rose to power in the early 1960's the unemployment problem in Singapore was serious, 12.5 percent in 1963. The rapid rate of natural population increase indicated a future downward trend when young persons entered the labor market. Despite warnings from technologists and development experts, the government pushed the development of the Jurong Industrial Estate at the site of a swamp in West Singapore. An initial emphasis on import substitution was replaced after 1965 by a policy of production of goods for foreign export.

The role that public housing plays in development was recognized early by the PAP, and especially the role that public housing could play in integrating the various ethnic groups into a cohesive national unit. In Singapore, the historical antecedents and basic legislation already existed when the PAP sought to accelerate the housing program. In the first Development Plan (1961-1964) housing was allocated 43 percent (S\$153.6 million) of the total social development budget, in the third Development Plan (1968-1972) S\$600 million was allocated for an accelerated plan.

The problems of the Central City slums have already been discussed. The objective of the urban renewal program, under the direction of the Urban Renewal Department and sub-department of the Housing Development Board, was to generate private investment and employment opportunities in the Central Area.⁶⁷ In so doing, particular emphasis was given to the human problems caused by dislocation, and in 1963 the urban renewal program was temporarily scaled down to allow public housing construction to catch up with the numbers of persons who might be dislocated.

PLANNING ORDINANCE OF 1959

Anyone wishing to develop or subdivide land in the Republic of Singapore must abide by the Development Rules.⁶⁸ Under these rules applications must be made to the Competent Authority. Since 1966 the Chief Building Surveyor has been designated as the Competent Authority. Two divisions are under the Chief Building Surveyor, the Development Control Division and the Building Survey Division. All applications for planning and development are processed by the Development Control Division.⁶⁹ The Prime Minister has appointed a Development Control Committee to assist the Competent Authority in processing the applications from the private sector of development. Both the Competent Authority and the Development Control Committee are required to act "in conformity with the provisions of the Master Plan and any Certified Interpretation Plan".⁷⁰ The Committee can decide on applications in terms of reference to the Master Plan of 1959 and its amendments and if it sees necessity to change any part of the Master Plan it can only

make its recommendations to the Office of the Prime Minister.⁷¹

The Prime Minister has his own policy regarding urban modernization in Singapore. Singapore does not have the land resources to accommodate a low profile city. Therefore, the official policy of the Office of the Prime Minister is that all buildings to be used for apartments, hotels, commercial centers, and any other multiple-purpose development shall be no less than 10 stories in height. This has been the policy since 1967.⁷¹

HOUSING AND DEVELOPMENT BOARD ORDINANCE OF 1959

The Housing and Development Board succeeded the Singapore Improvement Trust. The HDB was entrusted with six departments that are responsible for planning, construction, research, resettlement, urban renewal and building maintenance. Empowered with legal and financial clout to carry out the primary functions of the HDB--improvement of living conditions through public housing--the HDB has also engaged in resettlement of farmers, land reclamation on the east coast, and the establishment of a building materials industry.⁷³ By law, the HDB has the power to plan, and the power to operationalize all aspects of planning.

MODIFICATION OF THE 1947 RENT CONTROL LAW

The HDB has the power to request the President to direct necessary land acquisitions for development purposes.⁷⁴ Landlords may apply to the Tenant's Compensation Board to recover premises from tenants if the premises are: 1) situated within a designated development area, and 2) if the landlord intends to develop the premises himself.⁷⁵ Once premises are decontrolled the HDB has the power to evict tenants if they

fail to comply within 90 days and the power to directly acquire the property if a landlord fails to start development within six months of recovery of possession of the property.⁷⁶ The landlord must pay the tenants from eight to twelve years rent in compensation once he has applied for recovery of the premises. Business compensation is based on factors such as loss of established clientele, costs of relocating, annual rent paid, and commercial value, if developed, of the property.⁷⁷ It was expected that the decontrol of premises would take up to seven years for business and twelve for residential, providing Singapore's economic boom remained stable.⁷⁸

The first rent decontrol area of 80 acres was delimited right in the heart of the city (Shenton Way, Anson Road, Robinson Road area) in February of 1970. The implications of the Act were controversial but the HDB proceeded with resettlement. Previous to rent decontrol little headway was made in resettlement of squatters and slum dwellers into HDB flats and this congested core near the port was the area designated for development into the "Wall Street of Southeast Asia". Underutilization of this prime land was a direct impediment to economic expansion. The net result of decontrol was inflation of land values in the area.⁷⁹

LAND ACQUISITION ACT OF 1966

According to the Master Plan, by 1975 the government would need to own 60 percent of the land on Singapore Island.⁸⁰ The most obvious question posed was how to legally acquire the land and still uphold

the capitalist ideals of private ownership. The Land Acquisition Act of 1966 empowered the State to acquire land "for any residential, commercial, or industrial purposes".⁸¹ This law has been unpopular in Singapore primarily because citizens feel it undercompensates the former land owners, particularly when land is subsequently sold to private developers on a "highest bid" basis. Besides the fact that very little land is sold to private developers, Yeung defends the law because:

It is forgotten, however, that the government has put additional investments in its infrastructure. . . Additionally, much of the criticism with regard to compensation has lost its pointedness in the light of a recent move adopted by the government to apply very generous compensation formulae for different types of relocatees.⁸²

SUMMARY

Planning legislation existed when the PAP gained power and provided structure for implementation of bold new programs of development. To overcome barriers to effective operationalization of the laws the PAP implemented corrective legislation, so that planning laws in Singapore provided a structure and legal means for implementing national development policies.

CHAPTER IV

ROLE OF PUBLIC HOUSING IN NATIONAL DEVELOPMENT

To meet the needs of capital the infrastructure had to be changed as well as the society. The congested Central City was blamed for the loss of four major investors in 1963,⁸³ for two different reasons. The potential manufacturer decided that the location of the potential labor force in the city was too far away from the industrial site and the finance investors cited lack of building sites near the CBD as reasons for not locating in Singapore. Therefore, decentralization of population was viewed as a single solution to multiple problems and as crucial to revitalization of the city core. Low cost housing would not only disperse the population to industrial sites but soften the PAP wage controls designed to stimulate investment in the manufacturing sector.⁸⁴

X In terms of social mobilization the public housing program was designed to involve a population usually suspicious and cynical about government interests in social and economic welfare in direct participation and receipt of government benefits. This was to be accomplished in two ways: 1) the employment stimulus in the construction sector would immediately lower the unemployment rate and distribute income, and 2) settlement in public housing would materially and esthetically raise the standard of living for thousands of families. Then, hopefully, the public's level of confidence in government would rise.⁸⁵

The ruling ideology of promoting a strong national identity and reshaping society to fit the needs of industry could also be realized through rapid urban landscape changes and bring about the political stability foreign investors seem to require. Political stability was to be achieved, using public housing as the vehicle, through integration of the various ethnic groups, the breakdown of the slum institutions, and the breakdown of the family system from branch extended to stem extended or simple nuclear units.⁸⁶

SPATIAL CHANGES AND THE SOCIAL MEANING

A comparison of Maps 1 and 3 shows the 1970 dispersal of population on the island and proposed dispersals. This was of course, contingent on the expansion of the mass transit system, which has been accomplished. The change in the urban profile is most noticeable, from that of a low profile, congested city with narrow streets and back lanes to one of a dispersed, high profile urban landscape with wide streets and avenues. Density of persons per acre do not seem to be changed in new residential areas from a glance at statistics. Densities in the Central City Area ranged up to 1,000 persons per acre with average densities of 500 persons per acre; in the satellite estates, average densities are still 500 persons per acre.⁸⁷ It must be remembered that the average housing estate building is 16 stories compared to two to four stories of the shophouses and densities per acre are measured from the ground. Further, land use in the housing estate allows for recreational and park areas, whereas in the Central City areas recreational land use and parks were virtually unknown. Table V shows average land uses in housing estates.⁸⁸

TABLE V

AVERAGE LAND USE PERCENTAGES IN HOUSING ESTATES

<u>Land Use</u>	<u>Percent</u>
Residential	18
Recreational Facilities	10
Parks and Open Spaces	22
Roads and Carparks	12
Schools (Including Playgrounds and Sports Arenas)	20
Shopping Centers	5
Community Centers, Health Clinics, Religious Buildings	5
TOTAL	<u>100</u>

Source: Teh Chang Wan, "Public Housing". In Modern Singapore, Ooi Jin-Bee and Chiang Hai Ding (eds.), (Singapore: University of Singapore, Department of Geography, 1969), p. 178. Table modified from field notes and HDB corrections.

[illegible]

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The flats are standardized in floor plan and include self-contained electric and water sewage facilities. Flats are from one to five rooms, excluding kitchen and bathroom/water closet, and are offered as unfurnished. During the first four-year plan flats were let out as rental units, but now are almost exclusively for sale. The government feels that ownership of flats will accomplish three objectives: 1) give the owner a feeling of having roots in Singapore, 2) promote the ideals of private ownership, and 3) stimulate interest in building maintenance.⁸⁹ Table VI shows area and cost of the seven types of flats.⁹⁰

The radical improvement in living conditions when compared to the shophouses and attap huts should not require documentation. XCity average living space per person was estimated at 31.2 square feet per person based on all classes of housing, in the HDB flats average space per person is calculated at 66.4 square feet per person, plus the provision of individual kitchens, toilets, running water, and electricity. Diagrams 1, 2, and 3 show flat layouts.⁹¹ X

Each satellite town is designed to be a self-contained area to meet all human needs, except employment. The estates provide schools, PAP community centers, markets and recreational facilities. Average cost of a round trip to the city for any purpose is approximately S\$.80,⁹² which amounts to \$9.60 per week to commute to the Central City for work.⁹³ For the wage earner who nets under S\$250 per month this amount is costly. Other trips by family members also add to transportation costs.

TABLE VI

AREA AND COST OF FLATS

<u>Type of Flat</u>	<u>Internal Floor Area*</u>	<u>Rental Per Month</u>	<u>Selling Price Per Unit **</u>
1 Room	230 f.s./21 m.s.	S\$20	-
1 Room Improved	353 f.s./33 m.s.	S\$30	S\$3,300
2 Room	425 f.s./39 m.s.	S\$40	S\$4,900
3 Room	550 f.s./51 m.s.	S\$60	S\$6,200
3 Room Improved	667 f.s./62 m.s.	-	S\$7,800
4 Room	900 f.s./82 m.s.	-	S\$12,500
5 Room Luxury	1300 f.s./121 m.s.	-	S\$22,000

* f.s. = square feet, m.s. = square meters

**Residents spend an average of 15 percent of their monthly income income for rentals, selling prices of flats are intended at slightly below two years average earnings of purchasers.

Source: Data from Housing Development Board, Singapore, compiled by author.

STANDARD HDB FLAT LAYOUTS

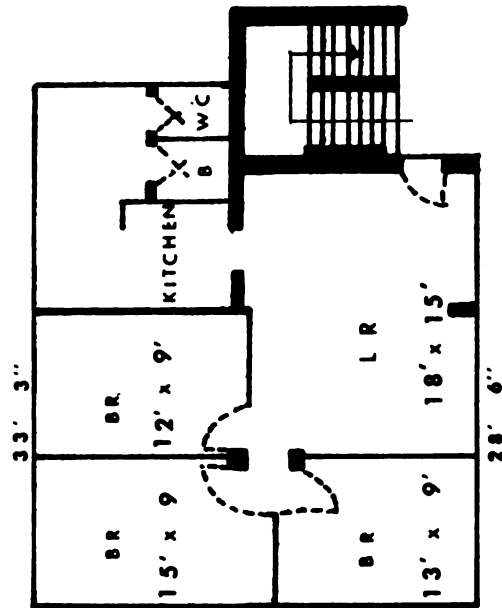


DIAGRAM 1
4 ROOM FLAT

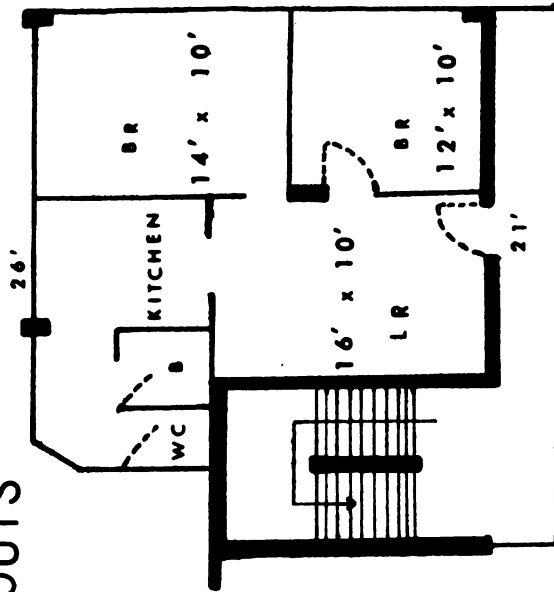


DIAGRAM 3
3 ROOM FLAT

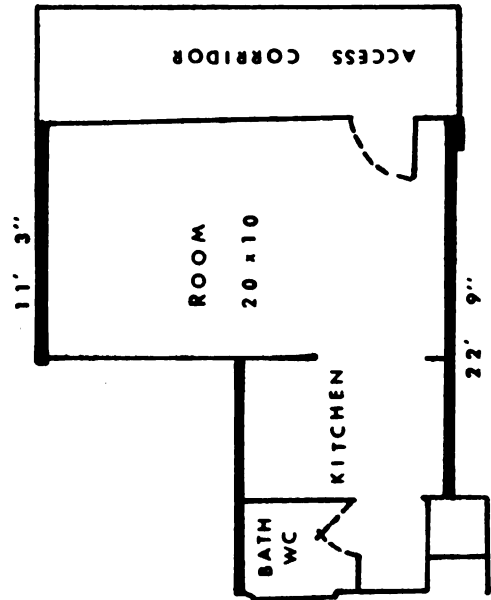


DIAGRAM 2
1 ROOM FLAT

The spatial changes in Singapore's landscape and population distribution have opened the way for development of the CBD and other areas of the Central City. The expansion of finance and commerce in the former slum areas also exhibits a vertical profile. It would seem that the future picture will be one of three square miles of concrete canyons in the core area. Dispersal of population has also made room for the growth of Singapore's booming tourist industry. Hotels were formerly confined to the Orchard Road-Tanglin area, but new hotels, closer to the CBD and "Chinatown," are planned for building on landfill areas along the east coast.

The government's goal is to have 80 percent of the population "contained" in HDB flats by 1980.⁹⁴ In 1972, 40 percent of the urban population were already in HDB housing. Undeniably the material standard of living has been improved for the vast majority of residents, but coming from radically different environments requires adaptation by people and time to adjust to changed socio-economic conditions.

SOCIO-ECONOMIC CONSEQUENCES OF SPATIAL CHANGES

The Family

One consequence of modernization is that the traditional 'extended family' where several generations--children, parents and grandparents, and other relatives--lived together as a family has been replaced by the modern 'nuclear family' which consists of only parents and their children. This process of disintegration of the extended family system invariably creeps into almost every modern society; and in Singapore it is speeded up by certain socio-environmental programmes.⁹⁵

This change in family structure must be evaluated in its relative terms. First, many researchers claim that HDB housing has caused a change in family structure by pointing out that 71.0 percent of HDB households are nuclear families⁹⁶ but there is no data on household composition in housing other than HDB. The 1968 HDB survey reports that in all Singapore households of 12 or more persons decreased from 7.1 percent in 1960 to 3.3 percent in 1968.⁹⁷ The Survey also shows that average household size in public housing is six persons per household, a decrease from 6.26 compared to pre-relocation conditions. This insignificant decrease is attributed to the fact that because of extreme overcrowding in the congested city core it was impossible to increase household size but family unity was maintained by splitting occupancy into adjacent quarters. Accepting the idea that the extended family system has deteriorated with relocation in HDB housing, the social repercussions can be discussed.⁹⁸

By 1970, 40 percent of the population was housed in HDB flats and the government aims to have resettled at least 75 percent of the population by 1980. New flat construction has been aimed at the middle and upper middle classes in Singapore through construction of luxury flats as well as the working classes and poorer lower classes, so the patterns of change in family structure will be widespread. The physical environmental limitations of the HDB flats contribute either directly or indirectly to the breakdown of the extended family systems since it is unusual for related nuclear family units to be assigned to adjacent or neighboring flats.

The social changes of this breakdown in family members proximity are generally agreed upon by researchers. First, the roles of the individual in the nuclear family are less complicated, the individual consequently feels he has more independence from kin obligations and becomes more self-oriented. Secondly, the relationship between parents and children also changes. The improvement in the standard of living for most families is more costly than life in shop-houses or squatters huts because additional costs of utilities, rent, education, transportation, and increased wants for material acquisitions. The father usually leaves the household to work in a separate establishment and it is common for mothers to work in order to add to family income. Responsibility for discipline and inculcation of values is then transferred to the day care or school institutions. Chen says that parents cease to be the child's reference group and this contributes to growth of a "generation gap."⁹⁹

Alienation and isolation of the nuclear family is seen as a third consequence of the new urban environment. Before the availability of HDB housing, newly married couples commonly moved into the parent's household but now are given priority for assignment to HDB flats and immediately set up their own household. Even in such a small area as Singapore frequency of contact with parents decreases and it is not uncommon for children to visit parents only two or three times a year.¹⁰⁰ Traditionally, Singaporeans have supported and cared for their parents but this is becoming less common, particularly for persons housed in HDB flats.¹⁰¹ The individual is now directed towards his own self-interests and the support of only the nuclear family unit.

The Work Place and the Employee

Neville points out:

Fundamentally the forces promoting the dispersal and areal redistribution of the population at large are identical with those bringing about the breakdown in locational contiguity of ethnic or other community groups.¹⁰²

One socio-economic effect of the areal redistribution of population is the acceptance of separation of the work place and the home. The shop-house is a preindustrial economic and social unit where the unit is geared to small-scale family production. The result of this form of economic activity in Singapore was excess of small-scale operators who were not able to absorb the growing labor pool. The breakdown of this mode of production has been promoted by the government policies of resettlement of the small-scale producer in high rise flats where he can not engage in small-scale production, and if he can not afford the overhead of a "flatted factory," he is forced to seek employment.

The shop-house meant a highly personalized form of employment for the employee (who was more often than not kin of the owner), and identity and loyalty that was tied to the immediate family or clan and the work place. The wages of employees in shop-house production usually fluctuated with business and family position, i.e., a worker who was a cousin supporting a wife and children, in good times would receive more pay than the owner's son who lived with the parent. Chen comments:

Modernization implies, above all, the segregation of economic activities from the traditional family-community setting. In the urban-industrial setting, the worker accepts his specific role in his working establishment and works for a fixed amount of monetary reward.

The worker's relationship with his employer and his working establishment tends to become rather impersonal, this being especially so in the large factories and big corporations. To the employer, the employee XYZ is probably just a computerized payroll serial number 2205.

Since the employer-employee relationship is merely based on calculation of monetary remuneration, the employee feels no profound sense of personal attachment or loyalty to the organization for which he works. As a result, there is an excessive mobility in today's workers. In some factories in Singapore today, the mobility of their workers is as high as 50 percent per year. The excessive mobility among the workers may lead to a sense of alienation and frustration, a sense of insecurity and a purely materialistic outlook in life.¹⁰³

The HDB relocating policies have specifically been pointed at small manufacturers and traders as a means to accelerate their elimination.¹⁰⁴ Young supports this with survey data that shows that of businesses terminated as of 1970 (no date given to indicate from what year) 75.1 percent terminated because of eviction by government, and forced relocation in HDB flats of owners.¹⁰⁵ Clearly, the use of public housing as a means to create a society that "will meet the needs of industry" could not be more apparent.

Relocation of hawkers has followed two patterns in Singapore. Where urban renewal has necessitated relocation of the hawker's family the hawker is allowed to set up business in a permanent stall in the housing estate if a site is available and if the hawker can afford to pay monthly rent and maintenance charges on the stall. Young points out that of 2100 scheduled relocations of "retailers" only 17 percent could be accommodated by new facilities in the HDB estates.¹⁰⁶ Other hawkers have been relocated in shopping complexes or permanently built hawkers squares but

stall space allows for only 50 percent relocation of hawkers. In May of 1973 new hawker regulations were passed which do not permit licensing of hawkers under 45 years of age nor licensing of hawkers who refuse housing relocation in HDB flats.¹⁰⁷ The reason given by the government was that hawkers are a tourist detraction rather than an attraction. This action followed upon the heels of a government campaign urging Singaporeans to seek jobs in the manufacturing sector in order to relive labor shortages.

Ethnic Group Changes

The breakdown in "locational contiguity of ethnic groups" must be viewed in terms of government policies of using HDB housing as a vehicle for change. Yeung says that "enforced suburbanization" is a response to and strategy of development.¹⁰⁸ Neville, Yeung, and Chen are in agreement that HDB policies have succeeded in breaking up ethnic enclaves. The conclusions of these researchers are in line with policy statements of the HDB offices obtained during field work. An eyewitness of the methods used by the government is relevant to report. In late April, 1973, a public warning was issued regarding two different ethnic residential neighborhoods scheduled for development. The warning said that unless residents had moved out to their HDB assigned flats by April 27 they would be forcibly evicted by the police, and that one neighborhood, a Malay kampong off Jalan Geylang, would be bulldozed on schedule regardless of whether or not belongings had been removed.¹⁰⁹ A visit to the kampong was made at the appointed time, 7:45 a.m., April 27 and it was observed that persons were bodily removed by the police

(but not violently) who placed them in vans for transport to housing assignments. The observers, after engaging in some persuasive dialogue with the police, were granted permission to talk to the evictees while the police moved possessions of the residents to HDB lorries. The reasons for resistance were given by the residents: 1) they had been tricked, the HDB personnel had told them that they would be resettled in the same neighborhood of Toa Payoh estate but in fact received flats that were in different buildings (but of the same neighborhood), and 2) resettlement compensation was too low, especially since the land was to be used for commercial purposes after redevelopment. Two men voiced their objections about being too far from the mosque and that they did not want to "live near pork-eaters."

Individual objections do not change relocation policies of integrating ethnic groups to build a multi-ethnic, multi-linguistic society. Despite individual objections the HDB Survey¹¹⁰ shows that minority group respondents, i.e., Malays and Indians, regard life as definitely improved after relocation, and 62 percent of the respondents were indifferent about the race of their neighbors.¹¹¹ Hassan has found similar results in a smaller scale survey.¹¹² Community solidarity as strong as that built upon kinship or ethnic ties is not a functioning social factor. In fact, persons who live in the same block of flats as former neighbors discriminate against one another on the basis of occupation, income, or size of flat rather than ethnically. Persons occupying the cheaper one-room flats are sometimes poor and employed in hawking or low status occupations while those in larger flats are of

higher status occupations.¹¹³ This discrimination serves as incentive for upward mobility in the housing status hierarchy and thus upward mobility in the employment sector, for size of flat is an indicator of the individual's economic position. Loss of a sense of social cohesion is usually greater among Malays who formerly belonged to socially cohesive Malay neighborhoods and occupy low status jobs.¹¹⁴

Change in Social Contact

Public housing also brings about changes in the individual's social and physical environment. As already pointed out, by 1980 more than three-fourths of Singaporeans will be living in high-rise HDB flats. While the environmental change narrows the physical distance between members of the community and serves to integrate members of various ethnic groups, on the other hand this high-rise living widens social space. Chen reports that when the individual is removed from the "ground level" community he experiences alienation and segregation from former associates and tends to not socialize or interact with his neighbors in the building.¹¹⁵ Wee reports a "decrease in neighborliness" when the family is situated in a self-contained high-rise flat rather than the multi-family shop-house dwelling.¹¹⁶ Yeung says, however, that "the change in social visits, especially one towards a decline in social contact, is not as great as commonly believed."¹¹⁷ Yeung's survey data show that only 16 percent of the population reported a change for the worse in social contact,¹¹⁸ but this data conflicts with Wee, Buchanan, Chen, and an informal HDB survey taken in 1972 which reports an average of over 52 percent reporting a decline in social contacts.

CHAPTER VI

ANALYSIS AND CONCLUSIONS

MEASURING SUCCESS

The measurement of success in the HDB housing program is easy when discussing the meeting of quantifiable goals, but not so easily measured are the goals desired for the population such as social mobilization, national identity, and achievement of national goals. Under the direction of the People's Action Party, the leaders grafted Western technological, ideological, and economic systems onto the framework of their society. That they seem not to have failed is attributable to the fact that the PAP also took affirmative action to change the existing social structures. The HDB used its vigorous programs as a vehicle for change. Possessing administrative capability, leadership commitment and a sound economic base the HDB programs exceeded targets by 1972 with no indication of slowing down in the 1973-1977 period.¹²¹ By 1969, 130,000 flats were completed and under HDB management, housing 37 percent of the population, in 1972, 171,000 flats had been completed, housing around 50 percent of the population.¹²²

The political and social objectives of the public housing program went far beyond merely relieving crowded urban housing conditions. The aim of government was to integrate a multi-ethnic society into a politically stable, mobilized, national community. Referring to these three things,

It should be noted that Yeung's survey attached a value judgement of "change for the worse" and the other surveys did not attach a value judgement. It is not frivolous to note that in former crowded conditions social contacts may have been unwelcomed or unavoidable and even if change has occurred the respondent might not consider it a change for the worse. This interpretation of Yeung's data would concur with personal observations and field interviews. Further, Yeung's sample was quite large (N=7,410) so the contention that HDB housing is a negative factor in incidence of social contact cannot be accepted in this context.¹¹⁹

The breakdown of the slum systems must be analyzed in the next section of the paper. The barriers to the development of a "national consciousness" which the slum systems perpetuated have already been presented. Undeniably Singapore's public housing program has been one of the most successful in terms of its physical accomplishments--"a new flat is built every 45 minutes,"¹²⁰ the housing is modern, clean, and well-built, and administrative goals have been met. Ethnic and social integration has occurred, at least in physical terms, employment has expanded, the preindustrial economic patterns have been broken, using public housing as a vehicle, and a large proportion of the labor force has moved from marginal tertiary activities into the manufacturing labor force sector. But the question of Singapore's survival is seen by its leaders as dependent upon the development of a society whose social structures suit the needs of industry and whose members have developed a "national consciousness."

Dr. Goh Keng Swee, the "architect" of Singapore's development planning said:

In doing these things in Singapore, Government exerts its influence on the individual in a number of ways. . . . The physical environment must be changed in accordance with government policies and to the extent that resources permit.¹²³

Participating in a 1971 seminar on the impact of modernization on the individual in Singapore, Mrs. Ann Wee commented on the economic need for public housing in Singapore:

Too often we overlook factors in essential and welcome economic development which reduce the capacity of the family to function as it did in the old-style society. The need for flexibility in the modern labour force has already been referred to: a population resistant to moving away from an area of declining economic activity is a problem population from the point of view of a vigorous and welfare oriented modern state.¹²⁴

Mrs. Wee's statement opens the question of success in social mobilization which must necessarily be analyzed subjectively.

SOCIAL MOBILIZATION

Socially, it has been argued that rehousing increases social integration and national identity by breaking down clan, ethnic, and racial barriers and increases social security through more effective control of crime, ownership of flats or better tenancy arrangements and overall improvement in the standard of living and the quality of life. The crux of the matter is: has the slum system been transformed from its economically and socially marginal systems or merely transferred

spatially from one physical setting to another? The answer to this question lies in the way in which the structure of slum life was related to the national planning of economic and social development, and therefore to resettlement policy and practice.

To what extent have the basic problems of a high unemployment rate, consistent under-employment, and a heavy concentration of labor in insecure and marginal tertiary activity been overcome? This should be the first focus. Two factors must be noted: 1) relocation of slum dwellers in public housing does not permit the proliferation of involuted hawking activities, and 2) the economic growth of Singapore has proceeded at an average rate of over 10 percent in the past several years, in 1972 exceeding 13 percent.¹²⁵ In 1965 the government listed 50,000 persons as unemployed but in 1972 claimed it was short 100,000 laborers.¹²⁶ These figures would indicate that the largest proportion of the marginal labor force was probably absorbed into the labor pool, including not only the unemployed, but the underemployed. Another indicator that the concentration of labor in marginal economic activity has been redistributed to more secure, productive employment can be found in the increase of women in Singapore's employed labor pool. In 1967, 17,848 women were employed in the labor force, but by 1971 that number increased 350 percent to 62,131.¹²⁷

The role and organization of the secret society also seems to have been sharply reduced by the redistribution of population. In the first place, the secret society must operate within an environment where the population is living in a regimented housing estate, where the degree

of affluence and security is much higher than in the slum. Secondly, the marginal and often illegal economic basis upon which the secret societies depended have been removed. In a February interview with J. Conceicao, representing Singapore's Police Department, it was emphasised that public housing crimes are not related to secret societies and that secret society crime has dropped proportionately with resettlement.

Yeung and Neville point out that a major adjustment problem of relocation is regularization of the budget patterns of a family.¹²⁸ Buchanan's data indicates that rent in slums or squatter settlements took 5 percent of the monthly household budget but in public housing rent takes 18.5 percent and utilities 11.7 percent, a dramatic increase in shelter expenditures.¹²⁹ The government recognizes that relocation necessitates income adjustments and this is a motivating factor for persons to find other than marginal employment to meet monthly expenses. In other words, the cost of public housing flats serves to eliminate marginal forms of employment, particularly when jobs are readily available to even the unskilled.

Politically, the Barisan Socialis and other left-wing parties have been ineffective in the HDB precincts. In the 1968 elections, in spite of restrictions on campaigning, the Barisan Socialis polled 30 percent of the vote, primarily in slum and squatter precincts. The same voters, relocated in 1972, gave overwhelming approval to the PAP candidates.

If the economic basis of a community could not be changed it would seem nearly impossible to break the institutions of the slum and channel its social life into a state of national consciousness and participation through work in the achievement of national planning goals and reward in

their attainment. The data indicate that the economic basis has been changed. Chen's survey shows that 77 percent of working class people and 82 percent of lower class people accepted jobs with relatively low pay but high security when resettled in public housing.¹³⁰ This data could be interpreted as a transformation in attitude toward security as stemming from employment rather than slum institutions.

If the data indicate that social mobilization has occurred in Singapore in terms of involving the population in the attainment of national goals, which in Singapore means rapid and sustained economic growth, can it be assumed that Singaporeans of all classes have developed a national identity? Whether or not social mobilization has occurred through material incentives as in Singapore, or because of lofty ideals adopted by the majority of the population seems irrelevant to Deutsch's definition of national identity. The facts point out that, led by far-sighted and committed leaders and using the physical-spatial environment as a vehicle, social mobilization has been effected in Singapore. The question of a rise in "national identity" consciousness can be quite another matter.

CONCLUSION

For well over a hundred years, the bulk of our people did not regard themselves as a permanently settled community. Of course, things have changed very much. Singapore is now our permanent home. We must live and die here.¹³¹

No policy has been given more priority by the government since 1965 than that of molding Singapore's citizens into a new state of national conscious-

ness and identifying wholeheartedly with Singapore as a nation and the national planning goals designed to insure its survival. Spatially, ethnic groups have been desegregated, the clan and extended family systems have been parted, employment patterns have been changed, the preindustrial shop-house has virtually been eliminated as a socio-economic unit, the slum institutions appear to have been abolished.

Pang Chen Lian, reporting in Far Eastern Economic Review points out:

Interested in promoting his career and increasing his wealth, there is a growing tendency for the Singaporean to shun governmental affairs and the political events in the area and the world. This, he feels, can be safely left in the hands of those in government.¹³²

These do not appear to be the attitudes of a politically concerned and mobilized population. Economic mobilization for material incentives can not be said to be analagous with political mobilization for the welfare of the country. In 1973 the government announced a new plan to get the elite and middle class involved in the PAP community centers located in the housing estates in order to develop a stronger sense of community with the lower classes. The success of this venture is unknown, but its felt necessity is not a positive indicator.

Another indicator that national identity is not all it could be is the 1973 Marriage Law of Singapore. Under the new law, a Singaporean citizen wishing to marry a foreigner must first get permission from the Department of Labor; the decision is based on whether or not the foreigner is judged to be integrated in the fabric of Singapore's lifestyle. Marriage without permission results in the loss of all welfare benefits for the children of the union and denial of public housing to the citizen.¹³³

The country has been united in the struggle for survival for the past ten years. Nutured and coerced into participation the society has changed accordingly, "to fit the needs of industry" and has been materially rewarded.

The population is youthful as a whole. It is apparent . . . that half are less than 20 years of age. There are only 6% who can be considered old (above 60 years of age) and what holds Singapore together is a young adult component with young families, staying largely in government-built low-cost housing units and committed to Singapore as a country, having been largely born and bred in Singapore itself. Given sufficient incentives and prospects for improving themselves, the people can be organized for future effort provided regional and world circumstances are not too unfavorable.¹³⁴

The overt manifestations of a "national identity" appear to be there as long as the rewards are there. The question of the real cohesiveness of the movement will remain open for the future.

FOOTNOTES

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81. Land Acquisition Act, 1966, Sec. 5(1).
82. Op. cit., Yeung, pp. 40-41.
83. Interview with G. G. Thomson, January 17, 1973. Reportedly Ford Motor Co. and three banks turned down location in Singapore. Ford because the labor force in Central Area was too far from Jurong site, and the banks because of unsuitable land for development in the CBD area.
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