INCOME INEQUALITY AND POVERTY

~~POVERTY AND INCOME~~

INEQUALITY IN MALAYSIA

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ABSTRACT

The debate surrounding the relationship between economic growth and income distribution continues to attract important discussion in the development literature. While the literature suggests that rapid growth causes income to be more unequally distributed, empirical evidence is mixed. It seems that the relationship between growth and inequality varies considerably depending on individual country characteristics and the determinants of growth.

Malaysia is a pronounced pluralistic society and is often considered to have a dualistic economic structure. Ethnicity and regional imbalances play important roles in determining the pattern of poverty and inequality. Areas of greater than average dependence on agriculture appear to have lower income levels, and tend to be populated by Malaysia's indigenous races. Since the riots of May 1969, which were assumed to have some connection with economic development and economic imbalances, Malaysia has been pursuing redistribution through growth with the implementation of the New Economic Policy (NEP). Thus the purpose of this thesis is to examine the nature and extent of poverty and income inequality in Malaysia, with particular emphasis on the 1980s.

This study first seeks to verify the presence of any systematic relationship between inequality and economic development. The trends in income distribution will then be examined by looking at overall, urban-rural and ethnic inequality for Peninsular Malaysia, Sabah and Sarawak. Given the fact that certain areas are predominantly inhabited by certain ethnic groups, which form "pockets of poverty", the regional aspect of inequality will also be addressed.

The discussion on poverty begins with an explanation of the calculation of the official Malaysian poverty line, followed by a demonstration of how it has been updated over the years and ends by sketching a profile of the poor. As the NEP was launched to re-unite and rebuild the country after the traumatic 1969 experience, this thesis concludes with an assessment of the impact of its policy prescriptions on poverty and income inequality.

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ABBREVIATIONS

FELCRA	Federal Land Consolidation and Rehabilitation Authority
FELDA	Federal Land Development Authority
GDP	Gross Domestic Product
GLAC	Government-Linked Agency and Corporation
HICOM	Heavy Industries Corporation of Malaysia
HIS	Household Income Survey
HSC	High School Certificate
JENGKA	Jengka Regional Development Authority
IADP	Integrated Agricultural Development Project
LCE	Lower Certificate of Education
LKIM	Malaysia Fisheries Development Authority
LPN	Lembaga Padi Negara (National Paddy and Rice Marketing Board)
LNG	Liquified Natural Gas
M$	Malaysian Ringgit
MADA	Muda Agricultural Development Authority
MCE	Middle School Certificate
NAP	National Agricultural Policy
NEP	New Economic Policy
NFPEs	Non-Financial Public Enterprises
PETRONAS	Petroleum Nasional Berhad (National Oil Corporation)
RISDA	Rubber Industry Smallholders Development Authority
2MP	Second Malaysia Plan
3MP	Third Malaysia Plan
MTR3MP	Mid-Term Review of the Third Malaysia Plan
4MP	Fourth Malaysia Plan
MTR4MP	Mid-Term Review of the Fourth Malaysia Plan
5MP	Fifth Malaysia Plan
MTR5MP	Mid-Term Review of the Fifth Malaysia Plan
6MP	Sixth Malaysia Plan
MTR6MP	Mid-Term Review of the Sixth Malaysia Plan

CHAPTER I
INTRODUCTION

I. GENERAL BACKGROUND

Malaysia is a country divided into 2 separate land masses, West Malaysia (otherwise known as Peninsular Malaysia) and East Malaysia. Situated in South East Asia, it covers an area of 329,758 square kilometres. Peninsular Malaysia, with an area of 131,598 square kilometres, is made up of 11 states and the Federal Territory of Kuala Lumpur. Occupying the southern end of the Malay Peninsula it is separated from East Malaysia, which is located more than 650 kilometres across the South China Sea on the northern part of the island of Borneo. The two states comprising East Malaysia, Sabah and Sarawak, have an area of 73,711 and 124,449 square kilometres respectively.

An ethnically heterogeneous country, the total population in 1987 was 16.5 million, of which 13.7 million lived in Peninsular Malaysia, 1.5 million in Sarawak and 1.3 million in Sabah. Official estimates give the ethnic composition of the population as 59 percent Bumiputera[1], 29.7 percent Chinese, 8.1% Indians and 3.1 percent "Others"[2]. Of the 13.7 million in Peninsular Malaysia, 58.8 percent were Malays, 30.8 percent Chinese, 9.8 percent Indians and 0.6 percent Others (Table I-1). Sabah and Sarawak are dissimilar to Peninsular Malaysia not only because they are geographically separated by the South China Sea, but also because of the population's ethnic composition. Unlike Peninsular Malaysia, the ethnic groups found in Sabah and Sarawak are not restricted to Malays, Chinese and Indians. In Sabah the main three additional ethnic groups found, are the indigenous groups Kadazan, Bajau and Murut. Together with the Malays and other indigenous

TABLE I-1
MALAYSIA: ETHNIC BREAKDOWN OF POPULATION, 1987

RACE	PENINSULAR (%)	SABAH (%)	SARAWAK (%)	MALAYSIA (%)
BUMIPUTERA:				
MALAY	58.8	5.6	19.1	50.5
IBAN			30.5	2.9
BIDAYUH			6.8	0.6
MELANAU			6.7	0.6
KADAZAN		23.9		2.0
BAJAU		8.2		0.7
MURUT		3.3		0.3
OTHER INDIG. (*1		10.5	4.7	1.3
BUMIPUTERA	58.8	51.5	67.8	59.0
CHINESE	30.8	17.3	31.3	29.7
INDIAN	9.8	0.8	-	8.1
OTHERS	0.6	30.4 (*2)	0.9	3.1
TOTAL	100.0	100.0	100.0	100.0

Note: (*1): Indig. = Indigenous races
(*2): 29.8% of Sabah's population comprise immigrants from Indonesia and Philippines are grouped in "Other" races
Source: Household Income Survey 1987 (HIS 1987)

groups, they form the Bumiputeras of Sabah and account for 51.5 percent of Sabah's population (Table I-1). In Sarawak, the Bumiputeras consist of the Malay, Iban, Bidayuh, Melanau and other smaller indigenous groups (King 1993).

Sabah and Sarawak are also less developed than the Peninsular states, due to their inhospitable environment which has hampered economic development. The island of Borneo has large areas of swamps, dense tropical forests and mountainous terrain, intersected by an abundance of rivers and streams. These factors have been a major obstacle to the development of road and rail infrastructure and to this day the principle form of transport linking the different towns and villages is by water.

Malaysia has experienced substantial economic growth since independence in 1957, with per capita GNP in constant 1970 prices, rising from M$627 in 1957/58 to M$2,669 in 1990 (Perumal 1993; Economic Report 1991/92). However, the rapid growth enjoyed has not been without its drawbacks. One of the most important is allegedly to have been growing inequality in income distribution. Malaysia's income distribution, though slightly more skewed, is comparable to that of her South East Asian neighbours (Table I-2 and Figure I-1). A comparison with Brazil and the United Kingdom shows that Malaysia's distribution of income is considerable less skewed than that of Brazil but more skewed than that of the United Kingdom (Figure I-2). The political urgency of the inequality problem is not because overall income distribution is exceptionally skewed but because the inequalities reflect deep ethnic divisions within Malaysian society. The fact that there are also marked regional imbalances, and certain states are predominantly occupied by one ethnic group, aggravates

TABLE I-2
DISTRIBUTION OF INCOME OF SELECTED COUNTRIES

COUNTRY	PERCENT OF HOUSEHOLDS				
	1Q (%)	2Q (%)	3Q (%)	4Q (%)	5Q (%)
MALAYSIA	4.6	8.3	13.0	20.4	53.7
SINGAPORE	5.1	9.9	14.6	21.4	48.9
THAILAND	6.1	9.4	13.5	20.3	50.7
PHILIPPINES	6.5	10.1	14.4	21.2	47.8
BRAZIL	2.1	4.9	8.9	16.8	67.5
U. KINGDOM	4.6	10.0	16.8	24.3	44.3

Note: Q = quintile i.e. 1Q = first quintile or lowest 20 percent of population
Malaysia refers to 1989; Singapore - 1982/83; Thailand - 1988;
Philippines - 1988; Brazil - 1989; UK - 1988.
Source: World Bank (1994: 220-221)

FIGURE I-1: COMPARING MALAYSIA'S DISTRIBUTION OF INCOME WITH THAT OF ITS NEIGHBOURS

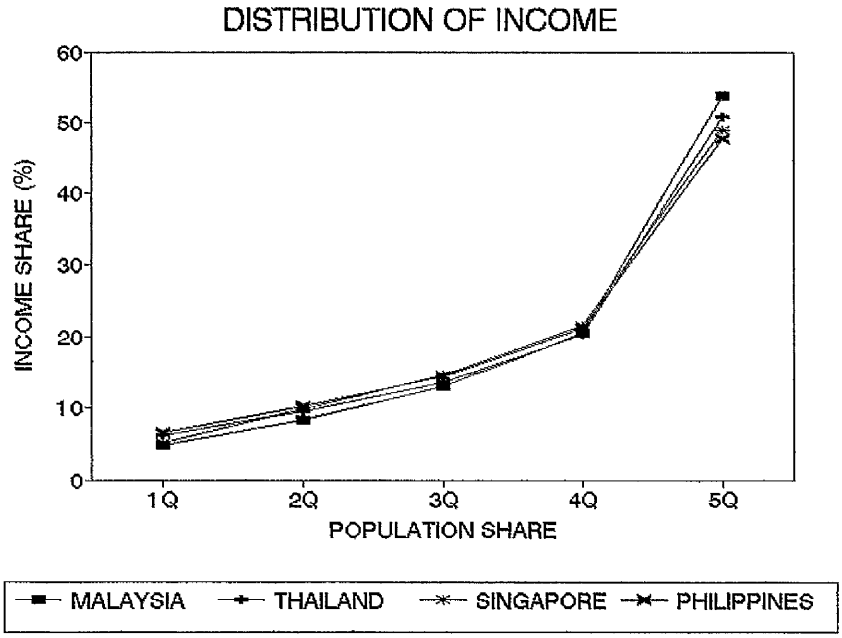
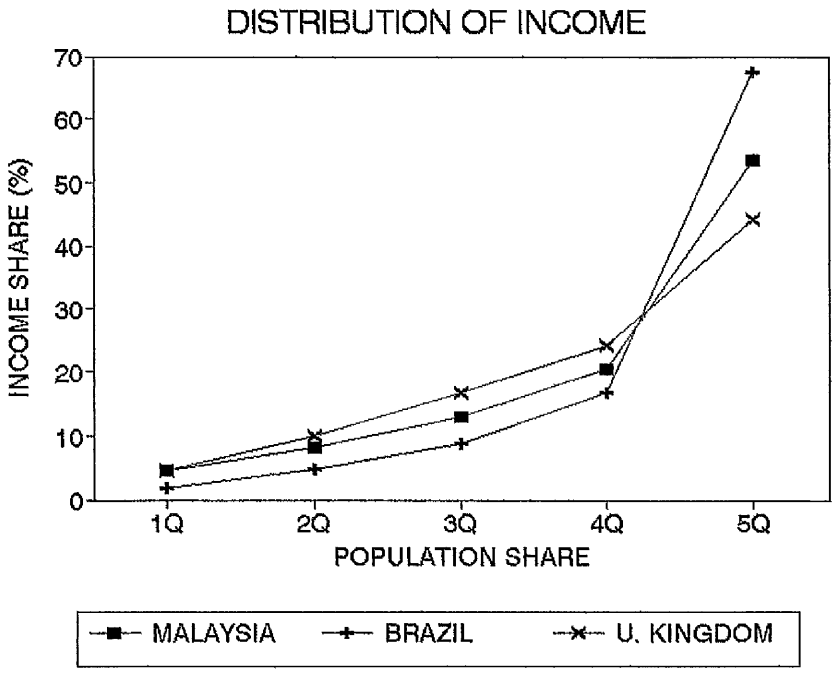


FIGURE I-2: COMPARING MALAYSIA'S DISTRIBUTION OF INCOME WITH THAT OF BRAZIL AND THE UNITED KINGDOM



Source Figures I-1 & 2: Table I-2

the situation. The underlying belief is that a strong correlation exists between ethnicity, poverty and inequality. The subject of poverty and income distribution is thus highly topical and of continuing interest to the government and scholars in Malaysia since independence.

A. PROLOGUE TO THE NEW ECONOMIC POLICY

The creation of a multiethnic society in Malaysia and the roles played by the various ethnic groups are deeply rooted in the British colonial period (1786-1957). The economic heritage from colonial times resulted in marked segregation based on ethnicity in terms of geographical location, economic activity and political participation. Since independence (1957) the Bumiputeras have dominated the political arena while other races have controlled the economic base. This political-economic dichotomy is further enhanced by a stark regional imbalance, with the majority of the Bumiputeras living in rural areas and Chinese and Indians living in urban areas.

i) The Colonial Legacy (1786-1957)

Britain's first foothold in Malaysia was gained in 1786 when Penang was leased to the British East India Company, by the Sultan of Kedah. However, direct British intervention and control began in 1874, under the "Pangkor Engagement" with the Sultan of Perak, which installed a British Resident whose advice "must be asked and acted upon on all questions other than those touching Malay religion and custom" (Snodgrass 1980: 17). Their interest in the tin industry, encouraged the British to gain control over the remaining states in Peninsular Malaysia. The growth of tin mining resulted in the establishment of railroads linking the minefields in Perak and Selangor to the ports and later to other

states along the western coast of Peninsular Malaysia. Therefore the introduction of rubber planting in Malaysia gravitated to the western states due to the existence of the transportation network.

The British pursued their commercial interests while minimising disturbance to Malay society. To meet the growing demand for labour in the mines, large numbers of Chinese workers were brought in. Similarly, Indians met the rising labour demand in plantations and estates. While the British recognized the "special rights" of the Malays as the indigenous inhabitants of the country, they did little to promote Malay economic advancement. In fact, colonial policy served to keep the Malays in their traditional society while the country developed (Means 1972: 36). As the British ruled via a legal relationship with the Malay elite, they had a vested interest in maintaining the existing social order among the Malays.

This was reflected in its education policy. Government-sponsored secondary and tertiary education were available mainly in urban areas and were conducted in English, while education in Malay was geared towards agriculture. As certain forms of employment (e.g. professional, administrative) depended on education, from which the Malays were quite explicitly excluded, the British actively impeded social mobility among the Malays.

These colonial policies were to have far-reaching effects on the ethnic composition of Malaysia and the link between occupation and ethnicity. It has resulted in the present day identification of economic activity and geographical location with ethnicity. At the time of independence, the two dominant classes were the politicians and bureaucrats, predominantly Malay, who

held political power but lacked any economic base, and the local, mainly Chinese capitalists who had an economic base but lacked political power. Thus the existing divergence between economic and political hegemony.

ii. Post-Colonial Scenario (1957-1969)

After independence in 1957, the government while adopting a broadly laissez-faire economic system, embarked on a development strategy specifically aimed at substantial economic growth. Strong efforts were made to strengthen the export economy, by expanding the existing rubber and tin industries and developing new primary products and manufacturing. As with many other LDCs, Malaysia identified development as the growth of the modern urban sector. The modern sector, producing manufactured goods and services was expected to attract a flow of population from traditional rural areas.

The growth in the economy was not without problems. The government's commitment to a laissez-faire system with little direct government intervention in business, favoured the more established business interests. This consolidated and further strengthened the Chinese capitalists. Although, the Malay dominated government attempted to cultivate the growth of a Malay capitalist class, the numbers were relatively small (Popenoe 1970). Hence by 1970, Malay ownership of share capital in public limited companies was merely 1.9 percent compared to 22.5 percent owned by Chinese and 86.7 percent by foreigners (Malaysia 1973: 83).

Studies also suggest that between 1957 and 1970, there were significant increases in overall inequality as well as in both urban and rural inequality (Snodgrass 1980: 76). The overall Gini coefficient increased by 22 percent from 0.412 in 1957 to 0.502 in 1970. A similar

increase was observed among rural households, while for urban households the Gini coefficient rose by 15 percent (Table I-3). Real household incomes for the poorer sections of the population, for all ethnic groups, declined by 13 percent between 1957 and 1970 (Malaysia 1974: 85). In addition the income gap between the average Malay and Chinese household was widening (Table I-4). This brought about the perception that the benefits of development were being unequally shared. The Malays viewed Independence as restoring their proper place in their own country's socio-economic order. Thus when their expectations remained unfulfilled as the economy grew, strong criticism of government policies emerged. Non-Malays, meanwhile were beginning to oppose government efforts to advance Malay political primacy and economic welfare. In addition, the lower income non-Malays blamed the erosion of their economic position on government policies that favoured the Malays.

The rising tension and opposing views increased racial polarization during the months preceding 1969 general election. The increased discontent and resentment of the Malays for the Chinese and vice versa culminated in the vicious riots of May 13, 1969. It was evident that the apparent harmonious co-existence of different races was merely covering deep communal cleavages.

B. THE NEW ECONOMIC POLICY (1970-1990)

Prior to 1971, economic development was concentrated in accelerating growth through investment in infrastructure, rural development and agriculture. While this strategy was successful in strengthening the economy, it did not alleviate the social and economic imbalances inherent in the Malaysian society. Thus the racial riots of May 1969 stemmed from inadequate efforts

TABLE I-3
PENINSULAR MALAYSIA: GINI COEFFICIENTS 1957-1970

	1957	1967/68	1970
OVERALL	0.412	0.444	0.502
URBAN	0.429	0.447	0.494
RURAL	0.374	0.399	0.463

Source: Snodgrass (1980: 76, 79)

TABLE I-4
PENINSULAR MALAYSIA: MEAN MONTHLY HOUSEHOLD INCOME BY ETHNIC GROUP IN CONSTANT M$ 1959 PRICES

RACE	MEAN INCOME		
	1957/58 ($)	1967/68 ($)	1970 ($)
MALAY	134	154	170
CHINESE	288	329	390
INDIAN	228	245	300
	MEAN INCOME DISPARITY RATIO		
	1957/58	1967/68	1970
C-M	2.1	2.1	2.3
I-M	1.7	1.6	1.8

Source: Perumal (1989)

to correct socio-economic imbalances present in Malaysian society (Malaysia 1976: 6). Economic growth since independence had amplified the existing economic disparities, which were no longer acceptable. The government responded with a large shift in public policies, reflected by the enunciation of the New Economic Policy (NEP)in 1971. The NEP's overriding objective was national unity and this was to be achieved by means of a two-pronged strategy. The first was to eradicate absolute poverty by raising income levels and increasing employment, irrespective of race. The second was to restructure society so that the identification of race with economic function and geographical location would be eliminated. Both goals were to be realized through rapid expansion of the economy over time.

The strategy for poverty eradication had three key elements (Malaysia 1971: 4-5). The first aimed at improving the economic conditions and quality of life of the poor, by providing a wide range of free or subsidised social services. Such services included housing, public utilities, health and increased educational opportunities. Secondly, the government aimed to increase productivity and income levels of the poor by expanding their productive capital and utilising the capital efficiently. This was to be achieved by adopting modern techniques and providing better facilities. This included the provision of land; replanting and redevelopment of crops; irrigation; introduction of new crops; and improved marketing, credit, financial and technical assistance. The third element was to increase opportunities for inter-sectoral movements out of low productivity areas and activities. The necessary education, training, financial and technical skills would be provided to facilitate movements into the modern sectors of the economy.

Restructuring the Malaysian society was to be attained by expanding the Bumiputera share of ownership wealth to 30 percent. In addition, the employment structure was to reflect the country's ethnic composition. This was to be implemented in the context of rapid expansion in the economy to ensure that no ethnic group would feel deprived, thereby maintaining national unity. It was believed that this would achieve an improved income balance between the different ethnic groups.

It is worth mentioning that at its conception in 1971, the NEP was primarily concerned with addressing the situation in Peninsular Malaysia. Therefore no specific reference was made to problems of poverty and ethnic participation in Sabah and Sarawak. The NEP also failed to include the reduction of overall inequality in the distribution of income and wealth as one of its objectives. This was only implied in the poverty-eradication prong, or through the levelling up of incomes from the bottom. Employment and wealth restructuring goals were clearly aimed to narrow the gap between Malay and non-Malay incomes. However, as Anand (1983: 298) pointed out, equalizing the differences in mean income would only make a small contribution to the reduction of inequality. As the racial contribution to income inequality is fairly small (approximately ten percent), the impact of reducing Malay and non-Malay income disparities on inequality will be minimal.

With the implementation of the NEP, Malaysia has actively pursued a policy of redistribution with growth. Gross Domestic Product (GDP), measured in 1980 prices, rose from M$ 2,027 per capita in 1970 to M$ 4,942 in 1990. This amounts to a 7.2 percent average annual growth in GDP per capita between 1970 and 1990. In terms of economic growth, over the last two decades the

Malaysian economy has achieved growth rates that exceeded the world economy as a whole and other developed countries (Table I-5). However Figure I-3 also shows that the pattern of economic growth in Malaysia between 1972 and 1989, resembles that of the developed countries. This suggests that the Malaysian economy is dependent on economic fluctuations of these countries. This economic instability is a result of the structure of the economy which is dependent on commodity exports, coupled with a narrowly based export-oriented industrial sector.

Compared to the newly industrialised Asian countries, Malaysia has generally experienced lower economic growth rates (Table I-6 and Figure I-4). Malaysia's resource rich economy[3] and the discovery of oil and gas in the 1970s delayed its industrialisation process. During the second half of the 1970s, commodity exports benefitted from higher world prices, with the exception of tin, and the volume of such exports expanded by 9.4 percent per annum. In current prices commodity exports grew at the rate of 18.6 percent per annum during 1971-80 (Malaysia 1981: 18). With real GDP growth rates averaging 7.6 percent per annum in the 1970s, policy makers were content to maintain in the economy's existing structure. Thus a favourable resource endowment had allowed Malaysia to become a middle income economy, although the level of industrialization in the country was relatively low.

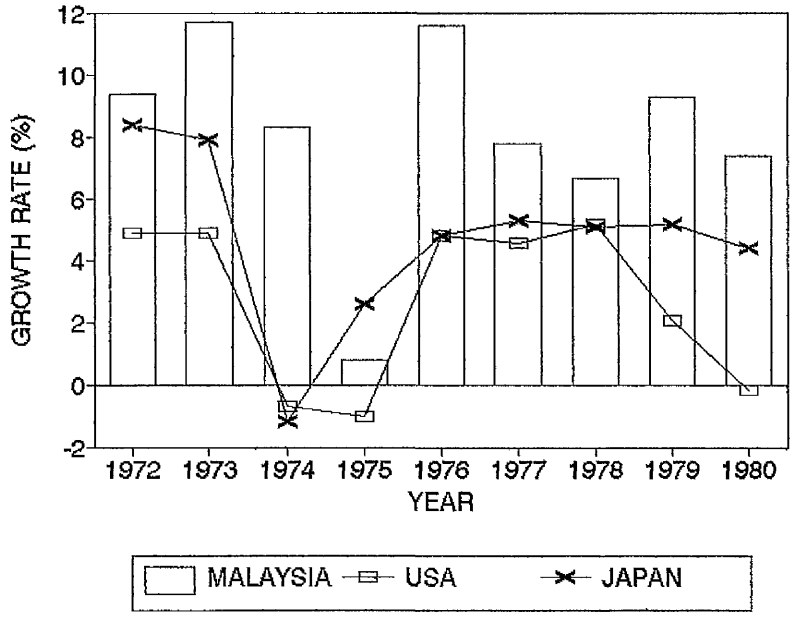
The general slowdown between 1981 and 1983, was largely a result of the economic slowdown in the industrialised countries, precipitated by the major oil price increase of 1978/79 and increased US interest rates. Initially, the impact of the international recession was offset by 'counter-cyclical' budget deficits financed by foreign borrowing. To protect the

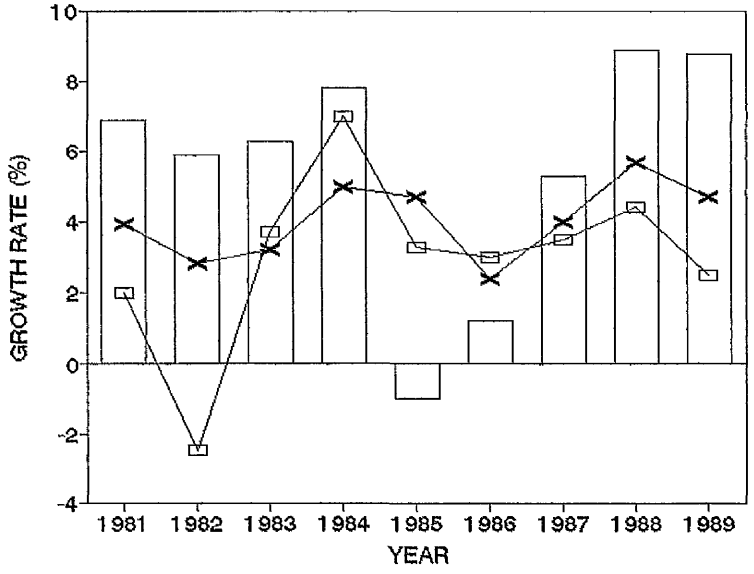
TABLE I-5
COMPARATIVE ECONOMIC GROWTH RATES:
MALAYSIA, WORLD & DEVELOPED COUNTRIES, 1972-1989

YEAR	MALAYSIA (%)	WORLD (%)	EEC (%)	USA (%)	JAPAN (%)
1972	9.4	4.8	4.4	4.9	8.4
1973	11.7	6.2	6.1	4.9	7.9
1974	8.3	2.0	1.8	-0.7	-1.2
1975	0.8	0.8	-1.0	-1.0	2.6
1976	11.6	4.7	5.0	4.8	4.8
1977	7.8	4.0	2.4	4.6	5.3
1978	6.7	4.3	3.0	5.2	5.1
1979	9.3	3.3	3.2	2.1	5.2
1980	7.4	2.1	1.2	-0.2	4.4
1981	6.9	1.3	0.0	2.0	3.9
1982	5.9	0.4	0.7	-2.5	2.8
1983	6.3	2.4	1.4	3.7	3.2
1984	7.8	4.1	2.3	7.0	5.0
1985	-1.0	3.1	2.4	3.3	4.7
1986	1.2	2.9	2.6	3.0	2.4
1987	5.3	3.1	2.7	3.5	4.0
1988	8.9	4.1	3.8	4.4	5.7
1989	8.8	3.1	3.4	2.5	4.7

Source: Malaysia (1991c: 20)

FIGURE I-3:
COMPARATIVE GROWTH RATES: MALAYSIA, WORLD & DEVELOPED COUNTRIES, 1972-1989





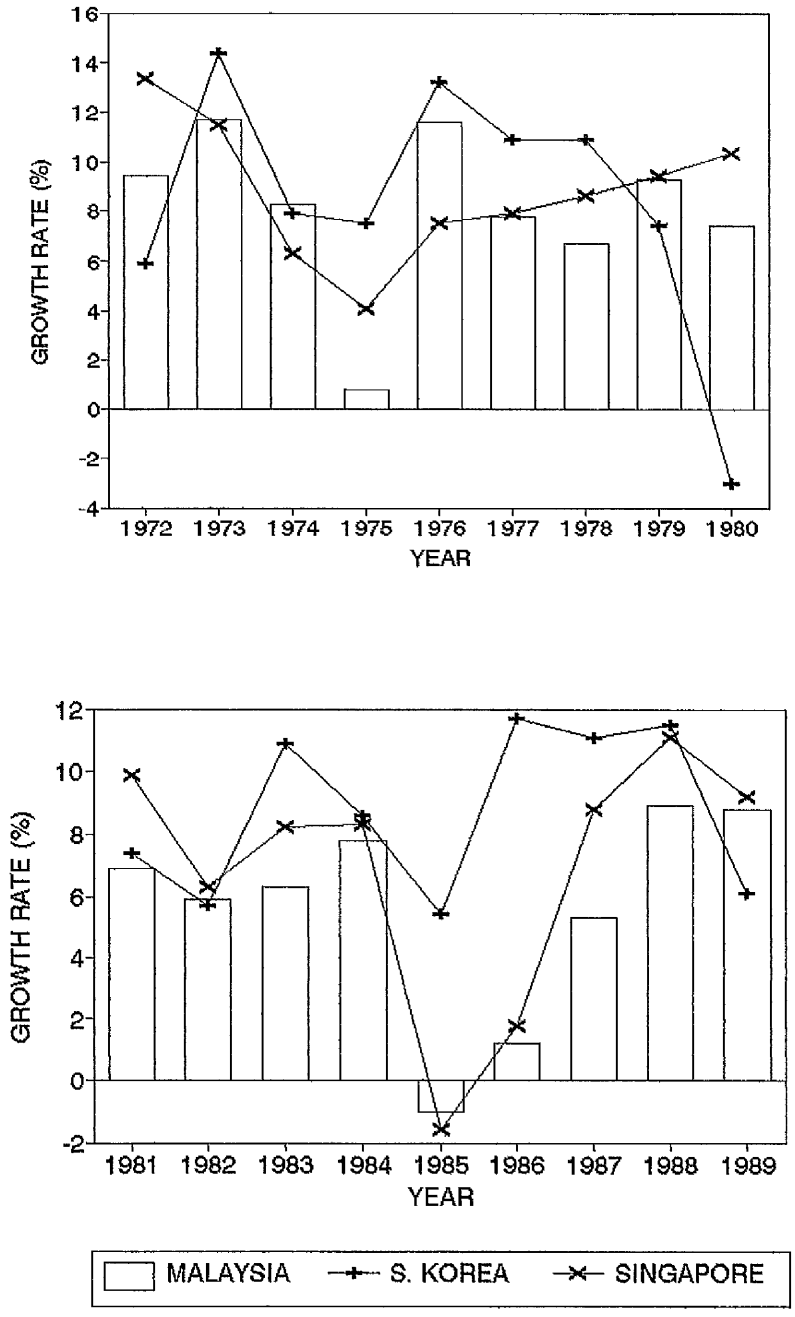
Source: Table I-5

TABLE I-6
COMPARATIVE ECONOMIC GROWTH RATES:
MALAYSIA & NEW INDUSTRIALISED ECONOMIES, 1972-1989

YEAR	MALAYSIA (%)	S. KOREA (%)	TAIWAN (%)	H. KONG (%)	*a S'PORE (%)
1972	9.4	5.9	13.2	9.7	13.4
1973	11.7	14.4	12.9	16.4	11.5
1974	8.3	7.9	1.1	2.2	6.3
1975	0.8	7.5	4.8	0.2	4.1
1976	11.6	13.2	13.7	17.1	7.5
1977	7.8	10.9	10.0	12.5	7.9
1978	6.7	10.9	13.5	9.5	8.6
1979	9.3	7.4	8.2	11.7	9.4
1980	7.4	-3.0	7.3	10.9	10.3
1981	6.9	7.4	6.1	9.4	9.9
1982	5.9	5.7	2.8	3.0	6.3
1983	6.3	10.9	7.7	6.5	8.2
1984	7.8	8.6	9.6	9.5	8.3
1985	-1.0	5.4	4.3	-0.1	-1.6
1986	1.2	11.7	10.6	11.0	1.8
1987	5.3	11.1	12.4	13.6	8.8
1988	8.9	11.5	7.3	7.2	11.1
1989	8.8	6.1	7.4	2.5	9.2

Note: *a - Singapore
Source: Malaysia (1991c: 20)

FIGURE I-4:
COMPARATIVE GROWTH RATES: MALAYSIA & NEW INDUSTRIALISED COUNTRIES, 1972-1989



Source: Table I-6

economy against global recession, the government actively promoted industrialisation in the 1980s. This accelerated the structural transformation of the economy from one of primary commodity production to industrial production. The manufacturing sector became the largest sector in the economy in 1984, exceeding the contribution from agriculture which had been the largest sector since independence (Table I-7 and 8). In 1985 and 1986 the manufacturing contribution to GDP was lower than that of agriculture, due to a decline in electronics, ferrous and non-ferrous metals, mineral and petroleum products (Malaysia 1986: 39).

There was a rapid expansion of non-financial public enterprises (NFPEs) to meet the needs of economic growth and industrialisation, thus changing the role of the public sector. NFPEs in Malaysia can be defined as production entities which have more than 50 percent government equity share and an annual turnover of more than M$50 million. Expenditure by NFPEs such as the National Oil Corporation (PETRONAS), included the exploration and development of oil-fields in Trengganu, Sabah and Sarawak. Projects undertaken by the Heavy Industries Corporation of Malaysia (HICOM) included the development of the Malaysian car industry.[4] Therefore instead of being just the traditional provider of services the public sector was also participating directly in commerce and industry.

Public investment grew rapidly from M$3,770 million in 1979 to M$9,531 million in 1983 (Table I-9 and 10) and was oriented towards infrastructure to support industrialisation. Between 1980 and 1986 more than 80 percent of public investment funds were spent on transport, education, utilities and land development (World Bank 1993: 7). Driven by civil works projects, the construction sector expanded at an average real

TABLE I-7
MALAYSIA: PERCENT SHARE OF GDP BY INDUSTRIAL ORIGIN, 1970-1983

INDUSTRY	1970	1975	1980	1981	1982	1983
1. AGRICULTURE, LIVESTOCK & FORESTRY	30.9%	28.2%	22.9%	22.4%	22.5%	21.1%
2. MINING & QUARRYING	5.5%	4.6%	10.1%	9.0%	9.1%	10.0%
3. MANUFACTURING	11.8%	16.2%	19.6%	19.2%	19.2%	19.5%
4. CONSTRUCTION	4.3%	4.3%	4.6%	5.0%	5.1%	5.4%
5. UTILITIES	2.2%	2.0%	1.4%	1.4%	1.4%	1.5%
6. TRANSPORT, STORAGE & COMMUNICATION	5.5%	5.6%	5.7%	6.0%	5.9%	5.9%
7. WHOLESALE & RETAIL TRADE, HOTELS & RESTAURANTS	12.8%	13.0%	12.1%	12.0%	12.1%	12.3%
8. FINANCE, INSURANCE, REAL ESTATE & BUSINESS SERVICE	12.1%	8.2%	8.3%	8.3%	8.4%	8.5%
9. GOVT. SERVICE	7.1%	12.1%	10.3%	11.9%	11.9%	11.8%
10. OTHER SERVICE	7.9%	2.6%	2.3%	2.2%	2.3%	2.2%
BANK SERVICE CHG	na	-1.2%	-1.9%	-1.8%	-2.3%	-2.6%
IMPORT DUTIES	na	4.5%	4.6%	4.4%	4.3%	4.5%
GDP(MARKET PRICE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Calculated from Malaysia, Ministry of Finance,
"Economic Report", (various years)

TABLE I-8
MALAYSIA: PERCENT SHARE OF GDP BY INDUSTRIAL ORIGIN, 1984-1990

INDUSTRY	1984	1985	1986	1987	1988	1989	1990
1. AGRICULTURE, LIVESTOCK & FORESTRY	20.1%	20.8%	21.4%	21.7%	21.0%	20.4%	18.6%
2. MINING & QUARRYING	10.5%	10.5%	11.0%	10.5%	10.3%	10.2%	9.8%
3. MANUFACTURING	20.3%	19.7%	21.0%	22.6%	24.4%	25.5%	26.9%
4. CONSTRUCTION	5.2%	4.8%	4.1%	3.4%	3.2%	3.3%	3.6%
5. UTILITIES	1.5%	1.7%	1.8%	1.8%	1.8%	1.9%	1.9%
6. TRANSPORT, STORAGE & COMMUNICATION	6.0%	6.4%	6.7%	6.7%	6.7%	6.7%	6.9%
7. WHOLESALE & RETAIL TRADE, HOTELS & RESTAURANTS	12.3%	12.1%	10.6%	10.6%	10.5%	10.6%	11.1%
8. FINANCE, INSURANCE, REAL ESTATE & BUSINESS SERVICE	8.5%	8.9%	8.8%	9.0%	9.2%	9.4%	9.8%
9. GOVT. SERVICE	11.8%	12.2%	12.6%	12.4%	11.8%	11.3%	10.8%
10. OTHER SERVICE	2.2%	2.3%	2.3%	2.3%	2.2%	2.1%	2.1%
BANK SERVICE CHG	-2.8%	-3.2%	-3.3%	-3.7%	-4.3%	-4.6%	-5.1%
IMPORT DUTIES	4.4%	3.9%	3.0%	2.7%	3.2%	3.4%	3.7%
GDP(MARKET PRICE)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Calculated from Malaysia, Ministry of Finance,
"Economic Report", (various years)

TABLE I-9
MALAYSIA: GDP BY DEMAND AGGREGATE (CONSTANT M$ 1978 MILLION), 1979-1990

YEAR	1979	1980	1981	1982	1983	1984
CONSUMPTION:						
PRIVATE	21,698	24,445	25,686	26,531	27,376	29,142
PUBLIC	6,195	7,750	8,784	9,552	9,989	9,500
INVESTMENT:						
PRIVATE	7,400	8,725	9,086	8,879	9,662	10,386
PUBLIC	3,770	5,206	7,364	8,888	9,531	9,375
STOCKS	285	(319)	(498)	478	445	952
DOMESTIC DEMAND	39,348	45,807	50,422	54,328	57,003	59,355
EXPORTS	21,924	22,619	22,431	24,826	27,889	31,733
IMPORTS	19,844	23,914	25,251	28,724	31,310	33,347
NET EXTERNAL DEMAND:	2,080	(1,295)	(2,820)	(3,898)	(3,421)	(1,614)
GDP	41,428	44,512	47,602	50,430	53,582	57,741

YEAR	1985	1986	1987	1988	1989	1990
CONSUMPTION:						
PRIVATE	29,242	26,315	26,857	31,189	35,616	40,280
PUBLIC	9,417	9,536	9,676	10,149	10,914	11,514
INVESTMENT:						
PRIVATE	9,492	7,915	8,404	10,254	13,382	16,705
PUBLIC	8,396	6,686	5,550	5,830	7,830	9,167
STOCKS	(1,262)	(211)	62	1,228	(195)	(337)
DOMESTIC DEMAND	55,285	50,241	50,549	58,650	67,547	77,329
EXPORTS	31,875	35,632	40,819	45,637	53,903	63,763
IMPORTS	30,067	28,122	30,505	37,984	49,045	61,662
NET EXTERNAL DEMAND:	1,808	7,510	10,314	7,653	4,858	2,101
GDP	57,093	57,751	60,863	66,303	72,405	79,430

Source: Malaysia, Ministry of Finance, "Economic Report" (various years)

TABLE I-10
CHANGE IN PUBLIC INVESTMENT, 1980-1990
(REAL TERMS)

YEAR	PUBLIC INVESTMENT
1980	38.1%
1981	41.5%
1982	20.7%
1983	7.2%
1984	-1.6%
1985	-10.4%
1986	-20.4%
1987	-17.0%
1988	5.0%
1989	34.3%
1990	17.1%

Source: Calculated from Table I-9

growth rate of 8.7 percent from M$2,847 million in 1981 to M$2,988 million in 1984 (in constant 1978 prices) (Economic Report 1984/85). The shift towards an industrial economy was also reflected in the increase in the contribution of manufacturing exports (Table I-11). Between 1980 and 1983, the share of manufactured exports rose from 22.3 to 29.0 percent of total exports. This was accompanied by a decline in the contribution of agricultural exports from 39.7 to 33.4 percent of total exports. In 1985, manufactured exports comprised a larger proportion of total exports than agriculture, 32.8 percent and 29.3 percent respectively. By 1990, manufactured goods accounted for 58.8 percent of total exports (Table I-11B).

However as indicated by the World Bank (1989: 45), counter-cyclical public expenditure cannot be used to raise growth rates permanently and the prolonged world recession led to Malaysia's 1985 recession, when it experienced a negative growth rate of -1.1 percent. In certain sectors, the impact was so harsh that output fell at double digit rates (Malaysia 1989: 13). The overall collapse in world commodity prices had a significant impact on the domestic economy. Although the impact of falling commodity prices was partially offset by rising commodity volumes, the total value of major commodity exports declined by 1.6 percent in 1985 and a further 24.7 percent in 1986 (Table I-12). Falling commodity prices also indirectly affected output by reducing purchasing power. This decline in overall income reduced domestic demand which consequently led to a stagnation in domestic activities. Domestic demand declined in real terms by 6.9 percent in 1985 and a further 9.1 percent in 1986 (Table I-13). In addition, the deterioration of Malaysia's terms of trade, 4.5 percent in 1985 and a further 14.9 percent in 1986 (Malaysia 1991a: 6), reduced demand for the country's

TABLE I-11
MALAYSIA: EXPORTS, 1970-1990

TABLE I-11A: VALUE OF EXPORTS IN M$ MILLION (CURRENT)

	AGRIC.	MINING	MANUF.	OTHERS	TOTAL
1970	2,932	1,177	572	482	5,163
1975	4,599	1,943	1,927	762	9,231
1980	11,197	9,392	6,270	1,313	28,172
1983	10,960	10,583	9,502	1,726	32,771
1985	11,141	12,646	12,471	1,760	38,018
1990	14,982	14,176	46,833	3,655	79,646

TABLE I-11B: PERCENT OF TOTAL EXPORTS

	AGRIC.	MINING	MANUF.	OTHERS	TOTAL
1970	56.8%	22.8%	11.1%	9.3%	100.0%
1975	49.8%	21.0%	20.9%	8.3%	100.0%
1980	39.7%	33.3%	22.3%	4.7%	100.0%
1983	33.4%	32.3%	29.0%	5.3%	100.0%
1985	29.3%	33.3%	32.8%	4.6%	100.0%
1990	18.8%	17.8%	58.8%	4.6%	100.0%

Note: "AGRIC" = Agriculture; "MANUF." = Manufacturing
Source: Malaysia (1981: 18-19; 1986: 48-50; 1991a: 23; 1993: 26)

TABLE I-12
MALAYSIA: EXPORT OF MAJOR PRIMARY COMMODITIES, 1984-1988

	1984	1985	1986	1987	1988
CRUDE PETROLEUM					
EXPORT ('000 tonnes)	16,497	16,701	18,792	17,999	19,899
M$ million	8,737	8,698	5,401	6,290	6,116
PALM OIL					
EXPORT ('000 tonnes)	2,959	3,215	4,305	4,077	4,150
M$ million	4,531	3,951	3,010	3,279	4,528
RUBBER					
EXPORT ('000 tonnes)	1,591	1,497	1,516	1,620	1,610
M$ million	3,672	2,872	3,183	3,915	5,256
SAWLOGS					
EXPORT ('000 cu. mtrs)	16,939	196,630	19,055	23,001	20,562
M$ million	2,806	2,771	2,876	4,274	4,010
TIN					
EXPORT ('000 tonnes)	40	57	40	50	49
M$ million	1,162	1,648	650	839	911
LNG					
EXPORT ('000 tonnes)	3,458	4,839	5,195	6,014	6,118
M$ million	1,775	2,300	1,446	1,828	1,836
COCOA BEANS					
EXPORT ('000 tonnes)	66	82	106	157	189
M$ million	338	410	496	684	708
TOTAL M$ million (current)	23,021	22,650	17,062	21,109	23,365
TOTAL M$ million (1980 terms)	18,402	18,047	13,498	16,569	17,795
CHANGE IN EXPORTS					
NOMINAL TERMS		-1.6%	-24.7%	23.7%	10.7%
REAL TERMS		-1.9%	-25.2%	22.7%	7.4%

Source: Malaysia, Ministry of Finance, "Economic Report" (various years)

TABLE I-13
CHANGE IN DOMESTIC DEMAND, 1980-1990
(REAL TERMS)

YEAR	CHANGE IN DOMESTIC DEMAND
1980	16.4%
1981	10.1%
1982	7.7%
1983	4.9%
1984	4.1%
1985	-6.9%
1986	-9.1%
1987	0.6%
1988	16.0%
1989	15.2%
1990	14.5%

Source: Calculated from Table I-9

manufactured products.

The recovery from the economic recession of 1985-86 was largely due to a recovery in some major commodity prices and increased natural gas and timber output. In 1987, the production of sawlogs increased by 21 percent while natural gas production rose by 14 percent (Table I-12) and a real economic growth rate of 5.4 percent was achieved. The value of exports increased by 14.6 percent (real terms) to M$ 40,819 (1978 prices) (Table I-9), due to an increase in both commodity (Table I-12) and manufactured exports. The ringgit's depreciation in 1986 enhanced the competitive edge of manufactured exports and manufactured exports rose by 32.5 percent in nominal terms[5] to M$20,343.6 million in 1987 (Malaysia 1989: 194). Since then, the economy has experienced continued strong economic growth, with growth rates reaching 9.2 percent in 1989 and 9.7 percent in 1990 (Economic Report 1993/94).

Prior to the 1985-86 recession, the public sector was the major contributor to economic growth. However, the sustained recovery was led by the private sector. Private investment expanded by 6.2 percent in 1987 and an average of 25.8 percent per annum ,in real terms, between 1988 and 1990 (Table I-14). The symbolic cornerstone in Malaysia's path towards becoming an industrialised nation occurred in 1987, when for the first time the manufacturing sector more than marginally exceeded the agriculture sector in its percentage contribution to GDP[6]. In 1987, the manufacturing sector's share of GDP was 22.6 percent, while that of the agricultural sector was only 21.7 percent. Since then, rapid growth in the manufacturing sector has resulted in it being the economy's largest sector for the remainder of the decade (Table I-8). By 1990, the manufacturing sector's contribution to GDP had risen to

TABLE I-14
CHANGE IN PRIVATE INVESTMENT, 1980-1990
(REAL TERMS)

YEAR	CHANGE IN PRIVATE INVESTMENT
1980	17.9%
1981	4.1%
1982	-2.3%
1983	8.8%
1984	7.5%
1985	-8.6%
1986	-16.6%
1987	6.2%
1988	22.0%
1989	30.5%
1990	24.8%

Source: Calculated from Table I-9

26.9 percent. In contrast the agricultural sector's share in GDP had fallen further to 18.6 percent.

II. SCOPE AND LAYOUT OF THE STUDY

As outlined in the previous section, Malaysia has been moving towards industrialisation[7] but, the fruits from development and growth can only be equitably distributed if individuals have reasonably equal opportunities to succeed[8]. This thesis is a study of the inter-relationships between inequality, poverty, economic development and ethnicity. The key issue that this investigation addresses is the elementary structure of Malaysia's economic and social system. Different regions are characterized by different levels of productivity which in turn result in different levels of income. Ethnicity also varies, with some regions predominantly occupied by certain ethnic groups. Consequently, inequality is perceived to have important ethnic parallels. This is a comprehensive attempt to analyze both the ethnic and regional aspects of poverty and inequality and the changes that have occurred during Malaysia's progress towards industrialisation.

Following this introduction, Chapter II discusses some of the theoretical and conceptual issues concerning income distribution, inequality and poverty and their relationship to economic growth. This will then be followed by a comprehensive review of the literature on poverty and income distribution in Malaysia.

A large number of studies have been carried out in attempts to prove or disprove Kuznets "Inverted-U Hypothesis"[9]. Various scholars have attempted to prove this hypothesis by using cross-sectional data although the hypothesis in its original form was based on historical time-series data. The Malaysian case offers

a unique opportunity to prove or disprove the hypothesis using both methods. Using available time series data from 1957 to 1989, the pattern of income inequality in the course of economic development in Malaysia[10] will be examined.

The second method used to verify the hypothesis adopts a cross-sectional approach, using Malaysia's thirteen states and Federal Territory as the different observations. The presence of the systematic relationship between growth and income inequality are tested for the 3 separate years, 1984, 1987 and 1989[11]. Chapter III concludes with a short discussion, based on Malaysian data, on comparing the use of cross section data and time series data to verify Kuznets' hypothesis[12].

Another important issue is the distribution of income. Both changes in income distribution and the contribution of its components will be analyzed. Chapter IV examines temporal changes in income inequality between 1979 and 1989, based on personal income distribution as measured on a household basis. Using the Gini coefficient, income share data and mean and median income[13], the discussion will be separated into three sections; overall income inequality, rural-urban income inequality and ethnic inequality. Apart from constraints set by data availability, the Gini coefficient is also used as its interpretation is straightforward and easy to understand. When the different measures appear to show conflicting changes, as in the case for the Indian ethnic group in Peninsular Malaysia between 1987 and 1989, when a rise in the Gini coefficient was accompanied by an increase in the income share of the top twenty percent of households, an alternative inequality measure such as the Atkinson Index is calculated.

Income disparities between different groups and their contribution towards inequality will also be investigated. Using the Theil index, Chapter IV will close with an analysis of the decomposition of inequality. Although various inequality measures can be decomposed (Anand 1983: 86-92), the Theil index is used as it can be easily decomposed to show the extent of inequality arising from differences within a particular group and from differences between the groups. The following chapter, Chapter V, takes the same format except that it concerns Sabah and Sarawak. It also includes an evaluation of the reasons for separating the analysis of Sabah and Sarawak from Peninsular Malaysia.

The Malaysian economy is characterized by marked differences in structure across regions. The most urbanized regions have varied industrial and occupational structures with high average labour productivity. On the other hand, rural areas are distinguished by low productivity. These differences in sectoral productivity result in income disparities between different regions. The objective of the regional development strategy under the NEP is to narrow the disparities in the standard of living between regions by accelerating the rate of growth of the less developed regions.

Studies on regional inequality in Malaysia have mainly been restricted to urban-rural inequality. This study however, also analyzes the Malaysian data at state level. Employing the Theil Index, Chapter VI decomposes overall inequality to determine if differences in income between the different states contribute significantly towards overall inequality. In addition Williamson's inequality indices will be calculated to examine the historical pattern of regional inequality between 1970 and 1990. This chapter also examines regional dualism

and the extent of this in the two main sectors of production in Malaysia, agriculture and manufacturing. Thus Chapter VI concludes with a discussion on the contribution of regional labour productivity to spatial income disparities and the degree of inequality in the agricultural and manufacturing sector.

The eradication of poverty constituted the first prong of the NEP. While the government's commitment to achieving this objective has generally been accepted, there has been much debate on the poverty line income used for measuring trends in poverty over time. Chapter VII seeks to clarify this by discussing the calculation of the official Malaysian poverty line and how it has been updated since conception. The validity of using the same poverty line for nearly two decades will then be assessed.

The chapter then proceeds to analyze the nature and characteristics of those defined as poor, using the official poverty line for Peninsular Malaysia, Sabah and Sarawak, in 1989[14]. The profile of poverty identifies the poor in terms of socioeconomic variables, such as race, location, occupation, education, sector of employment and employment status and shows two different aspects of poverty. The incidence of poverty is used to reveal which particular groups are most likely to be poor while the composition of poor households shows the contribution of different groups to total poverty. As the population unit used in the profile is the household, socioeconomic characteristics such as occupation, education, sector of employment and employment status, refer to the household's head. The poverty profile is not constructed in terms of individuals due to lack of data, but as Anand (1983:127) suggested, the fact that the household is the basic income-sharing unit makes it appropriate to describe the

poor and analyze poverty trends in terms of households.

Studies suggest that poverty is predominantly a rural Malay phenomenon[15] and that this group has the highest probability of being poor and forms the greatest proportion of the poor. However this fact does not exclude all other groups from being poor. The poverty gap is calculated to evaluate the severity of poverty within the different sub-groups of poverty, by location and ethnic group[16]. This allows a comparison of the extent of poverty between the different groups. Chapter VII concludes by estimating various regression equations to determine which factors influence poverty. As in Chapter III, state-level data are used.

Malaysia's success in reducing poverty and income inequality in the 1980s has not been the result of GDP growth alone. Malaysia's performance prior to the NEP showed that growth is not necessarily accompanied by improved income distribution. Thus its success lies in the government's "redistribution through growth strategy". The final chapter, Chapter VIII, presents the probable explanations for the changes in income distribution and poverty experienced during the decade. In an effort to reduce poverty and racial imbalances, the government has implemented numerous policies and programmes. These programmes and policies can be broadly classified into two categories: rural development; and human resource development. A key feature in the "redistribution with growth" strategy was that it enabled the poor to participate in the opportunities provided by the expanding economy.

To achieve this, NEP policies were directed at the poorest sectors of the population. Major rural development programmes were targeted at the poorest occupational groups and were aimed at increasing the

productive assets of the poor and their capacity to use their assets more productively. This was to ensure that they would also benefit from the growing economy. Meanwhile the government sought to improve the quality of life in rural areas by the provision of basic essential services such as sanitation, safe drinking water, health facilities and public transportation. Poverty redressal was not restricted to improvements in income, due to the economic significance of improved living standards. Inadequate nutrition, and ill-health, reduces the capacity to work which results in loss of earnings and reduced incomes.

The human resource development strategy focused on education as a means to eliminate and restructure society. The focus on education was based on the premise that education provides access to better paying jobs and is thus the main means of moving up the social ladder. Therefore, more equitable educational achievement will lead to a more equitable distribution of income. Chapter VIII concludes with a comparison of the effectiveness of these programmes and an assessment of the Malaysian government's success at reducing the extent of poverty and inequality.

III. DATA SOURCES AND COMPARABILITY

The income data used in this study are derived from several official surveys conducted by the Department of Statistics, Malaysia. The surveys include:

a) Household Income Survey (HIS) 1980
   (1979 as the reference year)
b) Household Income Survey (HIS) 1984
c) Household Income Survey (HIS) 1987
d) Household Income Survey (HIS) 1989

The choice of these years is based purely on the available data. It is interesting to note however, that

the second oil-price shock took place in 1979[17], and 1985 marked Malaysia's worst post-independence economic recession, triggered by the collapse of world commodity prices.

The main objective of the Household Income Surveys is to collect information on the pattern of income distribution classified by various socio-economic characteristics in Peninsular Malaysia, Sabah and Sarawak. Encompassing more than one percent of the total population, these surveys cover households in both urban and rural areas. With a total of 29,079 households, the HIS 1980 survey has the smallest sample size. Of the total sample, Peninsular Malaysia accounted for 14,338 households while Sabah and Sarawak accounted for 6,772 and 7,969 households respectively. The remaining three surveys covered more than 60,000 households: 60,250 households for HIS 1984[18]; 60,934 households for HIS 1987 (47,063 - Peninsular Malaysia, 6,410 - Sabah, 4,947 - Sarawak); and 63,438 households for HIS 1989 (47,914 - Peninsular Malaysia, 9,065 - Sabah, 6,459 - Sarawak).

The unit of enumeration used is the "household", defined as a "group of persons normally living together, pooling their financial resources and eating from the same pot". The surveys cover only persons living in private households and excludes institutional households. In addition they also do not take into account the differences in household size and composition. The surveys use a comprehensive concept of income. This includes not only money income but also income in kind, together with receipts which are of a recurring nature and accrue to the household or to its individual members regularly at annual or more frequent intervals. Thus income also includes: earnings from paid employment; income from self employment; rental income; property income; transfer receipts; and transfer

payments.

The HIS surveys are claimed to be broadly comparable (Yusof 1988). Each survey utilises the National Household Sampling Frame (NHSF) made up of Enumeration Blocks created for the 1980 Census of Population and Housing. All these surveys have adopted the same definition for enumeration unit, concept of income and classification of urban and rural areas. Four broad classifications have been used to identify urban and rural areas: 'metropolitan towns', defined as towns with a population of 75,000 or more; 'urban large', towns whose population are between 10,000 and 74,999 (inclusive); 'urban small', towns whose population are at least 1,000 but less than 10,000; and 'rural', which covers the remaining areas. 'Urban areas' consist of 'metropolitan towns' and 'urban large', while 'rural areas' are made up of 'urban small and 'rural'. With the exception of the 1980 HIS, the surveys classify urban areas according to the population for that particular year[19]. The 1980 HIS however, classifies urban areas by referring to the population 'as at 1970'. For each survey, data is collected by personal interviews. To check on the quality of the fieldwork, field edits at various regional centres and re-interviews were carried out. Their comparability is further supported as the Department of Statistics issues guideline manuals to ensure a consistent approach when conducting the surveys.

The Department of Statistics has evaluated the income data to check its reliability. It claims that sampling errors are within the accepted level of precision required. Non-sampling errors arising from observational or response errors, defective frame, non-response editing or processing errors, were minimised. A ten percent random check on completed interviews were

carried out by supervisors to ensure that response errors were kept to a minimum. Consistency checks with household income estimates from the National Accounts were done to evaluate the extent of bias. The mean household income is checked against the mean household consumption expenditure obtained from National Accounts[20]. However, the extent of under-reporting in the Household Income Surveys has not been excessive with mean income from the survey being more than 90 percent of the mean estimated from National Accounts in 1980 and 1984 and just over 100 percent in 1987.

It is important to note that no primary data sources are used in this study. Although unpublished data from HIS 1980, 1984, 1987 and 1989 have been used to examine the different aspects of Malaysian income inequality and poverty, the data were processed by the Department of Statistics. An example of the format of data on income distribution can be seen in Table I-15. Although other data, such as those on poverty characteristics, may not necessarily be presented in the same format, nonetheless they have been similarly processed . The Gini coefficients, mean income and median incomes used in this study are obtained directly from the Department of Statistics. Although access to raw data was denied, detailed information on income and poverty by state was available from the Household Income Surveys. Other measures used, such as the Theil index, the Atkinson index, incidence of poverty and poverty gap, were calculated using these secondary sources.

Additional data, such as those on labour and sectoral distribution, are derived from:-

a) Population and Housing Census of Malaysia 1980: Population Report for Administrative Districts: Occupations and Industry
b) A Report of the Household Expenditure Survey

TABLE I-15
THE FORMAT OF THE DATA ON INCOME DISTRIBUTION OF MALAY HOUSEHOLDS IN PENINSULAR MALAYSIA IN 1984.

INCOME CLASS	NO. OF HHOLDS	MONTHLY GROSS HHOLD INCOME (M$ current)
NEGATIVE INCOME	322	(98,378)
NO INCOME	42	0
$ 1 - 49	2,408	87,906
50 - 99	13,006	991,480
100 - 149	18,326	2,262,806
150 - 199	20,510	3,556,700
200 - 299	44,128	10,948,630
: *a	:	:
1000-1249	34,090	38,043,740
: *b	:	:
2000-2499	13,020	28,895,342
: *c	:	:
4000-4999	2,968	13,275,346
5000 AND ABOVE	4,424	37,513,686
ALL INCOME CLASSES	477,190	406,598,878
MEAN INCOME	852	
MEDIAN INCOME	581	
GINI COEFFICIENT	0.469	

Notes:
1. *a - equal intervals of $100
2. *b - equal intervals of $250
3. *c - equal intervals of $500
Source: Household Income Survey 1984 (HIS 1984)

Peninsular Malaysia (1980), Sabah and Sarawak (1982)

c) The Labour Force Survey Report Malaysia 1989-90

d) Industrial Surveys 1991: Construction, Manufacturing, Mining and Stone Quarrying.

The Labour Force Survey is conducted primarily to collect information on the structure and distribution of the labour force, employment and unemployment. The methodology of each of these surveys are similar to that of the HIS. The survey population to cover persons living in private households therefore excluding people residing in institutions. It utilises the National Household Sampling Frame and the personal interview method to collect the data.

Notes:

1. "Bumiputera" which literally means "sons of the soil" is a term used to collectively refer to all the indigenous ethnic groups in Malaysia. In Peninsular Malaysia this term is often used interchangeably with "Malay". However, in Sabah and Sarawak there are a vast number of indigenous races of which the Malays are not a majority.

2. The large contribution of "Other" ethnic groups in Sabah, comprise immigrants from Indonesia and Philippines.

3. Malaysia's resource endowment includes fertile and cultivatable land, tropical forests, oil and natural gas deposits, tin and copper deposits.

4. For a complete list of NFPEs please see Appendix I-1.

5. In real terms manufactured exports increased by 31.5 percent.

6. In 1984 the manufacturing contribution to total GDP (20.3%) was only 0.2% greater than that of agriculture (20.1%).

7. This is discussed by Snodgrass in a paper he wrote in 1992, "Malaysia--The Next NIC?". He defines NIC as "an economy that has been growing fast, largely through industrialisation, and has reached a high enough level of per capita income to justify the expectation that it

will become a developed high income country within two decades". He claims that based on 1990 income levels and past economic growths rates, Malaysia should become a NIC by the year 2000.

8. Impressive Malaysian economic growth rates during the 1960s did not improve economic imbalances as the poor lacked the necessary skills to take advantage of the opportunities (World Bank 1991: viii).

9. See Chapter II for a discussion on the "Kuznets' Inverted-U Hypothesis".

10. Because of data limitations, the evaluation of "Kuznets' Inverted-U Hypothesis" based on time series data is confined to Peninsular Malaysia.

11. The choice of these three years was purely due to the fact that state-level disaggregated data was only available to the author for these three years.

12. This concerns raised about using cross-section data discussed in the literature survey, Chapter II.

13. These measures were calculated by the Department of Statistics using primary data tapes. Refer to the section on "Data Sources and Comparability" for a more detailed discussion.

14. This choice of using the official poverty line despite the concerns raised in the previous section of Chapter VII, is purely because the data was available in this format.

15. This is discussed in the literature survey, Chapter II, Section V.C.

16. Because of data limitations, poverty gap measures for location and different ethnic groups are confined to Peninsular Malaysia.

17. The effects of the price shock, counter-cyclical public expenditure, have been discussed in the previous section of this chapter.

18. The number of households covered for Peninsular Malaysia, Sabah and Sarawak in HIS 1984 is not available.

19. For example, HIS 1984 classifies the metropolitan towns as towns having a population of 75,000 or more in 1984.

20. Private consumption expenditure is used as household income estimates are not readily available from National Accounts.

APPENDIX I-1

NON-FINANCIAL PUBLIC ENTERPRISES[1]

Antara Steel Mills Sendirian Berhad[2]
Cement Industries (Sabah) Sendirian Berhad
Cement Manufacturers (Sarawak) Sendirian Berhad
FELDA Oil Products Sendirian Berhad
FIMA Metal Box Holdings Sendirian Berhad[2]
Golden Hope Plantations Berhad[2]
HICOM
Kedah Cement Sendirian Berhad
Keretapi Tanah Melayu
Kontena Nasional Sendirian Berhad
Kumpulan FIMA Berhad
Kumpulan Guthrie Sendirian Berhad[2]
Lembaga Letrik Sabah
Lembaga Pelabuhan Bintulu
Lembaga Pelabuhan Johor
Lembaga Pelabuhan Kelang
Lembaga Pelabuhan Kuching
Lembaga Pelabuhan Sabah
Malaysian Airline System Berhad (MAS)[2]
Malaysia International Shipping Corporation Berhad[2]
Malaysia LNG Sendirian Berhad
Malaysia Rubber and Development Corporation Berhad
Malaysia Shipyard and Engineering Sendirian Berhad
Penang Port Commission
Penang Shipbuilding Corporation Sendirian Berhad
Perak Hanjoong Sendirian Berhad
Perbadanan Kilang FELDA
Perbadanan Nasional Shipping Line Berhad
Perbadanan Niaga FELDA
Perbadanan Pengangkutan dan Perusahaan Tabung Haji
Pernas Edar sendirian Berhad
Pernas International Hotels & Properties Berhad[2]
Pernas NES Telecommunications Sendirian Berhad
Pernas Trading Sendirian Berhad
Perusahaan Otomobil Nasional Sendirian Berhad
Perwaja Trengganu Sendirian Berhad
PETRONAS
Petronas Carigali Sendirian Berhad
Petronas Dagangan Sendirian Berhad
Petronas Penapisan Sendirian Berhad
Sabah Energy Corporation
Sabah Forest Industries

(Continued ...)

APPENDIX I-1 (Continued)

NON-FINANCIAL PUBLIC ENTERPRISES[1]

Sabah Gas Industries Sendirian Berhad
Sabah Shipyard Sendirian Berhad
Sarawak Electricity Supply Corporation
Sebor (Sabah) Sendirian Berhad
Telekom Malaysia Berhad[2]
Tenaga Nasional Berhad[2]
The Road Railer Services Berhad
Urban Development Authority

Notes:

1. From original 56, the new list excludes 6 agencies which had been privatised during the 1988-90 period. These agencies were Ford Concessionaires Sdn. Bhd., Pernas Sime Darby Trading Sdn. Bhd., Cement Industries Malaysia Bhd., Gula Padang Terap Sdn. Bhd., Malaysian Helicopter Sdn. Bhd. and Koko Malaysia Sdn. Bhd.

2. Privatised through listing on the Kuala Lumpur Stock Exchange (KLSE) with government still owning majority share.

Source: Malaysia 1991a: 59

CHAPTER II
LITERATURE SURVEY

I. INCOME DISTRIBUTION AND DEVELOPMENT

Although the literature on inequality and development is extensive, the underlying theme has not shifted far from the original discussions first put forward by Kuznets in 1955. This theme can be characterised as the "worsening-then-improving" hypothesis. The hypothesis was based on individual country time-series data and looked at trends in income distribution over the course of development, usually in the context of developed economies in Western Europe, North America and Japan.

Kuznets' "Inverted U-hypothesis" claims that as a country passes through the development process, its income distribution changes. In the early stages of development, income inequality increases. This increase peaks and then declines in the later stages of development. Kuznets theory was based on the premise that as an economy begins to develop, there is an expansion of the small modern sector. Overall inequality widens due to the shift of resources from agriculture/rural sector to industry/urban sector and the structural changes caused by this expansion in the modern sector. Kuznets states that the distribution of income is more equal for the rural population. Thus a shift of population from rural to urban areas, results in an increasing weight for the more unequal component, therefore overall inequality rises. Also profits account for a higher percentage of GDP in the early stages of development and profit income is less equally distributed than wage income. The structural changes brought about by industrialisation result in the coexistence of a wide spectrum of industries and jobs

which in turn provide very different levels of income. He then concludes that over time a 'variety of forces' will then increase the economic position of the lower income groups. This together with redistributive government policies will counteract the detrimental effects of industrialisation on income distribution.

An important implication of this hypothesis is that, should it be true, then a worsening of income distribution is inevitable and government policies should concentrate on accelerating economic growth. However should it not hold true, then governments cannot ignore inequality and should incorporate income distribution policies into their growth strategy. It is important to note however that Kuznets put forward his hypothesis in a tentative way. Empirical data from the developed countries were only available for the declining phase of inequality and the increasing phase was based almost entirely on historical speculation.

At around the same time, Lewis (1954) indirectly touches upon inequality in his classic "Economic Development with Unlimited Supplies of Labour" paper. His model divides a country's economic structure into two main sectors:- the capitalist, one which 'uses reproducible capital, and pays capitalists for the use thereof' i.e. a modern sector employing wage labour for profit; and the subsistence sector, one which 'does not use reproducible capital' i.e. a traditional peasant sector. The basic relationship between these two sectors is that when the capitalist sector expands it obtains labour from the subsistence sector. The monetary equivalent of subsistence wages becomes the floor for capitalist wages, so as to provide an inducement for people to move from the subsistence sector. Thus workers in the traditional sector have lower income than in the capitalist sector, (due to lower levels of

productivity). Growth and development results in an expansion of the capitalist sector and increases the income of its workers whilst leaving the subsistence sector income fairly constant and shrinking in size, due to the shift of workers to the capitalist sector. Income is thus seen to rise quicker in the modern sector as capital accumulation generates growth. Thus an increase in the capitalist sector results in an increase in overall income inequality.

Following this, various economists have conducted country studies to check the validity of Kuznets' Inverted U Hypothesis. For example, Berry & Urrutia (1976) made a thorough study of the Colombian income distribution. They found that income inequality worsened from the 1930s to the 1950s, and improved between the 1950s and the 1960s. They argued that income inequality was no better in the 60s than the 30s. The improvement in inequality after the 1950s was attributed to the improvement in income distribution of non-agricultural workers. Throughout the period, income distribution within the agricultural sector was found to deteriorate, but this was offset by trends in the non-agricultural sector.

Various income distribution studies have been carried out in Japan for the pre and postwar periods. (Hayakawa 1951, Takahashi 1959, Ishizaki 1967). All three studies suggest that income distribution in the fifties tended to worsen and this trend seemed to reverse itself in the sixties. Examining the distribution between 1954 and 1971, Mizoguchi (1975) separated the households into 3 types of multi-member households; employee, agricultural and "other-type" households. He then concentrated on looking at income inequality trends within each category. For each category, income inequality increased from 1950s to the

mid 1960s after which it declined. The decline occurred in 1961 for employee households and 1964/65 for agricultural and "other type households. To estimate overall inequality, Mizoguchi employed two methods using different surveys. The first used income estimates from the Employment Status Survey and the Survey of Consumer Finance. The second used data from the Family Income and Expenditure Survey, Family Saving Survey and the Cost of Living Survey for Farm Households. Both estimates showed similar patterns with inequality rising till the early 1960s and decreasing after. Thus in both cases, overall inequality and for each category, Mizoguchi's findings are consistent with the Kuznets hypothesis.

Other studies of the Asian countries have provided mixed results. There are studies which show that income distribution had deteriorated since the 1950s. A large ILO study (1977) edited by Griffin and Khan, on 8 Asian countries showed that income distribution with the exception of China had indeed worsened. Fei, Ranis and Kuo (1978), in their analysis of Taiwan's pattern, found that it fitted the general theory with a turning point in 1968. However, countries such as Korea and Hong Kong (Chau & Hsia 1974; Adelman & Robinson 1978) managed to achieve high levels of economic growth without any apparent adverse trend in inequality. In the case of Hong Kong rapid growth was accompanied by an improvement in distribution, while in Korea it stayed relatively constant.

Thus not all individual country time series studies have confirmed the Kuznets's hypothesis. Wolfson (1986) found that, when looking at Canadian inequality indices, income inequality had remained relatively stable since World War II. Paglin (1975) drew similar conclusions from an analysis of data from the United States. Both economists found that, despite government initiatives in

education, training and positive social changes, there seems to be a levelling out in the distribution of income, rather than any marked decline in inequality.

Whilst the Kuznets's Hypothesis and Lewis's theory were based on time series trends in one economy, there were also various studies which used cross-sectional data. Adelman & Morris (1971, 1973) carried out a cross-sectional analysis of personal income distribution in 74 less developed countries. Their conclusion was that during the early stages of economic growth, the development process favours the higher income groups. They claimed that increases in the income share of the lowest 20% of the population were only achieved when a relatively high level of socioeconomic development has been reached. Therefore, although supporting the Kuznets Hypothesis, they pointed out that it was economic, socio-cultural and political forces rather than the level of per capita GDP that explained changes in income distribution.

Using the data assembled by Adelman & Morris, a separate study carried out by Paukert (1973) using 54 countries, also seemed to provide support for Kuznets's hypothesis. Paukert classified his countries into different per capita income groups and found that inequality increased simultaneously with income up to a point and after which it then declined. The turning point in his study was said to occur at levels of income between $301 and $500 at which income inequality reached its peak. Chenery and Syrquin (1975:49) followed a similar path in another cross-country study, with data from 1950 to 1970, and obtained results confirming Kuznets. Like Paukert, their turning point was a per capita income of about US$ 300.

A more recent attempt at confirming the Kuznets

Hypothesis was Ahluwalia's cross country analysis (1974) involving 60 countries, 40 - developing, 14 - developed and 6 - socialist. This study used multivariate regression analysis to estimate cross country relationships between income shares of different groups and development factors affecting inequality. It found strong support for the hypothesis that inequality tends to widen in the early stages of development with a reversal in later stages.

Employing multiple regression analysis, Ahluwalia (1976a) attempted to explain differences in inequality by other factors, such as intersectoral shifts, education, skills, growth and population change. He concluded that these factors explained some of the improvements in inequality in the later stages of development but not the deterioration in the earlier stages. Including these other variables did not improve the fit of the equation significantly. However, this was probably due to the high correlation between the new variables and per capita income. Regressions using only these variables showed that while inequality can be explained by these other factors, the hypothesis is better explained by per capita GNP. Although his study showed that inequality worsened with economic growth he could not find evidence to prove that worsening of inequality was greater for those countries growing at faster rates.

As with historical time series data, not all cross-sectional studies supported Kuznets. In a study of Asian countries, Oshima (1970) produced results which disagreed with his 1962 findings supporting Kuznets hypothesis. His conclusions did not support the hypothesis with regards to inequality trends and income concentration in the highest income group. He argued that absolute income inequality in this group rises with

increasing real per capita income. He also noted that in the shorter run, relative inequality does not seem to change significantly.

An important general criticism raised against the vast cross-sectional literature is that it uses cross-section data to prove or disprove a theory which is basically a time-series relationship between the development and income inequality of a particular country (Sundrum 1990:79-80; Anand & Kanbur 1993). Different countries do not start the process of sustained economic growth at the same levels of inequality, nor do they necessarily follow the same development path. Therefore cross country data are not strictly comparable, not only from a statistical point of view but also theoretically. It is known that the data used by many scholars were in some cases taken from household distributions and in others, from individual distributions. Further, the concept of "household income" differs from country to country, and sometimes from survey to survey. For some countries, the survey coverage is nationwide while for others it is restricted to specific areas. However, although one must interpret these results with caution, they can still be assumed to provide a guideline to developments over time.

II. REGIONAL INCOME INEQUALITY

Kuznets's hypothesis concerning inequality and development does not specifically address changes in income differentials over geographical space within the boundaries of one country. In its early stages, development is often accompanied by large regional differences in income. This fact has sparked interest from several economists. Although various theories have been postulated since the 1950s the common thread running through the literature is the principle of the

"growth pole" and a similar "inverted-U shaped" process is depicted. The income gap between the growth pole and other regions widens during the earlier stages of development and declines as the economy matures.

One of the first theories put forward was that of Hirschman (1958). His theory postulated a specific region, referred to as "North", which became the growth centre. North being more advanced and developed than other areas ("South"), it influenced the development of the rest of the country. As a direct result of its economic superiority, South was subjected to disadvantageous "polarization effects". Due to opportunities available in the North, selective migration of the young, educated and skilled would take place in large numbers, leaving the South with an older and relatively less educated and less skilled population. Capital flows would also follow the same route, due to the higher returns available in the North. These factors combined would further enhance disparities between North and South. Hirschman mentions "trickling down" effects from North to South in the form of increased purchases and investments but maintains that these effects would favour the North disproportionately more.

At around the same time, Myrdal (1958) described the development and growth process in terms of "circular interdependence within a process of cumulative causation". His main idea was that the concentration of industry and development in one particular region would release "positive cumulative effects" which in turn creates two other effects; the negative "backwash effect" and the positive "centrifugal spread effect".

The positive cumulative effects takes the form of increased employment, and subsequently income, in this

backward region. However, the concentration of industries in this region would create external economies (eg. infrastructure) which would then in turn attract more industries and divert resources from the poorer regions to the growth pole. This is the "backwash effect". At the same time Myrdal claims that the expansionary momentum of the growth pole would also result in the economic expansion of other regions ("centrifugal spread effects"), but this would take place after the backwash effect. In the early stages of industrial concentration in a region, the backwash effect is predominant, resulting in wide regional disparities. In the absence of government interference, it is only in the later stages of development that the centrifugal spread effect outweighs the backwash effect.

Williamson (1965) expanded on the theories put forward by Hirschman and Myrdal. He put forward the idea that even if both regions grew at the same rate the disparity between them would persist but that in fact it was often accentuated by other factors. Williamson stated that the main cause for inter-regional inequality was the combination of selective labour migration, and external economies of scale created by the concentration of industry together with government policies favouring the growth poles. Combined, they further accentuated the already existing regional disparities and widened the gap.

Like Myrdal, Williamson believed that the widening gap in regional inequality would not continue indefinitely and a reversal would occur during the later stages of the development process. Based on his study of data from several nations, he argued that the industrial growth poles would continue expanding to a point where costs would rise and it would not be economically attractive or feasible for industries to locate at the

centre. Development would then shift towards the undeveloped regions and the gap would close.

Mera (1978:155-175) sought to prove or disprove the growth pole theory by examining the development process of Japan and Korea. He found that for both countries as the economy began to develop, regional disparities were amplified, but declined as the economy matured. At the beginning, selective migration took place and there was a mass migration to the growth poles. As the economy further expanded and the growth poles industrialized, the reversal hypothesised by Williamson was seen to emerge with a reduction in regional income disparity. At this time, selective migration and population concentration in the poles was reduced. He concluded that for the case of Japan and Korea the Williamson hypothesis could be confirmed.

Esmara (1974) confirmed Williamson's hypothesis in Indonesia. He found that the Indonesian trend of regional inequality could be linked to regional economic growth. Java and Sumatra became the focus of national development efforts, together accounting for over 80% of GDP in 1972. Most of the economic activities outside Java involved primary industries; estate & smallholding cultivation of commercial crops, timber, oil and mining. In 1972, out of 26 provinces, only 12 had regional per capita incomes above the national average. Of these 12 provinces, 7 are situated in either Java or Sumatra. The disparity ratio between regional per capita incomes and the Indonesian average ranged from 6.58 in East Kalimantan to 1.06 in South Kalimantan. For provinces below national average, the disparity ratio ranged from 0.97 to 0.53.

The common theme of the literature on regional income distribution has been that of the growth pole,

with increasing then decreasing inequality. Friedmann (1966, 1972) refined the theory of growth centres first formulated by Perroux (1961). This model was set in the context of nations emerging from colonial rule. Such countries possess an economy dominated by one centre and a periphery from which products are extracted and exported to the colonial power. The periphery is exploited by the centre and remains relatively less developed as it is supporting the growth of the centre.

Krugman (1991) developed the Core-Periphery Model, based on geographic concentration. This theory claims that given sufficiently strong economies of scale, the manufacturing sector will concentrate in a single location, which has the largest local demand. However, Krugman claims that the concentration of industries will in itself, increase demand, thereby making it the area with the largest local demand. i.e. a situation of circularity exists. The core is sustained by the firms' desire to locate near demand and the workers' desire to have access to goods produced by other workers. This model is dependent on two other conditions; sufficiently low costs of transportation and a substantial share of production not tied down by natural resources. The existence of these three factors, would perpetuate the core's existence as it would be cheaper to service all markets from a single place. Further studies conducted on the subject essentially put forward the same ideas as the preceding theories, including Alonso (1975), Lausen (1969) and Berry (1982).

III. POVERTY

The analysis of poverty is as important, when considering development and economic growth, as income inequality. Poverty can be viewed in two ways, as a phenomenon of relative differences in incomes within a

society or in absolute terms. Crucial to studying poverty is an understanding of the concept of poverty. The first rigorous definition of poverty was produced by Rowntree (1901). He identified poverty as a monetary situation which rendered an individual or family unit incapable of maintaining a minimum acceptable living standard. This doctrine is based on a "poverty line" relating to consumption levels required to survive. Using a minimum caloric intake estimated by Atwater (a nutritionist), Rowntree derived his poverty line. To this day, Rowntree's basic concept is still in use.

The concept of minimum needs has been particularly durable though it was extended beyond Rowntree's calorie intake. An inventory of minimum needs is usually arrived at by determining the absolute basic ingredients of human subsistence. The basic ingredients include food, shelter, clothing and transport. The list is then translated into monetary units and summed to make the poverty line.

Though adopted by many policy makers, this approach has suffered criticism. Rein (1971) demonstrated that defining poverty by a subsistence-level income was arbitrary. He claimed that as conditions varied across regions and cultures, the poverty line would also vary accordingly. He further states that the poverty line does not reflect changes in the minimum needs standards brought about by development. Sen (1979) noted that a problem arises when the natural family unit is used for consumption behaviour. According to its size and composition its minimum needs would differ, i.e. children, adults and elders have different needs. In addition, poverty lines often do not acknowledge distinctions in price differentials that exist between rural and urban areas, or in different regions of the same country.

Strong advocates for this train of thought were Miller and Roby (1971) who suggested comparing the size and characteristics of the lowest one or two deciles of the population with the rest. However, poverty would then always exist so long as relative income inequality existed. It was clear that this was not a complete way to look at poverty. Schiller (1984: 12) concluded that although poverty lines may differ and to a certain extent be arbitrary, they were not useless and nevertheless provided a fairly good indication of poverty.

Sociologists and anthropologists were also concerned with the subject of poverty. Lewis' (1959, 1968) "culture of poverty" thesis viewed poverty as something more than just economic deprivation. Instead he argued that the poor had distinctly different behavioral patterns which reflected distinct values and characteristics. In his thesis, poverty was caused and sustained by this particular lifestyle which was unique to the poor. Therefore, he proposed the idea that the poor are such because their culture prevents them from adapting and moving out of poverty.

Not all sociologists subscribed to the "culture of poverty" hypothesis as it seems to assert that the poor lack the desire to escape poverty. One of its main weaknesses is the proposition that the behavioral differences between the poor and non-poor are caused by differences in goals and aspirations. In reality, the poor do not have as much chance of fulfilling their goals. Rossi and Blum (1968) concluded that although the poor may share certain characteristics, such as helplessness, inferiority and dependency (Lewis 1968), the extent to which they are transmitted between generations is controversial. Such characteristics were a result of adapting themselves to a situation of

poverty and that values and behaviour would change if the situation was improved. This led to the "structural hypothesis" which emphasis differences in opportunity. Thomas (1972) saw poverty as a consequence of accessibility to factors enabling the movement out of poverty. Schiller (1976: 117-129; 229-235) and Ribich (1968: 1-13) saw education as a major vehicle of movement out of poverty and if accessibility was unequal and restricted, then predictions can be made on who would be poor. The root of the structuralist argument is the concept of discrimination. Opportunities available are not equal to everyone and may be limited to ceratin groups. Schaffer and Hsein (1975) stated that unequal access to opportunities may lead to the continued poverty of certain groups and regions.

The structural-institutional approach, based on economic dualism, to analyzing poverty suggested by Fei & Ranis (1966, 1971) is relevant to the Malaysian context. A dualistic economy is characterized by the coexistence of a large traditional agricultural sector and a dynamic industrial sector. Development will shift the economy's focus to the industrial sector. Emphasis on the industrial sector will lead to a net flow of capital and labour resources out of agriculture and into industry. Poverty is the result of consistent neglect of the traditional agricultural sector. This neglect can be caused by discriminatory policies favouring development in the modern and industrial areas. As discussed in Section II, the modern and industrial areas act as growth poles and develops more rapidly than the agricultural areas. Consequently, poverty emerges in the backward agricultural sector. Fewer resources would also be spent on education and facilities in these areas, which would imply that the access to mobility factors would be harder to obtain by the poor. Thus poverty persists in a vicious circle.

Theories of poverty based on cultural phenomena have received a certain level of acceptability. However most policies lean towards structural theories because these theories offer a more coherent justification for policy intervention.

IV. MEASUREMENT OF INCOME INEQUALITY & POVERTY

It is known that incomes are distributed unequally, some people have less than others. However, policy makers need to know the extent to which incomes differ from each other and what constitutes "being poor". Steps can only be taken to alleviate the problems of poverty and income inequality if they can be quantified and measured.

A. MEASURES OF INEQUALITY

Statistical measures of inequality are derived directly from the data. One of the simplest ways to visualise income dispersion is graphically. The most common graphical device, the Lorenz curve (Lorenz 1905) is a cumulative distribution plotting population share to the corresponding income share. In a perfectly equal distribution, the Lorenz Curve would be a straight diagonal line from the point of zero population and income to total population and income. As income is never distributed equally, the Lorenz curve will be a convex curve lying below the diagonal line.

Various measures of inequality can be derived by comparing the actual data to an egalitarian situation. These include: the range decile ratio; the coefficient of variation; Gini coefficient; and relative mean deviation. The range decile ratio is often dismissed (Sen 1973) as it merely points out the difference between the two extreme income levels. Inequality

indices should satisfy three basic properties: mean independence; population size independence; and the Pigou-Dalton condition, i.e.any transfer from a richer to poorer person that does not reverse their relative ranks, reduces the value of the index (Anand 1983: 306). The Pigou-Dalton condition is violated by both the range decile ratio and the relative mean deviation. As the range decile ratio only looks at the extreme points, it is not sensitive to income transfers between the two points. Similarly by definition, the relative mean deviation is insensitive to income transfers between people on the same side of the mean. Both the Gini coefficient and the coefficient of variation satisfy all three properties.

It is sometimes useful to decompose inequality indices into various components. For policy implications, if overall inequality can be decomposed, these areas can be targeted. Some of the more common measures include, Theil's Index (1967), Gini coefficient and logarithmic variance. The logarithmic variance suffers from the problem that is not defined if any person in the distribution has zero income. The most widely used indicator for decomposition analysis is the Theil's index. The straightforward calculation and interpretation of its separate components of overall inequality make it a popular choice.

An alternative class of inequality measures, based on the social welfare evaluation of income distribution, surfaced in the early 1970's. The pioneering study of Atkinson (1970) produced the Atkinson Index, followed by various other welfare measures (Sen 1974, Kakwani 1980, Shorrocks 1983). This approach concentrates on the total utility of society thereby ignoring inequalities in individual utilities. As they are based on a social welfare function which is maximised when perfect

equality is attained, it faces the problem of specifying a widely acceptable utility function. In addition, the assumption that the welfare of individuals depends only on their own incomes imposes limitations, as individual welfare also depends on how an individual's income compares with the income of others.

Most of the discussion has taken place concerning the differences between the whole host of existing inequality measures. However, for the income distributions studied, a high degree of correlation and similarity exists between the different measures (Sundrum 1990: 61). Therefore the less complicated inequality measures, such as the Gini coefficient and Theil index, are frequently adopted by scholars as the calculation and interpretation are relatively simple and straightforward.

B. MEASURES OF POVERTY

Measurement of poverty begins with identification - who are the poor? A poverty line, which is regarded as an income level considered to be the borderline between poor and non-poor, is identified and the part of society with income below this line are poor. A variety of poverty line definitions have been suggested reflecting the different views on poverty. There are two approaches to define this poverty line, dependent on whether poverty is seen as a situation of absolute or relative deprivation. If viewed as absolute, the poverty line will be defined independent of the general living standards. If poverty is considered to be a relative concept, then the poverty line will be defined in relation to the prevailing style of living. However, the bulk of the literature in developing countries has concentrated on absolute poverty (Ravaillon 1992: 25).

i) Absolute Approach

The absolute approach is based on the concept of a minimum standard of living. The most common approach to defining an absolute poverty line is one based on Rowntree's (1901) basic needs approach. The poverty line is an estimate of the cost of a bundle of goods necessary to assure that basic consumption requirements are met. The difficulty arises in identifying what the basic needs are. The most important component of basic needs is food expenditure, which is frequently based on a recommended food energy intake. A certain amount is then added to account for other non-food items such as housing and clothing (Rowntree 1901; Orshanky 1965).

Food energy requirements are not constant over time for an individual and vary across individuals. It is dependent on the individual's activity level. Therefore to arrive at the recommended food energy intake, an assumption must be made about activity levels. A second problem is that the minimum cost required to obtain the stipulated caloric intake may be lower than the expenditure level at which the poor typically attain the same number of calories. This is due to the fact that consumer choice and preferences are ignored.

Difficulties arise in calculating the allowance for non-food items. The 'food-energy method' (Greer & Thorbecke 1986), which is essentially the mark-up method used by Orshanky, defines a food energy intake cut-off in calories. It then estimates, from a regression of calorie intake against income or consumption expenditure, the income level or consumption expenditure at which an individual typically attains the specified food energy intake. This method automatically includes an allowance for non-food consumption and is consistent with local tastes.

Once the poverty line has been fixed, then the simplest measure of poverty is the 'head-count' measure. The head count measure, commonly referred to as the incidence of poverty, is the proportion of total population falling below the poverty line. Its weakness is that it fails to consider the extent to which their incomes fall below the poverty line. Therefore the income shortfall or 'poverty gap' measure was introduced. The poverty gap has the advantage of identifying the total income required to bring all the poor up to the poverty line. However, this alternative measure ignores the number of people falling below the poverty line.

Sen (1976) claimed that both measures were important and a combination of the two should provide a better measure. He also said that both the head-count and the poverty gap were insensitive to the distribution of income among the poor. He developed a useful index, the Sen Index, which takes into account both the number in poverty and the extent of an individuals poverty. In addition, the Sen index also employs a rank-order weighting scheme, so each person is ranked with regards to their relative deprivation. The rank order below the poverty line is equal to the weight of the income gap of a poor person. Thus the Sen index incorporates all three concepts into a single index.

ii) Relative Approach

In essence, the relative approach states that a person is poor when his income is significantly lower than the nation's average. One of the more extreme relative measures is one that defines poverty as the low end of the distribution, i.e. the bottom 20 percent. Its major weakness is that it regards poverty as a statistical value. The bottom 20 percent will always exist and therefore so will poverty. Poverty would only

cease to exist if complete equality of incomes was achieved. This relative measure also provides no indication of the quality of life of the poor.

Fuchs (1969) suggested an improved measure of relative poverty. In the Fuchs measure, all individuals with incomes less than half of the national median income are poor. This addresses the issue of perpetuating poverty but not relative deprivation. Here, the elimination of poverty will occur with a reduction in income inequality. Based on the same type of argument, Atkinson (1975) defined poverty as those incomes falling below half the national average.

The choice of using half the national median or mean is to a certain extent arbitrary. There is nothing to prevent the use of one-third, three-eighths, three-fourths etc. Thus there is as much subjectivity in defining a relative cut-off point as there is in defining an absolute minimum living standard. In reality, the relative cut-off point is probably most strongly influenced by the scholars's perception of what the minimum living standard should be.

Observers from other social disciplines have suggested alternatives ways of measuring poverty. They generally embrace both material and spiritual deprivation. While these concepts are important and help towards understanding poverty, they do not contribute towards its measurement, as they are not easily observed or quantified.

V. THE MALAYSIAN CONTEXT

A. INCOME INEQUALITY

The literature on income distribution in Malaysia falls broadly into 3 categories:

a) The analysis of income distribution within a given year or comparisons over time
b) The determinants of income inequality
c) The testing of the Kuznets' Inverted-U Hypothesis

Influenced by the heterogeneous nature of the population, the majority of the studies have concentrated on examining the differences between ethnic groups. Although rural-urban disparities have not been neglected, the emphasis on racial inequality is marked. In addition, inequality studies in Malaysia have been restricted entirely to West Malaysia, with the exception of Ikemoto's (1990) most recent unpublished study, due to the lack of data availability on East Malaysia. Prior to 1980, data on Sabah and Sarawak were unavailable, and it is only during the 1980's that reasonably reliable data have been published.

i) Trends in Personal Inequality

One of the most thorough studies conducted was by Anand (1983). Using the 1970 Post Enumeration Survey (PES) data, his was a pioneering study, emphasising accuracy in measurement and decomposition of the Theil Index. The broad picture shown was that overall income inequality was fairly high (Gini coefficient of 0.5129 for household income). Compared with results from the 1957/58 surveys, this suggested that inequality had increased drastically in just over 10 years. However Anand pointed out that the 1957 survey was not comparable to that of 1970 and therefore no conclusions on intertemporal changes in inequality could be made. Racial income disparities were considerable with the

Chinese mean income double that of the Malay. However large inequalities also existed within each group; the Gini coefficient being 0.4553 for Malays, 0.4542 for Chinese and 0.5003 for Indians. By decomposing Theil's Index, Anand found that only 13 percent of overall inequality arose from income disparities between races, suggesting that racial income disparities might only be a minor part of the problem of Malaysia's overall inequality problem.

Lim (1974), Tan (1983), Shari & Zin (1978) and Snodgrass (1980) each attempted to study trends in the pattern of income distribution using various surveys. Although the Household Budget Survey 1957/58 was not strictly comparable to the PES 1970, Snodgrass adjusted the raw 1957/58 data to make them comparable. For example, the HBS 1957/58 excluded high income households, so tax records were used to adjust the data to represent households with income above $1000.[1]

Examining the pre-NEP data (i.e. 1957-1970), Snodgrass found that overall income inequality had worsened, with the income share of the bottom 40 percent falling from 15.8 to 11.6 percent. Figures for the top 20 percent strengthened this conclusion. The Malay Gini rose by 36.3 percent from 0.342 in 1957/8 to 0.466 in 1970. The Chinese Gini rose by 21.7 percent to 0.455 and Indians by 33.4 percent to 0.463 in 1970. Given Malaysia's economic growth, it seemed that Malaysia was embarking on the early stages of the curve postulated by Kuznets.

Although the effects of growth were felt by all races, the existing differences in wealth and income continued to widen. The Chinese-Malay (C-M) mean income disparity ratio increased from 2.16 in 1957/8 (Adjusted HBS), to 2.25 in 1970 (PES). Similarly, the Indian-Malay

(I-M) mean income disparity ratio also increased from 1.7 to 1.8 by 1970. Indeed growing income differences between groups were widely considered to have led to the traumatic 1969 riots which in turn gave rise to an emphasis on "redistribution with growth" through the NEP.

The more recent literature is primarily of the same type as the earlier studies but dealing with more recent data. Ikemoto (1985, 1986,1990), Jomo & Shari (1986), Shari & Zin (1983, 1990) and Bhalla & Kharas (1989) all extended the period analyzed. The unanimous conclusion seems to be that overall inequality continued increasing to the mid-1970s after which it began to fall. Perumal calculated that the reversal happened at a real per capita GNP of M$1,463, i.e. in late 1975 or early 1976. Overall inequality at the start of the decade compared to the end had remained relatively constant. Similar trends were also experienced for the different racial groups, except the Indians. The Chinese with the lowest Gini in 1970, experienced the largest rise of 11 percent to 0.505 in 1976 while the Malay Gini rose by 6 percent to 0.494. After 1976, as with overall inequality, both Ginis fell showing improvements in intra-racial inequality. The Indian Gini, however, peaked in 1970 and fell continuously throughout the rest of the decade.

The difference between the mean incomes of racial groups fell steadily from 1970. During the 1970s, Malay mean income increased by 74 percent in real terms, Chinese by 65 percent and Indians by 51 percent. This difference in relative growth rates narrowed the inter-racial gap. By the 1980's Chinese-Malay income disparity ratio had fallen from 2.25 to 2.13. Similarly, the Indian-Malay ratio went from 1.75 to 1.51.

ii) Determinants of Inequality

Hirschman (1976) tried to relate Malaysia's 1966/67 income distribution pattern to sociological theory. His simple but effective model hypothesized that income was dependent on opportunity, measured by ones birthplace and father's occupation. These two variables influenced educational level, which in turn determined an individual's occupation, thereby explaining inter-ethnic income differences. Other possible explanations include cultural differences and discrimination. Hirschman found that 80 percent of measured income difference was caused by "opportunity", measured in this way. Malays were more likely to come from rural and low-status origins, and thus had limited educational opportunities. However the low rate of participation in some occupations, even when social variables were controlled, suggested that discrimination does occur.

Tan (1982) claimed that income depends on the effort, skill and opportunities available to an individual person. His main focus was to identify the opportunities available to people when determining income. Dividing the population into various groups (i.e. padi farmers & fishermen, rubber & coconut small holders, salaried workers and rising middle class), he evaluated the opportunities available to each group. Tan claimed that these were determined by the structure of production and the structure of the market. He identified the poor households as those involved in small scale agricultural activities, small family activities and unskilled labour. He found that the only group with significant upward mobility were those possessing tertiary education. The majority of this group belonged to the higher income brackets, implying that the opportunity for upward mobility is biased in favour of those with higher incomes. Lim (1971) found average income lowest in agricultural related

activities; she argued that in Malaysia, a strong positive correlation exists between income levels and educational attainment.

iii) Testing the Kuznets Hypothesis

Two studies which attempted to test Kuznets' hypothesis yielded significantly different results. The most widely known study was carried out by Anand (1983) as part of his analysis of the 1970 data. From a cross-section analysis using Malaysian interstate data for 1970 he concluded that the Malaysian case gave little support to the hypothesis. His study showed that interstate inequality was steadily increasing with development. A more recent study by Perumal (1989) examined the time series data on income and inequality from 1957/58 to 1984. He ran regression equations of different indices of income inequality, including the ratio of mean to median household income and the more widely used Gini Coefficient, against per capita income. His findings provided considerable support for Kuznets's hypothesis. The opposing results from these two studies confirm the doubts already mentioned about testing Kuznets hypothesis using cross-sectional data. In addition, it must be noted that only 12 observations were used by Anand and seven by Perumal compared to 60 in Ahluwalia's study.

B. REGIONAL INEQUALITY

Studies on regional inequality have been mainly confined to rural-urban inequality. This is due to both an emphasis on racial inequality and the nature of the data. Prior to 1980, only two surveys produced valid data disaggregated to state level; the PES 1970 and Agricultural Census of 1977. Da Vanzo and Kusnic (1980) examined interregional differences in terms of urban and rural income by analyzing data from the 1976-77

Malaysian Family Life Survey. They found that while there are substantial differences in income, income inequality is sensitive to the way in which income is measured. When the definition of income is broadened, inequality falls.

Shari & Zin (1990) found income more unequally distributed in urban areas. The trend of urban and rural inequality followed that of overall inequality. From 1970 to 1976, the Gini Coefficient increased from 0.463 to 0.500 for rural areas compared to 0.494 to 0.512 for urban areas. Inequality decreased by 1979, but not enough to regain 1970 levels. The pattern of change in their differences in mean income followed the same trend as inequality. The urban-rural disparity ratio rose from 2.14 to 2.16 in 1976 and fell to 1.90 in 1979 and 1.87 in 1984.

Two studies which have analyzed the Malaysian case at the state level are Anand (1983) and Turgoose (1981). A segment of Anand's 1983 analysis was concerned with differences in income inequality for different states. In 1970, Anand found large variations in mean income and inequality levels between the states. The Gini coefficients ranged from 0.3833 in Perlis (one of the poorer states) to 0.4929 in Selangor (the richest state) and a cross-state regression produced a positive correlation between inequality and per capita income.

Turgoose (1981), at the request of the Malaysian government, analyzed income inequality from 1970 to 1977 for each state. His conclusions were that real per capita income rose in every state. In 1970, Turgoose found that 9.1 percent of total inequality was caused by between state inequality. Thus the "major cause of inequality in 1970 was not differences between the states but the unequal distribution among the races

within each state". In 1977, Selangor no longer had the highest Gini coefficient and was ranked seventh. Contrary to Anand, he found that the correlation coefficient between per capita income and inequality was not significant at a 5 percent level. However, he claimed that direct comparisons of inequality at state level between the two years was impossible. In 1970, Gini coefficients for each state relate to the distribution of individuals by household per capita income. In 1977 the Gini coefficients relate to the distribution of households by household per capita income.

C. POVERTY

The literature on Malaysia can be categorised broadly into three categories.

i) Descriptive studies focusing on rural Malay poverty
ii) Determination of the poverty line
iii) Empirical studies examining all aspects of poverty

As in the case of income distribution, these studies have also mainly been restricted to West Malaysia due to data unavailability on East Malaysia. Furthermore with the exception of Bhalla & Kharas (1992), poverty trends have only been examined by government agencies. Bhalla & Kharas found the pattern of absolute poverty falling steadily from 45 percent in 1973 to 19 percent in 1987.

i) Approaches to Studying Malay Poverty

Interest in poverty existed from as early as the 1920s with the work of Za'ba, but systematic studies on poverty only began in the 1950s with the pioneering works of Aziz (1964, 1965). Aziz (1964) argued that poverty was a relative notion based on material inequality arising from the unequal distribution of

income and wealth. Although Aziz claimed that poverty has no racial barriers, much of the earlier literature was confined to Malay poverty. This was because rural poverty was largely a Malay problem as the majority of the rural population were Malay. By looking at the occupational structure and income levels of the Malays, his main concern was to explain the causes of rural poverty. Aziz concluded that its three main causes were "low productivity, exploitation and neglect". The Malays were predominantly engaged in low paying agricultural and rural occupations, and therefore received below average incomes.

The British colonial heritage laid the foundation for this situation. The colonial administrators did little to improve the conditions of the poor peasant sector. In fact by confining social policies pertaining to health, education, labour and social welfare to the modern, mainly urban, sector, the subsistence peasant sector was further suppressed. Colonial policies resulted in the identification of ethnic groups with economic activities. The Chinese, found mainly in commercial activities, and Indians, mainly in plantations, together made up the modern sector. The Malays were found in the traditional subsistence peasant sector and the aim of colonial policy was to keep them there (Mehmet 1986).

During this time, market distortions were also introduced by the creation of the monopoly-monopsony situation (M-M system) and its middlemen. Under this system, prices of rural produce were controlled by middlemen, to their advantage. Therefore, price fluctuations in the modern sector did not reach the agricultural sector because of administered prices at the distribution level. In addition, government taxation policies, for example the rubber export tax and cess

levied on rubber smallholders, discriminated against them in favour of big plantations. Aziz (1964) suggested that rural poverty was increased by middlemen exploiting the peasant farmers. Ness (1967) quotes Dato' Onn that the main cause of Malay poverty was the exploitation of rural Malays by the Chinese and Indians. Wharton (1962) chose the case of rubber smallholders in Malaysia to present this hypothesis in a conceptual and theoretical framework.

This argument was first challenged by Bell and Tai (1969) and later by McLeod (1978). Bell and Tai argued that the theory postulated by Aziz (1964) was based on the underlying premise that peasants in the traditional sector are responsive to price stimuli, enabling them to change the quantity or composition of output. They claimed that for peasants to be responsive, two conditions must be satisfied. First and foremost, peasants must have access to price information and technical knowledge. Then, they have to be able to convert that information into actual practice. In Malaysia the first condition is not satisfied as the middlemen collect both price information and technological knowledge from the modern sector. This information will not be passed on to the peasants because it will not be to the middlemen's benefit. However, even if peasants had perfect information, they might still be unable to respond due to the lack of resources. Shifting from one crop to another may mean adopting modern production techniques, which requires capital they do not have.

McLeod's (1979) fundamental objection was that Wharton's analysis depended on the basic assumption that middlemen could continue to capture an economic profit indefinitely. He argued that in the real world, this assumption would not hold. He suggested that there is

usually more than one middleman and there are few barriers to entry to the "middlemen industry". Therefore any such profit would be whittled away by the entry of new middlemen into the industry. McLeod concluded that any differences in wealth and income between middlemen and farmers should be attributed to the skill differential between them and not by the exploitation of farmers.

Although quantifying poverty was not a main concern, Aziz (1964) did attempt to define poverty by proposing the "sarong index of poverty". This is essentially a per capita sarong index calculated to assess the extent of poverty among the rural Malays. The sarong index is calculated by dividing the number of sarongs in a household, by the number of persons living in that household who are above the age of one. The lower the value, the poorer the household. A figure of less than one would denote extreme poverty. A wealthy village dweller would usually have between seven and fifteen sarongs. This index can be refined by accounting for the different types of sarong.

Parkinson (1967) examined poverty in the context of the "culture hypothesis". He postulated that the Malays are poor due to their conservative attitudes towards development. He asserted that they, as a race, are generally unwilling to change and adopt modern technological changes. Further confirmation of this theory was given by Wilder (1968) and Mahathir (1970), by highlighting the fatalistic approach to life inherent in Malay culture due to strong Islamic beliefs. This fatalism, associated with the Malay value system, leads to the belief that fate determines all and striving for a better life is pointless.

Contrary to the cultural approach Fisk (1962), and Salih (1977), found that accessibility and unequal

opportunity caused poverty. The framework for unequal opportunity had already been formed by the colonial administration. The Chinese and Indians mainly resided in urban areas, and thus were able to enjoy the benefits of education, industrialisation and development. The majority of the Malays were located in rural areas and were deprived of such opportunities. Fisk observed that low rural income levels led to low or non-existent savings. In turn this resulted in their inability to bear the costs of education or migration, the two main vehicles of social mobility. Salih (1977) claimed that low productivity associated with poverty was caused by a lack of access to resources, including jobs, education, credit, public housing etc.

ii) Definition of Poverty

The definition of poverty is crucial to understanding poverty. The earliest attempt to define a poverty line for Malaysia was undertaken by the Ministry of Welfare in 1974 (See Chapter VII-1). Earlier studies looked at poverty in relative terms. Lim (1974) defined poor households as having income below the national average. Her results suggested that 71% of the total population were poor in 1957 and 1970. More recent studies employ a poverty line, be it the official published poverty line, or one concocted by the author.

Anand (1983: 113-118) compared various methods of defining a poverty line: the per capita income level of the bottom 40 percent; half the average national income (Atkinson, 1975); and the official estimates. The different methods turned out to be fairly similar and he chose M$25 as his poverty line. Realizing that results are sensitive to the value used, he proceeded to conduct a sensitivity analysis by considering two other poverty lines, M$15 and M$33. He concluded that the poverty profile is less sensitive to variations in the poverty

line than is the incidence of poverty. As the poverty line is lowered, the rural poor, and therefore rural Malays, make up a greater percentage of the poor. The opposite is true for the Chinese.

In a recent study, Anand (1991) claimed that a neglected but equally important measure of poverty is the poverty gap. He argued that for policy purposes, the poverty gap is a better measure than the incidence of poverty as it can provide an indication of the magnitude of the problem in relation to national income and its components. His results showed that the total Malaysian poverty gap in 1976 was 4.8 percent of GDP, 5 percent of GNP and 16.5 percent of total federal government expenditure (1991: 4). A later study by Bhalla and Kharas (1992: 58) showed that the poverty gap had been significantly reduced between 1973 and 1987. In 1973, the Peninsular Malaysia poverty gap was 4.3 percent of GDP and 19.5 percent of government expenditure. By 1987, the poverty gap had fallen to 0.9 percent of GDP and 2.9 percent of Government Expenditure.

Anand also postulated that the target-group approach to poverty was an efficient way of reducing national poverty. Target groups can be identified to share similar characteristics and experience much of the same conditions. For example they can be partitioned according to state, racial group or rural-urban location. Policies aimed at target groups will be more efficient as they can be formulated to cater for the specific needs of particular groups.

Shari (1978) proposed two alternative methods for defining a poverty line. The proportion of income (Engel coefficient) spent on food is an accepted indicator of economic well-being. A declining proportion is associated with higher incomes and a rising percentage

with lower income levels. Using the 1973 Household Expenditure Survey data, households were grouped into twenty equal groups and their Engel coefficients calculated. The average income level of the decile where the Engel coefficient stops rising and begins to fall is considered to be the poverty line. He derived a rural poverty line 45 percent lower than the urban poverty line, which is consistent with Anand's (1983) result that the cost of living in urban areas is 30 percent higher than in rural.

The second method was based on actual consumption patterns. Households were again divided into 20 equal groups and the proportion of income spent on necessities (defined as food, clothing and shelter) is determined. Shari then identified the group where expenditure on necessities equalled income. For these households, only enough income is earned to purchase basic necessities. Therefore households earning below this level are unable to meet their basic requirements and are deemed poor.

iii) Empirical Studies of Poverty in Malaysia

The 1980's produced several empirical poverty studies identifying poverty groups and the causes of poverty. Observations and explanations put forward in the 1960s and 70s were confirmed. Studies by Anand (1983, 1991), Visaria (1981) and Mazumdar (1981) agreed with Fisk and Salleh and claimed that a positive correlation existed between poverty and education. Anand (1983: 129) claimed that in 1970 43.2 percent of heads of poor households had no form education and that 35.6 percent did not complete primary education. Collectively, 78.8 percent had little or no education.

Visaria (1981) examined the economic and demographic characteristics of poor households. This study found that poor households mainly consisted of

agricultural workers, self-employed and family helpers, padi farmers, fisherman, and workers involved in traditional manufacturing activities. Visaria pointed out that these economic activities were highly correlated with educational attainment. A multivariate analysis of per capita expenditure and income showed education to be the most important explanatory variable (Visaria 1981: 62-63).

Prior to the 1980's, the study of poverty was synonymous with rural Malay poverty. Anand (1983:167) first suggested that "although quantitatively small, urban poverty could become an increasing problem". In line with the growth pole theory, large numbers of rural poor would move to the developing centres in search of new job opportunities. Not all migrants would get jobs immediately and those who did not would create an informal urban sector. This is the basis of poverty in urban areas (Harris & Todaro 1970). Anand claimed that the ethnic composition among the urban poor differs from the rural poor. While the ethnic composition of urban poverty in 1970 at a poverty line of M$33 was 47.0 percent Chinese, 34.5 percent Malay and 17.7 percent Indian, that of rural poverty was 11.7 percent Chinese, 79.6 percent Malay and 7.9 percent Indian. This however could be a direct consequence of the ethnic composition of the population in urban areas, 57.9 percent Chinese, 25.9 percent Malay & 14.9 percent Indian (Anand 1983: 177 and 183). Despite accounting for the largest proportion of poor urban households, the Chinese, at 20.8 percent, had the lowest incidence of poverty. The incidence of poverty among Malay and Indian urban households were 33.9 and 30.4 percent respectively.

Like Anand (1983), Fong (1984) found the incidence of urban poverty in 1984 to be highest for the Malays and lowest for the Chinese. An independent survey of

urban poor in four metropolitan centres using a poverty line of $75[2], found the incidence of poverty for Chinese was 6.5 percent, 20.6 percent for Indians and 21.4 percent for Malays. The study again showed that the major determinant of poverty was education. At any defined poverty line, the incidence of poverty decreased with increasing education. The survey also showed that school attendance rate was higher for children of the urban poor than the national average. As education is a key factor of social mobility, this suggests that over the medium and long term, urban poverty will be eradicated more quickly than rural poverty.

One of the few studies including East Malaysia is a recent study by Anand (1991). He estimated that in 1976, Peninsular Malaysia contributed 78 percent of total poor households in Malaysia, Sabah 10 percent and Sarawak 12 percent. However, although Sabah and Sarawak only accounted for 22 percent of all poor households in Malaysia, the extent of poverty found among the indigenous groups in East Malaysia by far exceeded that of the Malays in West Malaysia. While in 1976 the incidence of Malay poverty was 46.5 percent, the incidence of poverty among Kadazan, Bajau and Murut was 65.2, 72.9 and 76.2 percent respectively, accounting for 77 percent of total Sabah poverty. Similarly in Sarawak, the incidence of poverty for the Iban, Bidayuh and Melanau were 69.9, 73.5 and 63.2 percent, collectively composing 64 percent of all poor households. These figures indicate that the indigenous people of Sabah and Sarawak are among the poorest racial groups in the country.

Using a single poverty line of M$ 30 (1970 prices), Bhalla and Kharas (1992: 41-88) concluded that absolute poverty was predominantly a rural phenomenon with the incidence of poverty being 25 percent in rural areas

compared to seven percent in urban areas. In addition they stated that poverty was no longer unique to the Malays, but an Indian concern as well. They also suggested that the problem of poverty was manageable as its severity, as reflected by the poverty gap, had lessened. By 1987, the poverty gap was 30 percent[3] and equivalent to 0.9 percent of GDP.

Using official poverty figures, Jomo (1990b: 145-154) examined the pattern of poverty from 1970 to 1990. According to the official measures, the incidence of poverty has reduced dramatically since 1970, from 49.3 percent of all households in 1970 to 17.3 percent in 1987. In absolute terms, the number of poor households has fallen from 791,000 to 485,000. He asserted that this is not credible and the reduction was possibly a result of statistical manipulation or a changing poverty line. The bulk of this reduction occurred between 1981/82 and 1984. He claimed that it is highly unlikely that the cyclical upturn in 1984 could have reduced the poverty by 57 percent or more than 500,000 households (equivalent to almost 25 percent of total population) in 2-3 years. In addition he pointed out inconsistencies in the figures, for example in the case of rubber smallholder households. Between 1984 and 1987 the number of poor rubber-producing households rose from 68,500 to 83,100 while the incidence of poverty fell from 42.7 to 40 percent. This implies that the number of rubber smallholder households increased by 30 percent from 1984 to 1987; however there is no evidence to support this development.

The existing literature strongly suggests that poverty is predominantly found in rural areas, although found to a lesser extent across the entire country. Collectively the studies suggest that there has been a marked decline in the incidence of poverty since 1970,

although there was debate about the extent of the decline.

D. OFFICIAL ESTIMATES OF POVERTY AND INEQUALITY

i) Poverty

Malaysia is unusual in the extent to which poverty is carefully monitored by the government. In the Second Malaysia Plan 1971-1975 (2MP), the eradication of poverty was explicitly stated as an important goal of the NEP. The goal was to reduce the incidence of poverty from 49.3 percent in 1970 to 16.7 percent in 1990 (Malaysia 1973:73).

The official data shows an overall reduction of poverty in Peninsular Malaysia with its incidence falling by 11.0 percent to 43.9 percent in 1975 and a further 33.5 percent to 29.2 percent in 1980 (Malaysia 1981: 33-34; see also Table II-1). By 1983, the figure had increased to 30.3 percent (Malaysia 1983: 80) but fell miraculously by 39.3 percent in one year. The 1984 incidence of poverty was 18.4 percent (Malaysia 1989: 52). It continued declining to 17.3 percent in 1987 and to 15.0 percent in 1990. In absolute terms, the total number of poor households had fallen from 791,800 in 1970 to 666,100 in 1980. It had increased during the period, rising first to 835,100 in 1975 before falling. By 1984, the total number of poor households had fallen to 483,300 from 717,600 in 1983. In 1990, the total number had fallen further to 448,900 though there was an increase in 1987 to 485,800 (Table II-2).

The poverty problem is more severe in Sabah and Sarawak than in Peninsular Malaysia. Figures for Sabah and Sarawak, first available for 1976, showed the incidence of poverty at 51.2 and 51.7 percent respectively, higher than that of the Peninsular (Table II-3). By 1979, the figures had fallen to 41.1 and 47.7

TABLE II-1
PENINSULAR MALAYSIA: INCIDENCE OF POVERTY, 1970-1990.
(% OF HOUSEHOLDS BELOW THE OFFICIAL POVERTY LINE)

YEAR	TOTAL (%)	AGRIC. (%)	NON-AGRIC. (%)	RURAL (%)	URBAN (%)
1970	49.3	68.3	27.8	58.7	21.3
1975	43.9	63.0	26.2	54.1	19.0
1980	29.2	46.1	16.8	37.7	12.6
1983	30.3	54.9	9.3	41.6	11.1
1984	18.4	na	na	24.7	8.2
1985	24.1	42.6	13.9	33.1	10.2
1987	17.3	na	na	22.4	8.1
1990	15.0	na	na	19.3	7.3

TABLE-II-2
PENINSULAR MALAYSIA: NUMBER OF POOR HOUSEHOLDS,
1970-1990 ('000 HOUSEHOLDS)

YEAR	TOTAL	AGRIC.	NON-AGRIC.	RURAL	URBAN
1970	791.8	582.4	209.4	705.9	85.9
1975	835.1	576.5	258.6	729.9	105.2
1980	666.1	443.7	222.4	568.5	97.6
1983	717.6	497.6	220.0	619.7	97.9
1984	483.3	na	na	402.0	81.3
1985	601.9	379.4	222.5	501.5	100.4
1987	485.8	na	na	403.2	82.6
1990	448.9	na	na	371.4	77.5

Source Table I-1 and 2:
Malaysia (1981: 34-35; 1983: 80; 1989: 52; 1993: 58)

TABLE II-3
SABAH & SARAWAK: INCIDENCE OF POVERTY, 1976-1990
(% OF HOUSEHOLDS BELOW THE OFFICIAL POVERTY LINE)

TABLE 3A: SABAH

YEAR	TOTAL (%)	RURAL (%)	URBAN (%)
1976	51.2	58.6	19.2
1979	41.1	50.1	21.3
1984	33.1	38.6	14.3
1987	35.3	39.9	16.4
1990	34.3	39.1	14.7

TABLE 3B: SARAWAK

YEAR	TOTAL (%)	RURAL (%)	URBAN (%)
1976	51.7	60.0	16.3
1979	47.7	56.0	17.8
1984	31.9	37.3	8.2
1987	24.7	29.0	7.5
1990	21.0	24.7	4.9

Note: Data are not available before 1976

Source:
Malaysia (1981: 44; 1983: 87; 1989: 52-53; 1993: 58)

percent and by 1982 to 29.2 and 31.1 percent (Malaysia 1983: 87). 1982 marked the end of the decline of poverty in Sabah. By 1984, the incidence of poverty had risen to 33.1 percent and 35.3 percent by 1987 (Malaysia 1989: 52). 1990 saw a slight improvement with the incidence falling to 34.3 percent. In Sarawak, poverty increased slightly to 31.9 percent in 1984, but decreased to 24.7 percent in 1987 and 21.0 percent in 1990 (Malaysia 1989: 53; 1993: 58). In absolute terms this translates to 83,900 poor households in Sabah and 107,100 poor households in Sarawak in 1976. By 1982, this figure had fallen to 59,000 and 82,000 for Sabah and Sarawak respectively. After 1984 the number of poor households in Sabah continued rising to 99,600 in 1990. This denotes an 18.7 percent rise in the number of poor households between 1976 and 1990. In contrast, the reverse occurred in Sarawak, with 70,900 poor households in 1990 (Table II-4).

There has been much debate on the plausibility of the official figures on the reduction of poverty (Jomo 1990b: 145-154). One of the main concerns is whether the different surveys are comparable and if they are, whether the method of measurement has been consistent. A second concern is related to the poverty line. It is widely believed that two poverty lines, M$25 and M$33 per capita, have been used by different government agencies. The headcount measure is sensitive to the poverty line used and lowering the poverty line will obviously reduce the incidence of poverty. The government first published an official poverty line, in the Mid-Term Review of the Fifth Malaysia Plan (MTR5MP) (Malaysia 1989: 45): $350 per month for a household size of 5.14 in Peninsular Malaysia; $533 per month for a household size of 5.36 in Sabah; and $429 per month for a household size of 5.24 in Sarawak. In 1970 real terms, this is below the $33 poverty line used in the 1970s and

TABLE II-4
SABAH & SARAWAK: NUMBER OF POOR HOUSEHOLDS, 1976-1990 ('000 HOUSEHOLDS)

TABLE 4A: SABAH

YEAR	TOTAL	RURAL	URBAN
1976	83.9	78.0	5.9
1979	na	na	na
1984	76.0	68.5	7.5
1987	89.0	80.9	8.1
1990	99.6	91.1	8.5

TABLE 4B: SARAWAK

YEAR	TOTAL ('000)	RURAL ('000)	URBAN ('000)
1976	107.1	100.7	6.4
1979	na	na	na
1984	90.1	85.9	4.2
1987	74.3	69.8	4.5
1990	70.9	67.8	3.1

Source:
Malaysia (1981: 44; 1983: 87; 1989: 52-53; 1993: 58)

could contribute to the significant reduction in poverty.

The government claims that the erratic changes in the incidence of poverty between 1980 and 1985, (29.2 to 30.3 percent in 1983, then falling to 18.4 percent by 1984 and again rising to 24.1 percent by 1985), were due to the nature of the statistical sources (Malaysia 1986: 84-89). Statistics on income distribution used to estimate the incidence of poverty have been derived from two sources - direct and indirect. Direct estimates are derived from statistical surveys or censuses, conducted according to acceptable standards of sampling techniques. Indirect estimates are derived from various sources including partial surveys and information from various agencies and are therefore subject to considerable limitations.

Statistics on income distribution from surveys (direct sources) are conducted on a national basis where a comprehensive income approach is used. This not only includes wages and salaries, but also income from self-employment, rent, dividends, interests and net transfers. In addition the value of subsidies such as subsidized rents, and imputed rentals of owner-occupied houses etc. are taken into account. Estimates from indirect sources are not truly representative as the studies are not carried out on a national basis. Secondly, they do not take into account the full impact of subsidies and services provided by the government, thereby underestimating income. As a result, the incidence of poverty estimates from indirect sources (1983 and 1985) are higher than those derived from direct sources.

Yusof (1988) confirmed this in a detailed study, assessing the reliability and comparability of the

statistics used in income distribution and poverty studies. His study assessed the statistical basis of the five household surveys on income, derived from direct sources. The five surveys are:-

1) Post-Enumeration Survey, 1970
2) Agriculture Census, 1977
3) Household Income Survey, 1980 (base year 1979)
4) Household Expenditure Survey, 1982
5) Household Income Survey, 1984.

This detailed assessment of the statistical sources evaluated four main aspects: reporting unit of survey; concept of income; sampling errors; and non-sampling errors. Yusof claimed that these surveys used a consistent and comparable concept of income, and a consistent approach to the surveys. Therefore he concluded that the surveys are comparable.

Yusof's findings are therefore consistent with the government's claim on this matter (Malaysia 1986). Thus it follows, that a consistent series on poverty and income distribution can be constructed from 1970, by using statistics from the direct sources.

The majority of poor households were found engaged in agricultural activities, though the concentration was declining. By 1980, only 66.6 percent of the poor were involved in the agricultural sector (Table II-5), showing a 9.5 percent decrease from the 1970 value of 73.6 percent. By 1983, this figure had increased slightly to 69.4 percent Poverty is still predominantly found in rural areas, accounting for more than 80.0 percent of all poor households.

In Peninsular Malaysia, official sources show that there has been a marked decline in the incidence of poverty for each racial group. From 1976 to 1987, the incidence of poverty has fallen from 46.4 to 23.8

TABLE-II-5
PENINSULAR MALAYSIA: PERCENT OF POOR HOUSEHOLDS BY INDUSTRY AND STRATA, 1970-1990

YEAR	INDUSTRY		STRATA	
	AGRIC. (%)	NON-AGRIC. (%)	RURAL (%)	URBAN (%)
1970	73.6	26.4	89.2	10.8
1975	69.0	31.0	87.4	12.6
1980	66.6	33.4	85.3	14.7
1983	69.4	30.6	86.4	13.6
1984	na	na	83.2	16.8
1985	63.0	37.0	83.3	16.7
1987	na	na	83.0	17.0
1990	na	na	82.7	17.3

Note: Industry is broadly classified into two groups - agriculture and non-agriculture.
Source: Table I-2

percent for the Malays, from 17.4 to 7.1 percent for the Chinese and from 27.3 to 9.7 percent for the Indians (Table II-6). The majority of this vast improvement occurred between 1976 and 1984. However the Chinese were the only race to experience a continuous decline in absolute terms. The number of poor Malay and Indian households increased between 1984 and 1987 (Table II-7).

The data published on Sabah and Sarawak have not been consistent, making comparisons over time difficult. Prior to 1984, data were published for the different major ethnic groups. From 1984 onwards, all indigenous groups are collectively grouped together under the term 'Bumiputera'. Sabah experienced an increase in both the incidence of poverty and number of poor households between 1984 and 1987. For Bumiputeras between 1984 and 1987, the incidence of poverty increased from 39.2 to 41.2 percent accompanied by a rise in numbers of poor households to 86,100. The number of poor Chinese households rose from 2,400 to 2,700 and its incidence of poverty increased marginally to 6.3 percent by 1987. In Sarawak, the incidence of poverty and the number of poor households fell between 1984 and 1987 for both the Chinese and the Bumiputeras (Tables II-9 and 10).

Table II-11, shows that for both Sabah and Sarawak the problem of poverty is not confined to the Malays. In 1976, the ethnic Malays was merely 6 percent of poor households in Sabah, and 18.2 percent in Sarawak. The other indigenous races collectively accounted for almost 90 percent of the poor in Sabah and 70 percent in Sarawak. Poverty is more severe in certain races, namely the Kadazan in Sabah and the Iban and Bidayuh in Sarawak. Unfortunately the practice of collectively grouping all the indigenous races (including the Malays) lead to a situation where changes in the composition of poverty within so-called "Bumiputeras" cannot be

TABLE II-6
PENINSULAR MALAYSIA: INCIDENCE OF POVERTY BY ETHNIC ORIGIN, 1976-1987

RACE	1976 (%)	1984 (%)	1987 (%)
MALAY	46.4	25.8	23.8
CHINESE	17.4	7.8	7.1
INDIAN	27.3	10.1	9.7

TABLE II-7
PENINSULAR MALAYSIA: NUMBER OF POOR HOUSEHOLDS BY ETHNIC ORIGIN, 1976-1987 ('000 HOUSEHOLDS)

RACE	1976 ('000)	1984 ('000)	1987 ('000)
MALAY	519.4	388.8	393.5
CHINESE	109.4	66.1	61.7
INDIAN	53.8	25	26.7

TABLE II-8
PENINSULAR MALAYSIA: PERCENT OF POOR HOUSEHOLDS BY ETHNIC ORIGIN, 1976-1987

RACE	1976 (%)	1984 (%)	1987 (%)
MALAY	75.5	81.0	81.7
CHINESE	15.9	13.8	12.8
INDIAN	7.8	5.2	5.5

Source Tables II-6, 7 and 8: Malaysia (1981: 46; 1989: 55)

TABLE II-9
SABAH & SARAWAK: INCIDENCE OF POVERTY
BY ETHNIC GROUP, 1982-1987.
(% OF HOUSEHOLDS BELOW THE OFFICIAL
POVERTY LINE)

TABLE 9A: SABAH

RACE	1982 (%)	1984 (%)	1987 (%)
BUMIPUTERA	35.3	39.2	41.9
CHINESE	8.3	6.2	6.3

TABLE 9B: SARAWAK

RACE	1982 (%)	1984 (%)	1987 (%)
MALAY	22.1	na	na
IBAN	48.7	na	na
BIDAYUH	64.9	na	na
MELANAU	18.2	na	na
OTHER IND.	17.9	na	na
CHINESE	8.5	9.3	6.7
BUMIPUTERA	na	41.6	33.2

Source: Malaysia (1983: 87; 1989: 55)

TABLE II-10
SABAH & SARAWAK: NUMBER OF POOR HOUSEHOLDS
BY ETHNIC GROUP, 1976-1987 ('000 HOUSEHOLDS)

TABLE 10A: SABAH

RACE	1976 ('000)	1982 ('000)	1984 ('000)	1987 ('000)
MALAY	5.0	na	na	na
KADAZAN	29.7	na	na	na
BAJAU	13.6	na	na	na
MURUT	4.8	na	na	na
OTHER IND.	16.3	na	na	na
CHINESE	4.8	3.5	2.4	2.7
BUMIPUTERA	69.4	54.9	73.1	86.1

TABLE 10B: SARAWAK

RACE	1976 ('000)	1982 ('000)	1984 ('000)	1987 ('000)
MALAY	19.5	10.8	na	na
IBAN	48.5	40.6	na	na
BIDAYUH	12.1	20.9	na	na
MELANAU	7.8	1.2	na	na
OTHER IND.	4.1	1.1	na	na
CHINESE	15.0	7.1	7.7	6.3
BUMIPUTERA	92.0	74.6	82.3	68.0

Source: Malaysia (1981: 49; 1983: 87; 1989: 55)

TABLE II-11
SABAH & SARAWAK: PERCENT OF POOR HOUSEHOLDS BY ETHNIC GROUP, 1976-1987 (%)

TABLE 11A: SABAH

RACE	1976 (%)	1982 (%)
MALAY	6.0	na
KADAZAN	35.4	na
BAJAU	16.3	na
MURUT	5.7	na
OTHER IND.	19.5	na
CHINESE	5.7	5.9
BUMIPUTERA	na	93.1

TABLE 11B: SARAWAK

RACE	1976 (%)	1982 (%)
MALAY	18.2	13.2
IBAN	45.3	49.5
BIDAYUH	11.3	25.5
MELANAU	7.3	1.4
OTHER IND.	3.8	1.3
CHINESE	14.0	8.7

Source: Malaysia (1981: 49; 1983: 87)

quantified.

ii) Income Inequality

During the 1970s, the government only published figures on changes in the mean incomes for different ethnic groups, as it was concerned about income imbalances between race and strata. It was not until 1981 in the Fourth Malaysia Plan (4MP) (Malaysia 1981) that income distribution was even mentioned. The 4MP claimed that income inequality was higher in the rural than urban areas, but in both cases, inequality was decreasing over time. The Mid-Term Review of the Fourth Malaysia Plan (MTR4MP) (Malaysia 1983) stated 1970-1979 saw the narrowing of the gap between the poor and non-poor incomes and that overall income inequality had improved. For the most part, the government's target has been to reduce the differences in income between the different groups. The official figures reflect this by only publishing mean income disparity ratios, with the exception of the income share data of 1984 and 1987 in the MTR5MP (Malaysia 1989: 38). The MTR5MP published the income shares of the top 20 percent , middle 40 percent and bottom 40 percent of households for Peninsular Malaysia, Sabah and Sarawak. The data showed an improvement in income inequality with a decrease in the income share of the top 20 percent accompanied by an increase in the income share of the bottom 40 percent. This was found for the case of overall inequality as well as rural and urban areas in Peninsular Malaysia, Sabah and Sarawak.

Aside from general trends in overall, rural and urban inequality, nothing has been published concerning income distribution for any specific group. In fact until the Mid-Term Review of the Sixth Malaysia Plan (MTR6MP) (Malaysia 1993: 61) which states that the 1990 Gini coefficient was 0.446, there is no mention of any

inequality measures except for income shares.

Table II-12 shows that income imbalances between the different races continue to improve in Peninsular Malaysia, with the Malay mean income rising from 43.7 percent of the Chinese mean income in 1970 to 46.9 percent in 1979 and 60.7 percent in 1987. When compared with the Indians, it had also progressively increased from 56.6 percent in 1970 to 79.7 percent in 1987. However although the gap in mean household income between Bumiputera and non-Bumiputeras had narrowed, it still remains wide, especially compared to the Chinese.

In Sabah, the difference between Bumiputeras and non-Bumiputeras had narrowed slightly from 36.9 percent in 1984 to 38.4 percent in 1987 (Table II-13). For Sarawak, 1984 Bumiputera income was 44.1 percent of non-Bumiputera income and this had increased to 53.5 percent by 1987. However, the difference between Bumiputera and non-Bumiputera mean incomes continues to be extremely large. Although the direction of change is the same as that found in the Peninsular, the difference between the Bumiputera and non-Bumiputera mean incomes is considerably wider in Sabah and Sarawak.

Notes:

1. Anand (1983: 42), however maintained that "the different definitions in the three surveys render comparisons between them meaningless".

2. M$33 in 1970 is equivalent to M$73.15 in 1984, thus Fong's poverty line is marginally higher than Anand's poverty line.

3. The mean income of the poor had improved to 30 percent below the poverty line.

TABLE II-12
PENINSULAR MALAYSIA: MEAN INCOME 1970-1990 (current M$)

	1970	1973	1976	1979	1984	1987
MALAY	172	242	345	513	852	868
CHINESE	394	534	787	1,094	1,502	1,430
INDIAN	304	408	538	776	1,094	1,089
URBAN	428	570	830	1,121	1,541	1,467
RURAL	200	269	392	590	824	853
TOTAL	264	362	514	763	1,095	1,074
M/C	43.7%	45.3%	43.8%	46.9%	56.7%	60.7%
M/I	56.6%	59.3%	64.1%	66.1%	77.9%	79.7%

Note: M/C = Malay mean as a percent of Chinese mean
M/I = Malay mean as a percent of Indian mean
Source: Malaysia (1981: 56; 1989: 39)

TABLE II-13
SABAH & SARAWAK: MEAN INCOME 1984-1987 (current M$)

	SABAH		SARAWAK	
	1984	1987	1984	1987
BUMIPUTERA	911	860	728	878
CHINESE	2,471	2,237	1,651	1,641
URBAN	1,909	1,614	1,871	1,749
RURAL	1,005	994	844	988
TOTAL	1,212	1,116	1,033	1,141
B/C	36.9%	38.4%	44.1%	53.5%

Note: B/C = Bumiputra mean as a percent of Chinese mean
Source: Malaysia (1989: 39-40)

CHAPTER III
TESTING KUZNETS HYPOTHESIS

The relationship between income inequality and development has been discussed in terms of income distribution and economic growth. First advanced by Kuznets (1955), his "Inverted U-Hypothesis" claims that income inequality worsens at the initial stages of a country's development path and later improves. This chapter will attempt to verify Kuznets Inverted U-Hypothesis for the Malaysian case. Anand and Kanbur (1993) and Sundrum (1990: 79-80) both claim that the use of cross-section data is inappropriate to test Kuznets' Hypothesis. As Malaysia presents a unique opportunity for testing the hypothesis using both time series and cross-section data, an evaluation can be made on this criticism raised against the vast cross-sectional literature.

I. TIME SERIES DATA

In this section, the pattern of income inequality in the course of economic development in Malaysia will be examined using available time-series data from 1957 to 1989. The analysis in this section is confined to Peninsular Malaysia because income data on East Malaysia is only available from 1979. The existence of Kuznets' Inverted U trend in income inequality is examined using data given in Table III-1. For this estimation procedure ten observations between 1957/58 and 1989 are used. Two alternative models were estimated. Both models employ per capita GDP as the independent variable (Ahluwalia 1976a). However Model A has per capita GDP expressed in current terms while in Model B, per capita GDP is in constant 1980 prices. Three dependent variables were used when estimating the regression equations:

TABLE III-1
PENINSULAR MALAYSIA: PER CAPITA GDP IN CURRENT AND CONSTANT PRICES, INCOME SHARE AND GINI COEFFIENTS, 1957-1989.

YEAR	PER CAPITA GDP		GINI	INCOME SHARE	
	(current) M$	(1980) M$	COEFF.	TOP 20%	BOTTOM 40%
1957/58	647	1111	0.412	48.6	15.9
1967/68	947	1637	0.444	51.3	14.3
1970	1169	2071	0.513	56.1	11.6
1973	1530	2330	0.530	58.0	11.4
1975	2015	2512	0.557	60.1	10.1
1976	2194	2649	0.567	51.0	10.8
1980	3200	3067	0.508	55.7	11.9
1984	4418	3276	0.480	53.2	12.8
1987	5462	4275	0.459	51.2	13.8
1989	6498	4810	0.447	50.3	14.5

Sources:
Malaysia, "Yearbook of Statistics" (various years)
Snodgrass (1980: 72-76); Shari & Mat Zin (1990:107); HIS 1989

1) Gini coefficient (Gini)
2) Income share of the top 20 percent of the population (T20)
3) Income share of the bottom 40 percent of the population (B40)

Model A

1) Gini = Constant + GDP + GDP^2 (Current terms)
2) T20 = Constant + GDP + GDP^2 (Current terms)
3) B40 = Constant + GDP + GDP^2 (Current terms)

Model B

1) Gini = Constant + GDP + GDP^2 (1980 terms)
2) T20 = Constant + GDP + GDP^2 (1980 terms)
3) B40 = Constant + GDP + GDP^2 (1980 terms)

(Ahluwalia 1976a)

Table III-2 shows the results of the estimated regression equations. For Model A, only two of the dependent variables produced results which are significant. The results from using the Gini and B40 as dependent variables were both significant at the 5 percent significance level. The positive GDP coefficient combined with the negative GDP^2 coefficient when the Gini is the dependent variable suggest that the Gini coefficient increases, peaks and then declines as per capita GDP rises. The existence of the inverted-U pattern is thus confirmed. When B40 is the dependent variable, the signs of the coefficients are reversed, negative for GDP and positive for GDP^2. This shows that the income share of the bottom 40 percent of households first declines, hits a low and then rises. This pattern is consistent with the inverted-U pattern of inequality and economic growth. The Durbin-Watson statistic shows that the test for first order auto-correlation is inconclusive but does not prove that auto-correlation exists.

TABLE III-2
REGRESSION ANALYSIS TO TEST THE PRESENCE OF THE KUZNETS CURVE, 1957/58-1989.

DEPENDENT VARIABLE	ESTIMATED COEFFICIENTS OF EXPLANATORY VARIABLES			(R)2	F	D-W	*c TURN POINT GDP ($)
	*a CONST.	*b GDP	*b (GDP)2				
MODEL A:							
1) GINI	0.414	7.5E-05	-1.2E-08	0.507	3.59	1.03	3258
	(9.72)	(2.36)	(-2.57)				
3) BOT 40%	15.7	-0.0029	4.4E-07	0.551	4.29	0.962	3286
	(10.75)	(-2.62)	(2.84)				
MODEL B:							
1) GINI	0.243	0.00019	-3.2E-08	0.689	7.75	1.27	2991
	(3.46)	(3.84)	(-3.93)				
2) TOP 20%	39.4	0.0113	-1.9E-06	0.482	3.26	2.05	2919
	(6.01)	(2.40)	(-2.52)				
3) BOT 40%	22.3	-0.0073	1.2E-06	0.769	11.64	1.26	3001
	(10.21)	(-4.72)	(4.82)				

Notes:
1. Model A: GDP is in current prices
2. Model B: GDP is in constant M$ 1980
3. *a - constant
4. *b - GDP refers to per capita GDP
5. *c - turning point

Source: Calculated from Table III-1 using Microfit software.

The results from Model B were similar to Model A. However when using GDP at constant 1980 prices, the dependent variable T20 produced significant results at the 5 percent level. Here, the coefficient of GDP is positive and GDP^2 is negative. This implies that as per capita GDP rises, the income share of the top 20 percent of the population first rises and later declines. As in Model A, the test for auto-correlation proves to be inconclusive at the 1 percent significance level when the Gini and B40 are the dependent variables. However the Durbin-Watson statistic shows that there is no auto-correlation at the 1 percent significance level when the dependent variable is $T20^1$.

Model B provides a better fit of the data, explaining 68.9 percent of the variation of Gini (income inequality) over time compared to 50.7 percent in Model A. When using B40 as the dependent variable, Model B explained 76.9 percent of the variation compared to 55.1 percent in Model A. The results of Model B for the Gini and B40 are both significant at 1 percent compared to the 5 percent significance level in Model A.

The turning point of income inequality as predicted by Model B is at a per capita GDP of M$ 2,991 (1980 prices). This implies that the trend reversal of widening income inequality occurred between 1976 and 1980. It is interesting to note that this turning point occurs at different levels of per capita GDP for different explanatory variables. The income share of the top 20 percent of households continued to rise until a level of per capita GDP of M$ 2,919 (1980 prices) after which it fell. The income share of the bottom 40 percent of households declined until a per capita GDP of M$ 3,001 (1980 prices) is reached. The turning point is at a lower level when the dependent variable T20 is used than when B40 is used. It would have been interesting to

see if the turning point shifts systematically further out as you go down the percentile groups as postulated by Ahluwalia (1976a), but the unavailability of data on the share of other income groups does not permit this. However the trend reversal in each case occurs between the years 1976 and 1980.

The above findings based on household time series data, seem to provide considerable support for the Kuznets' inverted-U hypothesis in Peninsular Malaysia.

II. CROSS SECTION DATA

This section will examine whether the Inverted-U relationship between inequality and growth exists when using Malaysian cross-section data. Malaysia comprises thirteen different states and the Federal Territory of Kuala Lumpur. Collectively, they make up the fourteen observations in the analysis for a given year. This hypothesis will be evaluated for 1984, 1987 and 1989 separately and is based on monthly household income data.

Three regression equations are estimated and the regression analysis is carried out in 3 sub-groups:-

i) Model A: Malaysia - 14 observations
   1) Gini = constant + GDP + GDP^2
   2) T20 = constant + GDP + GDP^2
   3) B40 = constant + GDP + GDP^2

ii) Model B: Peninsular Malaysia - 12 observations
   1) Gini = constant + GDP + GDP^2
   2) T20 = constant + GDP + GDP^2
   3) B40 = constant + GDP + GDP^2

iii) Model C: Peninsular Malaysia, excluding Kuala Lumpur - 11 observations

1) Gini = constant + GDP + GDP^2

2) T20 = constant + GDP + GDP^2

3) B40 = constant + GDP + GDP^2

(Note: GDP refers to per capita GDP)

As Sabah and Sarawak are dissimilar to Peninsular Malaysia[2], it was interesting to see if excluding Sabah and Sarawak from the sample would provide a better fit to the estimated equations. Although in a different manner, Kuala Lumpur is also an anomaly. As the capital city, it is purely an urban centre with the highest per capita GDP figures and levels of inequality. So to determine whether this would affect the results, a third model was estimated, using the Peninsular states but excluding Kuala Lumpur.

With the exception of 1984, regression equations were estimated using the Gini coefficient, the income share of the top 20 percent of the population (T20) or the income share of the bottom 40 percent of the population (B40) as dependent variables. Due to lack of data concerning income shares, 1984 regression equations for all three cases use only the Gini coefficient as the dependent variable. As suggested by Ahluwalia (1976a), other development indicators such as the share of agriculture in GDP (referred to as 'agriculture'), population growth and the share of urban population are also investigated.

A point should be made concerning the data. While the values for Gini coefficients, income shares, population growth rates and proportion of urban population are the actual values for the corresponding year analyzed, this is not the case for the per capita GDP and 'agriculture' figures. At the state level, GDP

figures are only available for the years 1985, 1986, 1988 and 1990. For 1984, the data on GDP and the share of agriculture in GDP from 1985 are used. In the case of 1987, an average of 1986 and 1988 is used to approximate 1987 GDP and 'agriculture' values. Similar calculations were carried out to arrive at the 1989 figures, using the available 1988 and 1990 data.

A. RESULTS

i. 1984

The data used for testing the presence of Kuznets' Inverted-U hypothesis are given in Table III-3. The results (Table III-4) show that per capita GDP had relatively limited explanatory power in 1984. Significant results were found only when replacing per capita GDP by the logarithm of per capita GDP for Model B. Here the estimated coefficients are significant at a 10 percent level. The positive coefficient of the square of the logarithm of per capita GDP implies that a U-shaped pattern exists between income inequality and per capita GDP.

The inclusion of other explanatory variables to test a relationship between income inequality and development showed that a significant relationship did not exist. Replacing per capita GDP with its logarithm did nothing to improve the goodness of fit and the results remained unchanged.

A point should be made concerning the weak cross-sectional relationship between GDP and income inequality. This may be attributed to the fact that the GDP figures used are 1985 figures instead of 1984, although it is unlikely to make much difference.

TABLE III-3
MALAYSIA: PER CAPITA GDP IN CONSTANT 1980 PRICES, GINI COEFFICIENTS, PERCENT SHARE OF AGRICULTURE IN GDP AND POPULATION GROWTH RATE, 1984.

STATE	*a GDP (1980) M$	GINI COEFF.	*b SHARE AGRIC. IN GDP	POP GROWTH RATE
JOHOR	3,529	0.480	35.0%	2.6%
KEDAH	2,312	0.404	42.2%	1.7%
KELANTAN	1,584	0.476	27.3%	2.9%
MALACCA	3,080	0.464	18.9%	1.2%
NEGRI	3,452	0.438	32.9%	1.8%
PAHANG	2,980	0.422	39.2%	5.0%
PENANG	4,196	0.416	4.6%	2.0%
PERAK	3,065	0.452	29.6%	1.4%
PERLIS	2,897	0.428	41.4%	2.3%
SELANGOR	5,762	0.459	10.1%	4.3%
TRENGGANU	6,567	0.481	13.5%	3.5%
KL	7,497	0.486	0.0%	3.6%
SABAH	4,109	0.491	37.7%	4.0%
SARAWAK	3,807	0.498	21.9%	2.5%

Note: 1. GDP are 1985 figures
2. *a - GDP refer to per capita GDP
3. *b - percentage share of agriculture in GDP
Source: Regional Economics Section-EPU; HIS 1984 and Malaysia, "Yearbook of Statistics 1984".

TABLE III-4
REGRESSION ANALYSIS TO TEST THE PRESENCE OF THE KUZNETS CURVE, 1984.

DEPENDENT VARIABLE	ESTIMATED COEFFICIENTS OF EXPLANATORY VARIABLES			(R)2	F	*c TURN POINT GDP ($)
	*a CONST.	*b LG(GDP)	*b (LG(GDP))			
MODEL B:						
1) GINI	4.41 (2.04)	-0.992 (-1.88)	0.0619 (1.93)	0.388	2.85	3020

NO SIGNIFICANT RESULTS FOR MODEL A AND MODEL C

Notes:
1. Model B: 12 observations
2. *a - constant
3. *b - GDP refers to per capita GDP
4. *c - turning point
Source: Calculated from Table III-3 using Microfit software.

ii. 1987

All regression equations estimated on the full sample of 14 observations resulted in findings which are not significant. Excluding Sabah and Sarawak produced a GDP^2 coefficient which is significant at a 10 percent level. The signs of the coefficient were also inconsistent with the inverted U pattern. Table III-6 shows that the coefficient is negative for GDP and positive for GDP^2. This implies that the reverse of the Kuznets relationship happens, i.e. inequality first falls as GDP rises before rising. However the GDP coefficient is not significant and the equation explains just over half of the variation of income inequality present in Peninsular Malaysia. Using the income share of the top 20 percent of households as the dependent variable yielded a better fit. Both coefficients were significant; GDP at 10 percent and GDP^2 at the 5 percent level, but had signs which again did not conform to the inverted-U pattern. A positive GDP^2 coefficient combined with a negative GDP coefficient implies that the income share of the top 20 percent first declines as GDP rises before rising. Insignificant coefficients were arrived at when the income share of the bottom 40 percent was used as the dependent variable.

Excluding Kuala Lumpur when testing the presence of the inverted-U did not change or improve the findings. As in the case of 12 observations, only the Gini coefficient and income share of the top 20 percent provided significant results. The signs of the coefficients were also the same, showing a U-shaped pattern.

The inclusion of other specific mechanisms through which development is believed to affect income inequality produced improved results. The regression results showed a much improved fit when compared to

TABLE III-5
MALAYSIA: PER CAPITA GDP IN CONSTANT 1980 PRICES, GINI COEFFICIENTS, INCOME SHARE OF THE TOP 20% AND BOTTOM 40% OF HOUSEHOLDS, PERCENT SHARE OF AGRICULTURE IN GDP AND POPULATION GROWTH RATE, 1987.

STATE	*a GDP (1980 P) M$	GINI COEFF.	INCOME SHARE		SHARE AGRIC. IN GDP (%)	POP. GROWT RATE (%)
			TOP 20%	BOTTOM 40%		
JOHOR	3,610	0.386	45.3	23.2	33.8	2.3
KEDAH	2,598	0.434	48.9	14.4	44.3	1.5
KELANTAN	1,685	0.414	48.1	22.7	29.3	2.9
MALACCA	3,266	0.403	46.6	22.5	17.0	1.2
NEGRI	3,691	0.431	48.9	21.1	30.7	1.6
PAHANG	5,036	0.372	44.7	23.9	31.0	4.8
PENANG	4,423	0.422	47.8	22.1	4.1	1.6
PERAK	3,197	0.410	46.8	22.4	28.6	1.2
PERLIS	2,711	0.408	47.1	22.5	39.0	2.2
SELANGOR	5,982	0.462	51.7	20.5	9.9	3.6
TRENGGANU	6,506	0.478	52.9	19.5	11.1	3.5
KL	7,198	0.465	52.3	20.5	0.0	3.6
SABAH	4,611	0.467	52.6	13.3	41.6	3.9
SARAWAK	3,923	0.465	52.3	13.5	22.4	2.6

Note: *a - GDP refers to per capita GDP
Sources:
Regional Economics Section-EPU, HIS 1987 and
Malaysia, "Yearbook of Statistics 1987".

TABLE III-6
REGRESSION ANALYSIS TO TEST THE PRESENCE OF THE KUZNETS CURVE, 1987.

DEPENDENT VARIABLE	ESTIMATED COEFFICIENTS OF EXPLANATORY VARIABLES			(R)2	F	*c TURN POINT GDP ($)
	*a CONST.	*b GDP	*b (GDP)2			
MODEL B:						
1) GINI	0.470	-3.6E-05	5.23E-09	0.534	5.16	3461
	(8.80)	(-1.41)	(1.87)			
2) TOP 20%	53.2	-0.00356	5.02E-07	0.639	7.97	3546
	(13.6)	(-1.89)	(2.45)			
MODEL C:						
1) GINI	0.499	-5.3E-05	7.6E-09	0.511	4.17	3493
	(8.32)	(-1.76)	(2.12)			
2) TOP 20%	55.7	-0.00502	6.99E-07	0.615	6.38	3591
	(12.9)	(-2.29)	(2.72)			

NO SIGNIFICANT RESULTS FOR MODEL A

Notes:
1. Model B: 12 observations
2. Model C: 11 observations
3. *a - constant
4. *b - GDP refers to per capita GDP
5. *c - turning point
Source: Calculated from Table III-5 using Microfit software.

using per capita GDP as the only explanatory variable. The value of R^2 increased from 0.534 to 0.708 in Model B, using Gini as the dependent variable. For the same dependent variable in Model C, the value of R^2 increased from 0.511 to 0.870 (Tables III-6 and 7) when "agriculture" and "population growth" were included. However with Model A, no significant relationship was shown to exist. By excluding Sabah and Sarawak, the results changed dramatically. The results for Model B (Table III-7) show that there exists a relationship between inequality and development in 1987. More than 70 percent of variation in the data is explained, though this is mainly due to including the variable 'population growth'. The coefficient of agriculture was not significant and when excluded from the equation the value of R^2 fell only slightly. A weaker relationship was found with the income share of the bottom 40 percent as the dependent variable. Here only the coefficient of population growth is significant.

Model C showed a stronger relationship with the coefficients of GDP, GDP^2 and population growth significant at the 1 percent level. With the Gini and income share of the top 20 percent as the dependent variables nearly 90 percent of variation in the data is explained. Again the coefficient of agriculture was insignificant.

The results from Model A, suggest that a cross-sectional relationship between income inequality and GDP, does not exist. Model B and C, however suggest that a relationship does exist, but it is the opposite to that postulated by Kuznets. It suggests that income inequality first decreases as GDP rises and then increases. Similarly a relationship exists between inequality and development only in Peninsular Malaysia and is strengthened when Kuala Lumpur is excluded.

TABLE III-7
REGRESSION ANALYSIS TO TEST THE RELATIONSHIP BETWEEN INEQUALITY AND DEVELOPMENT, 1987.

DEPENDENT VARIABLE	ESTIMATED COEFFICIENTS OF EXPLANATORY VARIABLES					(R)2	F	*e TURN POINT
	CONS. *a	GDP *b	(GDP)2 *b	AGRIC *c	POP GR *d			
MODEL B:								
1) GINI	0.501	-4.5E-05	7.14E-09	0.031	-1.66	0.708	4.25	3116
	(8.98)	(-1.89)	(2.58)	(0.393)	(-1.97)			
	0.509	-4.4E-05	6.8E-09		-1.51	0.702	6.28	3235
	(10.4)	(-1.98)	(2.73)		(-2.12)			
3) BOT 40%	18.8	0.003	-5.2E-07	-15.5	177	0.458	1.48	2896
	(3.18)	(1.15)	(-1.76)	(-1.86)	(1.97)			
MODEL C:								
1) GINI	0.569	-8.2E-05	1.26E-08	0.049	-2.37	0.870	10.03	3262
	(13.31)	(-4.21)	(5.02)	(0.92)	(-3.95)			
	0.580	-8E-05	1.19E-08		-2.12	0.851		3374
	(14.3)	(-4.17)	(5.01)		(-4.00)			
2) TOP 20%	60.3	-0.007	1.04E-06	3.44	-161.4	0.868	9.88	3365
	(17.4)	(-4.38)	(5.09)	(.809)	(-3.30)			
3) BOT 40%	14.9	0.005	-8.3E-07	-16.5	217.0	0.552	1.84	3016
	(2.22)	(1.63)	(-2.10)	(-2.01)	(2.29)			

NO SIGNIFICANT RESULTS FOR MODEL A
Notes: 1. Model B: 12 Observations
2. Model C: 11 observations
3. *a - constant
4. *b - GDP refers to per capita GDP
5. *c - percent share of agriculture in GDP
6. *d - rate of population growth
7. *e - turning point
Source: Calculated from Table III-5

Again, the reverse of the Kuznets hypothesis is found to occur.

iii. 1989

The regression coefficients estimated in Model A were not significant in 1989. Omitting Sabah and Sarawak from the sample in Model B, only provided significant results with the income share of the top 20 percent of households as the dependent variable. In this equation only the GDP^2 coefficient was significant at a 10 percent level. Table III-9 shows that the positive GDP^2 and negative GDP coefficient suggest that income share first falls before rising as GDP increases. Here the estimated equation explains 56 percent of the variation in income share.

Model C, showed an improvement with significant results when using both the Gini and T20 as dependent variables. Unlike Model B, here both the coefficients of GDP and GDP^2 were significant. Both estimated equations provided similar results, though the coefficients of GDP and GDP^2 for T20 were at a higher level of significance - 10 and 5 percent levels compared to 5 and 2 percent levels respectively. As in the 1987 results, the corresponding signs of the coefficients suggested a relationship between income inequality and economic growth which is the reverse to Kuznets' Inverted-U. For both models, the presence of a U-shaped pattern was found.

The inclusion of other explanatory variables such as the rate of population growth, the share of agriculture in GDP and the share of urban population did not improve the goodness of fit. In fact apart from population growth, the other explanatory variables appear to have no impact on inequality. Significant results were only observed in the case of Model A, with

TABLE III-8
MALAYSIA: PER CAPITA GDP IN CONSTANT 1980 PRICES, GINI COEFFICIENTS, INCOME SHARE OF THE TOP 20% AND BOTTOM 40% OF HOUSEHOLDS, PERCENT SHARE OF AGRICULTURE IN GDP AND POPULATION GROWTH RATE, 1987.

STATE	*a GDP (1980) M$	GINI COEFF.	INCOME SHARE		SHARE AGRIC. IN GDP	SHARE URBAN POP.	POP. GROWTH RATE
			TOP 20%	BOTTOM 40%			
JOHOR	4,147	0.386	45.2	17.2	30.5	29.9	2.8
KEDAH	2,847	0.428	48.7	15.1	39.1	12.9	2.9
KELANTAN	1,850	0.406	47.5	16.6	27.3	27.2	2.3
MALACCA	3,815	0.400	46.3	16.3	16.1	18.5	1.4
NEGRI	4,077	0.368	44.1	18.2	28.1	33.1	3.7
PAHANG	4,553	0.351	42.7	19.1	34.6	25.0	-4.5
PENANG	5,312	0.411	47.3	15.8	3.5	41.7	-0.1
PERAK	3,635	0.421	47.8	15.3	28.4	32.8	-1.2
PERLIS	3,141	0.386	46.2	18.0	35.9	7.4	2.3
SELANGOR	6,760	0.448	50.4	13.9	8.1	34.6	6.7
TRENGGANU	7,289	0.457	51.7	14.2	10.5	38.3	5.2
KL	8,518	0.444	50.9	14.8	0.0	100.0	-3.2
SABAH	4,795	0.459	51.7	13.6	36.5	18.2	3.8
SARAWAK	4,083	0.448	51.1	14.4	24.7	18.4	3.7

Note: *a - GDP refers to per capita GDP
Source:
Regional Economics Section; EPU; HIS 1989 and
Malaysia, "Yearbook of Statistics 1989"

TABLE III-9
REGRESSION ANALYSIS TO TEST THE PRESENCE OF THE KUZNETS CURVE, 1989.

DEPENDENT VARIABLE	ESTIMATED COEFFICIENTS OF EXPLANATORY VARIABLES			(R)2	F	*c TURN POINT GDP ($)
	*a CONST.	*b GDP	*b (GDP)2			
MODEL B:						
2) TOP 20%	51.8	-0.0028	3.42E-07	0.562	5.86	4094
	(12.6)	(-1.64)	92.14)			
MODEL C:						
1) GINI	0.503	-5.6E-05	6.92E-09	0.569	5.29	4068
	(8.80)	(-2.18)	(2.58)			
2) TOP 20%	56.4	-0.00522	6.3E-07	0.663	7.88	4143
	(13.7)	(-2.82)	(3.27)			

NO SIGNIFICANT RESULTS FOR MODEL A

Notes:
1. Model B: 12 observations
2. Model C: 11 observations
3. *a - constant
4. *b - GDP refers to per capita GDP
5. *c - turning point
Source: Calculated from Table III-8 using Microfit software.

the coefficient of population growth significant at the 10 percent level. However in the estimated equation, less than 50 percent of the variation in income inequality is explained (Table III-10).

III. CONCLUSION

Two main conclusions can be drawn from the regression analysis of cross-section data conducted for the years 1984, 1987 and 1989. The first is that Model A is not appropriate. Sabah and Sarawak are quite different from the other Malaysian states and should be analyzed separately. This is reflected in the insignificant findings when regression equations are estimated for Model A and in the immediate improvement of results when Sabah and Sarawak are excluded (Model B).

The second finding, perhaps of even greater importance, is that the presence of Kuznets' Inverted-U relationship between income inequality and economic growth does not exist in any given year. Instead, the signs of the coefficients seem to imply the reverse is true, that inequality first declines and then increases.

A contributing factor to the U-shaped pattern consistently seen with the cross-sectional Malaysian data is that the states with the highest inequality fall into two categories. These states have either the highest or lowest per capita GDP and are therefore either the richest or poorest states in Malaysia. In 1987, the four states with the highest Gini coefficients in descending order are Trengganu, Kuala Lumpur (Kuala Lumpur is a Federal Territory), Selangor and Kedah. In terms of per capita GDP, Kuala Lumpur has the highest per capita GDP, Trengganu is ranked second, Selangor third while Kedah is ranked eleventh (second from the

TABLE III-10
REGRESSION ANALYSIS TO TEST THE RELATIONSHIP BETWEEN INEQUALITY AND DEVELOPMENT, 1989.

DEPENDENT VARIABLE	ESTIMATED COEFFICIENTS OF EXPLANATORY VARIABLES				(R)2	F	*d TURN POINT
	*a CONS.	*b GDP	*b (GDP)2	*c POP GR.			
MODEL A: 14							
1) GINI	0.418	-1.5E-05	2.25E-09	0.526	0.470	2.96	3222
	(1.40)	(-1.31)	(1.37)	(1.90)			

NO SIGNIFICANT RESULTS FOR MODEL B AND C
NO SIGNIFICANT RESULTS FOR THE EXPLANATORY VARIABLES 'AGRIC' AND 'URBAN'

Notes: 1. Model A: 14 Observations
2. *a - constant
3. *b - GDP refers to per capita GDP
4. *c - rate of population growth
5. *d - turning point
Source Calculated from Table III-8

bottom). In 1989, inequality was highest in Trengganu, followed by Selangor, Kuala Lumpur and Kedah. Their ranking in terms of per capita GDP remained the same as in 1987.

Although Trengganu has the second highest per capita GDP in Malaysia, this is not reflected in the household income levels of its population. In 1989 Trengganu had the third lowest mean monthly household income. High per capita GDP is attributed to Trengganu's oil industry. In both 1987 and 1989, mining accounted for 62 percent of GDP in Trengganu[3]. Revenues from the oil industry are not controlled by the state and oil revenues are not passed on to state residents. Thus per capita GDP in this instance, is not a true reflection of the income of state residents and household income provides a better indication of the wealth of the state. Alternate regression equations, using mean household income, were then estimated to see if this was a contributing factor to the observed U-shaped pattern of inequality (figures are shown in Table III-11). The regression equation:

$$\text{Gini} = \text{Constant} + \text{Mean Income} + (\text{Mean Income})^2$$

(Mean Income refers to mean household income)

was estimated for:

i) Model B: Peninsular Malaysia - 12 observations

ii) Model C: Peninsular Malaysia, excluding Kuala Lumpur - 11 observations

Replacing GDP with mean household income as the explanatory variable did not produce markedly different results. Table III-12 and III-13 show that in both 1987 and 1989, the negative coefficients of mean income combined with positive coefficients of (mean income)^2 result in the U-shaped pattern of inequality. Again the states with the highest Gini coefficients either have the highest or the lowest mean household incomes.

TABLE III-11
MALAYSIA: MEAN MONTHLY HOUSEHOLD INCOME, 1984-1989 (in constant M$ 1980 Prices).

STATE	1984 (M$)	1987 (M$)	1989 (M$)
JOHOR	851	829	850
KEDAH	552	562	554
KELANTAN	500	522	524
MALACCA	831	809	806
NEGRI	831	710	798
PAHANG	767	704	707
PENANG	946	884	986
PERAK	706	676	719
PERLIS	553	557	615
SELANGOR	1,271	1,219	1,228
TRENGGANU	604	543	560
KL	1,535	1,401	1,388
SABAH	988	918	917
SARAWAK	843	925	929

Sources:
HIS 1984, 1987, 1989.

TABLE III-12
REGRESSION ANALYSIS TO TEST THE PRESENCE OF THE KUZNETS CURVE USING MEAN INCOME AS THE DEPENDENT VARIABLE, 1987.

DEPENDENT VARIABLE	ESTIMATED COEFFICIENTS OF EXPLANATORY VARIABLES			(R)2	F	*c TURN POINT GDP ($)
	*a CONS.	*b MEAN	*b (MEAN)2			
MODEL B:						
1) GINI	0.584	-0.00042	2.45E-07	0.425	3.33	855
	(6.21)	(-1.92)	(2.13)			
2) TOP 20%	63.2	-0.0385	2.25E-05	0.513	4.73	856
	(8.78)	(-2.31)	(2.56)			
MODEL C:						
1) GINI	0.669	-0.00065	3.96E-07	0.417	2.87	822
	(5.77)	(-2.26)	(2.35)			
2) TOP 20%	70.1	-0.0574	3.48E-05	0.490	3.84	825
	(8.00)	(-2.64)	(2.73)			

NO SIGNIFICANT RESULTS FOR MODEL A

Notes:
1. Model B: 12 observations
2. Model C: 11 observations
3. *a - constant
4. *b - mean refers to mean income
5. *c - turning point

Source: Calculated from Table III-11 using Microfit software.

TABLE III-13
REGRESSION ANALYSIS TO TEST THE PRESENCE OF THE KUZNETS CURVE USING MEAN INCOME AS THE DEPENDENT VARIABLE, 1989.

DEPENDENT VARIABLE	ESTIMATED COEFFICIENTS OF EXPLANATORY VARIABLES			(R)2	F	*c TURN POINT GDP ($)
	*a CONS.	*b MEAN	*b (MEAN)2			
MODEL B:						
1) GINI	0.586 (5.81)	-0.00045 (-1.95)	2.59E-07 (2.12)	0.393	2.91	869
2) TOP 20%	64.9 (8.47)	-0.0441 (-2.51)	2.52E-05 (2.71)	0.499	4.48	875
MODEL C:						
1) GINI	0.683 (5.61)	-0.00071 (-2.39)	4.27E-07 (2.47)	0.438	3.12	834
2) TOP 20%	72.1 (7.76)	-0.0635 (-2.79)	3.76E-05 (2.84)	0.503	4.05	844
3) BOT 40%	4.47 (.680)	0.0316 (1.96)	-2E-05 (-2.10)	0.391	2.57	806

NO SIGNIFICANT RESULTS FOR MODEL A

Notes:
1. Model B: 12 observations
2. Model C: 11 observations
3. *a - constant
4. *b - mean refers to mean income
5. *c - turning point

Source: Calculated from Table III-11 using Microfit software.

In 1987 and 1989, the coefficients of mean income and (mean income)^2 are significant at the 10 percent level in Model B. Excluding Kuala Lumpur, Model C, produced coefficients which are significant at the 5 percent level in 1989 although for 1987, only the significance level of the coefficient for (mean income)^2 improved to 5 percent. The significance level for the coefficient of mean income in 1987 remained at 10 percent.

1984 did not produce any significant results, implying that a relationship between household income and inequality does not exist. Therefore this refutes the earlier supposition made, that the insignificant results were caused by estimating 1984 Gini coefficients against 1985 per capita GDP figures.

A high degree of inequality in the richest states can be explained by the existence of a wide spectrum of jobs which in turn provide very different levels of income. In addition, large numbers migrate to the rich states in search of job opportunities. Not all migrants will find jobs immediately, leading to a rise in urban poverty (Lucas and Verry 1990: III-31). This will also contribute to large differences in income levels and thus to income inequality in these wealthy regions.

High inequality in poor rural areas of Malaysia can be attributed to two main factors:

1) The pre-existing socio-economic structure, especially land ownership
2) Government policy directed at alleviating poverty

Landownership is a significant determinant of wealth and income in rural societies. Large inequalities in landownership are found in the poor and predominantly

rural states of Kedah, Kelantan and Perlis. For example in Kelantan, only 26 percent of the population own plots of land which are 20 acres or more in size. Collectively, the top 20 percent of landowners own 76 percent of the land (Ali 1983: 72). At the production level, remnants of the feudal system exist. A small group of land owners control large amounts of land, while large number of peasants rent or share-crop. These differences give rise to socio-economic disparities which in turn lead to high income inequality. The rich are also able to participate in various economic activities thereby strengthening their economic positions and social status. This has resulted in a minority elite group and a large gap between the rich and poor in these rural states (Ali 1983: 94-95).

The Malaysian government's rural development policies designed to alleviate poverty, for example its rice policy, have contributed towards high income inequality in the targeted areas. The government's rice policy in the early 1970s involved large investments in Kedah, Kelantan and Perlis under the Muda, KADA and Kemubu schemes. Although significant increases in average real incomes of all households in the affected areas were experienced, the increases were greater for the larger and wealthier farmers, i.e the richer households (Mehmet 1986)[4].

The distribution of public expenditure is highly biased towards the large landowners and wealthier classes (Meerman 1979, Mehmet 1986, Said 1988, Shari and Zin 1990). Rice farmers benefit from price and fertiliser subsidies. However as the distribution of subsidies is dependent upon the size of the farm, a large proportion is allocated to operators of large farms. Meerman (1979: 258-263) suggested that, as the value of benefits from federal agriculture expenditure

was dependent on the amount of cultivated acreage, the larger the farm size, the greater the benefit. It has been argued that a large proportion of development expenditure falls into the hands of the already affluent members of the community, educated workers and government servants involved in the project. Their incomes are raised before the project is completed and benefits are experienced by the poorer income groups (Corner 1983)[5].

Indirect downstream effects of investments in the large-scale rice irrigation projects also contributed to the existing high income inequality. The benefits received were in favour of non-farm households engaged in rice milling and production of non-tradeables. Non-farm incomes are more unequally distributed than farm incomes. This is caused by the wide dispersion of earnings owing to the low wage rate for unskilled and or part-time work at one end of the spectrum and relatively higher income from other forms of non-farm employment, such as employment as public servants. An increase in the weight of a component of high inequality such as the non-farm sector, will raise overall inequality in the state (Mehmet 1986, Shand 1987). Rural areas are usually characterized by lower income inequality than urban areas. However the above-mentioned factors have caused the predominantly rural states in Malaysia to have high income inequality, compared to some of the more urbanised states. For example in 1989 Kedah and Kelantan, which are predominantly rural states, had Gini coefficients 0.428 and 0.406 (Table III-8) respectively. For the same year, the Gini coefficient of Johor, a state much more developed and urbanized than Kedah and Kelantan, was only 0.386.

The addition of dependent variables representing other development processes, (the share of agriculture

in GDP, population growth and the share of urban population), did not improve the cross-section regression results. In 1984, the findings showed that a relationship between inequality and development did not exist while in 1989, the relationship between inequality and GDP, minus the variables representing development processes, was much stronger. An improvement in the fit of the estimating equation, after including the development variables in the regression, was only seen in 1987.

The negative coefficient of the variable "population growth" in 1987, suggests that income inequality declines as "population growth" increases (Table III-7). This is the reverse of Ahluwalia's (1976a: 325-327) findings, which showed that the rate of growth of population had a negative impact on the income shares of all groups except the top 20 percent of households. He claimed that the most important link between population growth and income inequality was that different income groups grow at different rates, with the lower income groups experiencing a faster natural rate of increase in population. This would in turn generate greater inequality because the per capita income of the poorer groups will grow more slowly compared to per capita income of the rich. In fact, the average household size in Malaysia increases as the level of income increases[6]. Using household size as a proxy for population growth would suggest that the rate of population growth is greater for the higher level income groups. Therefore the rate at which the per capita income of the higher groups will grow, is slower than that of the poor[7], thereby reducing income inequality.

Malaysia is a country which provides a rare opportunity to test the existence of Kuznets' Inverted-U

Hypothesis by using both time-series data and cross-section data. A statistically significant inverted-U relationship between income inequality and per capita GDP does exist in Peninsular Malaysia over time between 1957/58 and 1989. But the Malaysian results also seem to support the claim that cross-section data is inappropriate to test the Kuznets hypothesis. In a given year, the relationship between inequality and per capita GDP seems to be the reverse of that postulated by Kuznets. When yielding significant results, the significance levels of estimated equation coefficients and R^2 values are much lower for the cross-section data compared to time-series data. Thus the time-series data provides a better fit to the equation and explains a greater percentage of the variation in income inequality.

An important concern raised about the use of cross section data to verify Kuznets' hypothesis is that of data comparability. In the Malaysian case, the concept of income is identical between the different states and the method for data collection is also consistent. Therefore the data is statistically comparable. Even so, comparing the results of estimation procedures on both time series and cross-section data, the presence of the inverted-U relationship exists only over time. It should be noted that the fact that there are only 14 different states in Malaysia may have a bearing on this conclusion. More disaggregated data could possibly give a different result.

The Malaysian case clearly demonstrates that it is only appropriate to test the Kuznets' Inverted-U Hypothesis using time-series data. The Kuznets' hypothesis is a theory based on a time series relationship between income inequality and economic growth and should be tested as such.

Notes:

1. Although using T20 yields the lowest value of R^2, it is the most robust result statistically as autocorrelation is ruled out. i.e. The estimation procedure using T20 is more efficient than when using Gini or B40.

2. The differences between Sabah and Sarawak compared to Peninsular Malaysia have been previously discussed in Chapter I.

3. Data obtained from the Regional Economics Section, Economic Planning Unit.

4. This is discussed in more detail in Chapter VIII, Section I.B

5. For example, government servants are involved in the planning and development of projects, while the groups targeted to benefit from these projects only benefit during and after its implementation. Thus the incomes of government servants rise before that of the poorer income groups.

6.Refer to the introduction of Chapter III.

7. The rate of per capita income growth refers to the percentage change in income and not the absolute change in income.

CHAPTER IV
PENINSULAR MALAYSIA: PERSONAL INCOME INEQUALITY

This chapter will begin with an analysis of trends in income distribution in Peninsular Malaysia. Several indicators of income inequality exist but this section's discussion is restricted to the Gini coefficient and changes in the income share, mean and median income of the top percent, middle 40 percent and bottom 40 percent of households as the data are only available in this format. Section II looks at the decomposition of income inequality for 1984-1989 and utilises the Theil index. The Theil index is used as it can be easily decomposed to show the extent of inequality caused by the differences between different groups (commonly referred to 'between-group component', T_b). Explanations for the observed changes in income distribution will be examined in Chapter VIII.

The income data presented here are gross monthly income per household expressed in constant 1980 prices. As discussed in Chapter I, this gross household income concept includes both money income and income in kind which are of a recurring nature. The disadvantage of using the household as the unit of enumeration is that it is not standard. Households not only vary in size, but in composition in terms of age, sex and socio-economic characteristics. In many developing countries, the average number of household members tend to vary quite systematically with household incomes. There is a tendency for household size to increase with household income. As a result, in most cases, income is more unequally distributed among households than among individuals (Sundrum 1990: 21). Anand (1983: 76-77) claims that this was true for Malaysia in 1970, with the average household size ranging from 2.57 people for the

M$1-39 income group to 13.11 people for the above M$5000 income group. HIS 1989 confirms this, with the average household size ranging from 3.00 people for the lowest income group decile to 5.71 people for the highest income group decile.

I. TRENDS IN INCOME INEQUALITY

Trends in personal income inequality during the ten year period, 1979 to 1989, can be analyzed by looking at three separate categories:-

a) Overall income inequality
b) Strata (rural-urban) income inequality
c) Ethnic income inequality

As the various Household Income Surveys are said to be broadly comparable[1], trends in personal income inequality will be examined using data from HIS 1980, HIS 1984, HIS 1987 and HIS 1989.

The nature of the data makes it appropriate for the analysis to be conducted in three phases:-

a) Phase 1: 1979 - 1984
b) Phase 2: 1984 - 1987
c) Phase 3: 1987 - 1989

These three phases are also convenient in economic terms: 1979-1984 marked a general slow down in economic growth precipitated by the second oil price shock of 1979; the period between 1984 and 1987 saw Malaysia's most severe post-independence economic recession; and 1987-1989 marked the recovery from the recession and strong economic growth[2]. As the three phases are of varying lengths of time, the changes in the income distribution measures will refer to the average annual change for the period. As mean and median incomes are expressed in 1980 terms, all changes are in real terms.

A. OVERALL ECONOMIC INEQUALITY

The pattern of income distribution is shown in Tables IV-1 to 3. During Phase 1, West Malaysia experienced high levels of economic growth with an average annual economic growth rate of 7.7 percent. The mean household income between 1979 and 1984 increased at an average annual growth rate of 3.7 percent[3]. The median income rose annually by 4.9 percent, from $465 to $578. The increase in median income was greater than for mean income, which implies an improvement in the distribution of income. This is confirmed by looking at the Gini coefficients. In 1979 the Gini coefficient was 0.508 and by 1984 it had fallen to 0.480, an annual decrease of 1.1 percent (Table IV-1)

Looking at the different income groups, the income share of the top 20 percent of households (T) fell by 0.9 percent annually to 53.2 percent. The middle 40 percent of households' (M) income share rose at an average annual rate of 1 percent to 34 percent while the bottom 40 percent of households' (B) income share rose annually by 1.5 percent to 12.8 percent of the total, by 1984. Both the middle and bottom groups' increase in income share was at the expense of the top group. B's income share was growing at a faster rate than M, which would suggest an improvement in the distribution of income (Table IV-3).

Table IV-2, shows a similar pattern in the changes in the three group's mean and median incomes. Both the mean and median incomes rose between 1979 and 1984 for all three groups. In each case however, the rate of increase was highest for the poorest group and lowest for the richest group. The mean and median incomes increased annually by 2.6 percent and 3.5 percent for T, by 4.9 percent and 4.4% for M and by 5.4 percent and 6.6

TABLE IV-1
PENINSULAR MALAYSIA: GINI COEFFICIENT, MEAN AND MEDIAN GROSS HOUSEHOLD INCOME, 1979-1989 (M$ 1980 prices)

	1979	1984	1987	1989
MEAN (1980 M$)	739	876	841	861
MEDIAN (1980 M$)	465	578	578	598
GINI	0.508	0.480	0.456	0.445

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
MEAN	3.7%	-1.3%	1.2%
MEDIAN	4.9%	-0.0%	1.8%
GINI	-1.1%	-1.6%	-1.3%

Source: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

TABLE IV-2
PENINSULAR MALAYSIA: MEAN AND MEDIAN MONTHLY GROSS HOUSEHOLD INCOME OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS, 1979-1989 (M$ 1980 prices)

TABLE IV-2A: MEAN INCOME (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	2060	2332	2153	2164
MID 40%	598	745	736	759
BOT 40%	219	278	290	312

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	2.6%	-2.5%	0.2%
MID 40%	4.9%	-0.4%	1.6%
BOT 40%	5.4%	1.4%	3.8%

TABLE IV-2B: MEDIAN INCOME (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1535	1807	1714	1725
MID 40%	579	707	699	726
BOT 40%	220	293	298	320

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	3.5%	-1.7%	0.3%
MID 40%	4.4%	-0.4%	1.9%
BOT 40%	6.6%	0.6%	3.7%

Source: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

TABLE IV-3
PENINSULAR MALAYSIA: INCOME SHARE OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS, 1979-1989.

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	55.7	53.2	51.2	50.4
MID 40%	32.4	34.0	35.0	35.3
BOT 40%	11.9	12.8	13.8	14.3

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	-0.9%	-1.3%	-0.8%
MID 40%	1.0%	1.0%	0.4%
BOT 40%	1.5%	2.6%	1.8%

Source: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

percent for B. Comparing each group's average annual change with changes in the total West Malaysian mean income, B's mean income, at an annual rate of 5.4 percent, grew at a faster rate than the total mean income of 3.7 percent. The rate of growth of M's mean income is also higher than that of the national average but lower than that of the poorest group. T's mean income increased at an average annual rate of 2.6 percent and this is lower than that of the national average for the period. The same trend is seen with the median income.

In the years of Phase II, Malaysia experienced a fall into economic recession and a gradual recovery, reflected in an average economic growth rate of 3.3 percent. 1984 marked a year of high growth rate (7.8 percent) after which growth became negative in 1985 (-1 percent). This was a consequence of recession in the rest of the world, but was felt the most in Malaysia, Singapore and Hong Kong. (All three countries had negative economic growth rates in 1985, refer to Table I-6 in Chapter I). By 1987, the country had gradually worked it's way out of a recession to achieve a 5.3 percent growth rate.

Unsurprisingly, the overall mean income actually fell in real terms during Phase II while the median income remained relatively stable. Mean income fell from $876 to $841 by 1987, a per annum decrease of 1.3 percent. As the median remained at $578, this suggests a slight improvement in the distribution of income. The Gini coefficient, falling from 0.480 to 0.456, does confirm this improvement (Table IV-1).

Looking at the three income groups it seems that the recession was felt most by T. They experienced a fall in both the real mean income and median income to

$2,153 and $1,714. M also experienced decreases in both its real mean and median incomes, but at a lower rate than T. Despite the recession, B's mean and median incomes increased. The mean income rose annually by 1.4 percent to $290 while the rate of increase in median income was 0.6 percent. This demonstrates that the brunt of the recession was felt by the richest group, T (Table IV-2).

The improvement in the distribution of income is also reflected in the changes in income share. The income share of T fell from 53.2 percent to 51.2 percent, at an annual rate of 0.8 percent. M's income share increased to 35 percent and B's income share to 13.8 percent. The same pattern of the positive changes for B and M are seen here, just as in Phase I, with change in B exceeding that of M. For T, again there was a negative change (Table IV -3). The movements in Phase II were lower than in Phase I, presumably as a consequence of the prevailing economic conditions.

During Phase III, Malaysia was well on the road to recovery and strong economic growth; by 1988 economic growth had reached 8.9 percent surpassing it's 1984 growth rate of 7.8 percent. The overall West Malaysian mean household income had increased to $861 by 1989, but this is lower than the 1984 mean income of $876. However the increase in median income to $598, was higher than both the 1987 and 1984 median income. The rate of growth of the median income was greater than that of mean income, indicating a further improvement in the distribution. The Gini coefficient fell further to 0.445, confirming this improvement (Table IV-1).

The same pattern of change in the three group's income share was observed during this phase; however the average annual changes were smaller. The rate of

increase in M's income share was a mere 0.4 percent raising M's income share to 35.3 percent. There was a levelling out in the middle group and the fall in T's income share was apparently transferred directly to B. (The HIS 1992 data should enable this supposition to be verified). Each group's mean & median income rose, but T's was marginal, below 1.0 percent and the largest increases were found in B.

Comparing the changes between the three phases, the fastest rates of growth for both mean and median incomes were experienced during Phase 1. The income share of T declined throughout the decade, but rate of decline was higher during the recession period in Phase 2. The recession also resulted in the quickest reduction of the Gini coefficient at 1.6 percent per annum, compared to 1.1 percent in Phase 1 and 1.3 percent in Phase 3.

B. STRATA (URBAN-RURAL) INEQUALITY

In the benchmark years the Gini coefficients in urban areas are higher than in rural areas. During the first phase, income distribution in both rural and urban areas of Peninsular Malaysia seems to have improved with the Gini coefficients falling annually by 1.6 percent and 1.4 percent respectively (Tables IV-4 and 5). The pattern in the changes of income shares of the three groups, though similar for both rural and urban areas were once again more prominent in rural areas. For example, T's income share fell at an annual rate of 1.4 percent compared to 1.3 percent in its urban counterpart. Urban B's income share rose annually by 1.8 percent compared to 2.7 percent in rural areas (Tables IV-6 and 7). However the ranking of the changes were the same as that found for overall economic inequality.i.e. the increase in B's income share was greater than that of M, while T's income share fell.

TABLE IV-4
PENINSULAR MALAYSIA: GINI COEFFICIENT, MEAN AND MEDIAN
URBAN GROSS HOUSEHOLD INCOME, 1979-1989 (M$1980 prices)

	1979	1984	1987	1989
MEAN (M$ 1980)	1,040	1,232	1,148	1,178
MEDIAN (M$ 1980)	640	821	785	816
GINI	0.501	0.466	0.449	0.445

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
MEAN	3.7%	-2.3%	1.3%
MEDIAN	5.7%	-1.4%	2.0%
GINI	-1.4%	-1.3%	-0.4%

TABLE IV-5
PENINSULAR MALAYSIA: GINI COEFFICIENT, MEAN AND MEDIAN
RURAL GROSS HOUSEHOLD INCOME, 1979-1989 (M$ 1980 prices)

	1979	1984	1987	1989
MEAN (M$ 1980)	587	659	667	686
MEDIAN (M$ 1980)	394	477	492	516
GINI	0.482	0.444	0.427	0.428

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
MEAN	2.5%	0.4%	1.4%
MEDIAN	4.2%	1.1%	2.4%
GINI	-1.6%	-1.3%	0.1%

Source Tables IV-4 and 5: Malaysia, Department of Statistics,
"Report of the Household Income Survey Malaysia 1984",
HIS 1987, HIS 1989.

TABLE IV-6
PENINSULAR MALAYSIA: INCOME SHARE OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF URBAN HOUSEHOLDS, 1979-1989.

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	55.6	52.1	50.8	50.6
MID 40%	32.1	34.5	35.0	35.1
BOT 40%	12.3	13.4	14.2	14.3

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	-1.3%	-0.8%	-0.2%
MID 40%	1.5%	0.5%	0.1%
BOT 40%	1.8%	2.0%	0.4%

TABLE IV-7
PENINSULAR MALAYSIA: INCOME SHARE OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF RURAL HOUSEHOLDS, 1979-1989.

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	53.2	49.5	48.3	47.1
MID 40%	34.4	36.4	36.7	37.1
BOT 40%	12.4	14.1	15.0	15.8

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	-1.4%	-0.8%	-1.2%
MID 40%	1.2%	0.3%	0.5%
BOT 40%	2.7%	2.1%	2.7%

Source Tables IV-6 and 7: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

The narrowing of income distribution can also be seen by looking at the changes in the three groups' mean and median incomes (Tables IV-8 and 9). Here, the largest increases were seen in B (both rural and urban) and the smallest increases in T. Though the changes in B's mean income were similar in both rural and urban areas, this was not the case for T and M. With these two groups, the changes were much greater for the urban mean income. This indicates that the widening gap between overall urban & rural mean incomes, is caused by the faster rate of growth of T and M's urban mean incomes. For the B share of the population, the difference between rural and urban mean income stayed relatively constant. However as increases in mean income were largest for B and smallest for T, the difference in mean income between the top and bottom households was narrowed. This contributed to the decrease in overall rural and urban inequality observed between 1979 and 1984 (Table IV-4 and 5).

The changes in the overall mean and median incomes were higher in urban than in rural areas. Urban mean and median incomes grew at an annual rate of 3.7 percent and 5.7 percent respectively (Table IV-4), while rural mean and median incomes grew at the more modest rate of 2.5 percent and 4.2 percent (Table IV-5). The slower pace at which rural mean income increased, led to a worsening in the mean income disparity ratio during this phase and the gap between urban and rural mean incomes widened. By 1984, the U-R disparity ratio had increased at a rate of 1.1 percent per annum to 1.87. This also widened the gap, in ringgit terms, between urban and rural mean income by 1984. As can be seen from Table IV-10, the difference in mean income jumped from $453 to $573.

The recession in Phase II, did not alter the pattern of changes in income distribution in rural West

TABLE IV-8
PENINSULAR MALAYSIA: MEAN MONTHLY GROSS HOUSEHOLD INCOME OF TOP 20%, MIDDLE 40% AND BOTTOM 40% BY STRATA, 1979-1989 (M$ 1980 prices).

TABLE IV-8A: URBAN HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	2890	3213	2918	2963
MID 40%	835	1063	1005	1040
BOT 40%	319	409	406	423

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	2.2%	-3.1%	0.8%
MID 40%	5.5%	-1.8%	1.8%
BOT 40%	5.7%	-0.3%	2.1%

TABLE IV-8B: RURAL HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1561	1633	1613	1613
MID 40%	504	599	613	637
BOT 40%	181	232	249	272

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	0.9%	-0.4%	-0.0%
MID 40%	3.7%	0.8%	2.0%
BOT 40%	5.6%	2.4%	4.6%

Source: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

TABLE IV-9
PENINSULAR MALAYSIA: MEDIAN MONTHLY GROSS HOUSEHOLD INCOME OF TOP 20%, MIDDLE 40% AND BOTTOM 40% BY STRATA, 1979-1989 (M$ 1980 prices)

TABLE IV-9A: URBAN HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	2084	2508	2296	2344
MID 40%	790	1014	960	996
BOT 40%	336	426	424	439

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	4.1%	-2.8%	1.1%
MID 40%	5.7%	-1.8%	1.9%
BOT 40%	5.4%	-0.2%	1.8%

TABLE IV-9B: RURAL HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1204	1308	1332	1329
MID 40%	486	574	591	614
BOT 40%	185	241	257	278

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	1.7%	0.6%	-0.1%
MID 40%	3.6%	1.0%	1.9%
BOT 40%	6.2%	2.2%	4.0%

Source: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

TABLE IV-10
PENINSULAR MALAYSIA: MEAN INCOME OF URBAN AND RURAL HOUSEHOLDS AND INCOME DISPARITY RATIO, 1970-1989 (M$ 1980 prices)

	1970	1976	1979	1984	1987	1989
RURAL (R) ($)	358	468	587	659	667	686
URBAN (U) ($)	765	1,024	1,040	1,232	1,148	1,178
U-R DISPARITY RATIO:	2.14	2.19	1.77	1.87	1.72	1.72

AVERAGE ANNUAL PERCENT CHANGE

	70-76	76-79	79-84	84-87	87-89	79-89
RURAL (R)	5.1%	8.5%	2.5%	0.4%	1.4%	1.7%
URBAN (U)	5.6%	0.5%	3.7%	-2.3%	1.3%	1.3%
U-R DISPARITY RATIO:	0.4%	-6.3%	1.1%	-2.7%	-0.1%	-0.3%

Source: Shari and Mat Zin (1990); HIS 1989.

Malaysia. T's income share dropped further to 48.3 percent and the highest rate of change was seen in B. The annual rate of increase in B's income share is 2.1 percent. These average annual percent changes are below those of Phase I (Table IV-7). Parallel to this, the mean incomes of B & M also increased (B's higher than M's), while T's mean income fell (Table IV-8B). This redistribution led to a further improvement in inequality with the rural Gini falling to 0.427 in 1987 (Table IV-5).

The trend in the change in income share of urban and rural areas of West Malaysia remained the same as before, with T's falling and B & M's rising. However the mean incomes of all three urban groups suffered a setback during the recession. This implies that the adverse impact of the 1985-1986 recession was felt more by urban households relative to rural households. This resulted in a narrowing of income disparities between the two households. Table IV-10 shows that this gap is being narrowed by an average annual rate of 2.7 percent.

Phase III, represented a period of strong economic recovery, with economic growth reaching 8.9 percent in 1988. Both urban and rural households in West Malaysia seem to have benefitted from this with overall mean incomes rising at a rate of over one percent. The rise in the mean and median incomes in both strata were comparable, with rural changes being marginally higher. However while this growth in urban households was accompanied by a small fall in its Gini coefficient, the reverse was true of rural households. The rural Gini coefficient rose slightly. Income share movements were in the right directions to imply an improvement in the Gini, but the reverse occurred. The reason is that within each of the three groups, the median income did not move as quickly as the mean income (Tables IV-8 and

9). For example in group B, the median only rose at a rate of 3.99 percent as opposed to the mean income's rate of 4.63 percent. This pattern probably contributed to a slight worsening of income distribution within each of the groups which resulted in the slight increase in the rural Gini coefficient.

To summarise changes over the decade, 1979-1989, income inequality in the urban households in Peninsular Malaysia has improved. The Gini coefficient fell continuously from 0.501 in 1979 to 0.445 in 1989, at an average rate of 1.1 percent. The rate of decline in the Gini coefficient for the first and second phases are similar, 1.4 percent compared to 1.3 percent, but were considerably higher than that of Phase 3. Inequality in income distribution for rural households decreased between 1979 and 1987, but increased marginally by 1989. The mean incomes for both urban and rural areas increased. Although in ringgit terms the difference has increased, there was a continued narrowing of the urban-rural disparity ratio.

C. ETHNIC INEQUALITY

An important goal of the NEP was to erase any connection between race and economic function, thus eliminating differences in income based on ethnicity. In the years following independence, Malays were predominantly engaged in low income occupations while the Chinese dominated higher paid occupations. The movements and trends in racial income distribution from 1979 and 1989 can be seen in Tables IV-11 to 13.

At the start of the period, the Malays had the lowest mean income and highest Gini coefficient. Their mean household income of $525 was just over half that of the Chinese and two thirds of the Indians. Throughout

TABLE IV-11
PENINSULAR MALAYSIA: DISTRIBUTION OF MALAY HOUSEHOLD INCOME, 1979 - 1989 (M$ 1980 prices)

			1979	1984	1987	1989
Y SHARE	TOP 20%	(%)	53.8	51.9	50.2	49.5
	MID 40%	(%)	33.3	34.8	35.7	35.7
	BOT 40%	(%)	12.9	13.3	14.1	14.8
TOTAL	MEAN	(M$)	525	681	679	689
	MEDIAN	(M$)	349	465	479	502
	GINI		0.488	0.469	0.447	0.428

AVERAGE ANNUAL PERCENT CHANGE

		79-84	84-87	87-89	79-89
Y SHARE	TOP 20%	-0.7%	-1.1%	-0.7%	-0.8%
	MID 40%	0.9%	0.9%	0.0%	0.7%
	BOT 40%	0.6%	2.0%	2.5%	1.5%
TOTAL	MEAN	6.0%	-0.1%	0.8%	3.1%
	MEDIAN	6.6%	1.0%	2.3%	4.4%
	GINI	-0.8%	-1.6%	-2.1%	-1.2%

Source: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

TABLE IV-12
PENINSULAR MALAYSIA: DISTRIBUTION OF CHINESE HOUSEHOLD INCOME, 1979 - 1989 (M$ 1980 prices)

			1979	1984	1987	1989
Y SHARE	TOP 20%	(%)	52.7	51.0	48.9	49.2
	MID 40%	(%)	33.9	34.8	36.0	35.7
	BOT 40%	(%)	13.4	14.2	15.1	15.1
TOTAL	MEAN	(M$)	1,000	1,201	1,119	1,171
	MEDIAN	(M$)	661	818	799	841
	GINI		0.470	0.452	0.428	0.400

AVERAGE ANNUAL PERCENT CHANGE

		79-84	84-87	87-89	79-89
Y SHARE	TOP 20%	-0.6%	-1.4%	0.3%	-0.7%
	MID 40%	0.5%	1.1%	-0.4%	0.5%
	BOT 40%	1.2%	2.1%	0.0%	1.3%
TOTAL	MEAN	4.0%	-2.3%	2.3%	1.7%
	MEDIAN	4.8%	-0.8%	2.7%	2.7%
	GINI	-0.8%	-1.8%	-3.3%	-1.5%

Source: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

TABLE IV-13
PENINSULAR MALAYSIA: DISTRIBUTION OF INDIAN HOUSEHOLD INCOME, 1979 - 1989 (M$ 1980 prices)

			1979	1984	1987	1989
Y SHARE	TOP 20%	(%)	52.0	48.8	47.2	47.7
	MID 40%	(%)	33.6	35.3	35.9	35.8
	BOT 40%	(%)	14.4	16.3	16.9	16.5
TOTAL	MEAN	(M$)	806	874	852	889
	MEDIAN	(M$)	556	615	625	652
	GINI		0.460	0.417	0.402	0.394

AVERAGE ANNUAL PERCENT CHANGE

		79-84	84-87	87-89	79-89
Y SHARE	TOP 20%	-1.2%	-1.1%	0.5%	-0.8%
	MID 40%	1.0%	0.6%	-0.1%	0.7%
	BOT 40%	2.6%	1.2%	-1.2%	1.5%
TOTAL	MEAN	1.7%	-0.9%	2.2%	1.0%
	MEDIAN	2.2%	0.5%	2.2%	1.7%
	GINI	-1.9%	-1.2%	-1.0%	-1.4%

Source: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

the decade there was a continued improvement in the distribution of income within each race. By 1989, while the ordering of mean incomes and Gini coefficients remained the same, the reduction in the mean income disparity ratio indicated a narrowing of the differences (Table IV-14).

Phase I saw a striking improvement in inequality among the Indians. Already starting with the lowest Gini coefficient in 1979, the Indian Gini fell drastically at the rate of 1.9 percent to 0.417 by 1984 (Table IV-13). The large Gini changes were accompanied by an almost two percentage points increase in both B and M's income share. By 1984, T's income share had dropped to 48.8 percent, lower than the other races. The rate of decline in the Malay and Chinese Gini coefficients were similar at 0.8 percent. As in the Indian case, the continued increase in the bottom 80 percent of the population's income share contributed to this. Inequality is still higher within the Malays, with T's income share being higher than that of the Chinese T. Both races' income share of M was equivalent by 1984, denoting that the Malay B share was lower than its Chinese counterpart (Table IV-11 and 12).

All three races experienced fast changes in their mean incomes between 1979 and 1984. Comparing them, the Indians had the lowest increase, rising annually at below two percent compared to the Chinese four percent and Malays six percent. The larger increases in Malay mean income led to reduced differences between Malay and non-Malay mean incomes. From Table IV-14 the C-M disparity ratio of 1.907 in 1979 had fallen to 1.763 by 1984, a 1.5 percent annual improvement. The difference in the rates of growth of mean income between Indians and Malays is larger than between Chinese and Malays. Thus a faster rate of decline was observed in I-M

TABLE IV-14
PENINSULAR MALAYSIA: MEAN INCOME DISPARITY RATIO OF THE MAJOR ETHNIC GROUPS, 1979-1989

	1979	1984	1987	1989
C-M DISPARITY RATIO:	1.91	1.76	1.65	1.70
I-M DISPARITY RATIO:	1.54	1.28	1.26	1.29

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
C-M DISPARITY RATIO:	-1.5%	-3.3%	1.0%
I-M DISPARITY RATIO:	-3.3%	-1.1%	0.9%

Source: Calculated from Tables IV-11, 12 and 13.

disparity ratio. By 1984 the I-M disparity ratio was reduced to 1.284, and less than two hundred ringgit separated their mean incomes.

The recession period continued to bring about considerable improvements in inequality for each race. Apart from the Indians, the rate at which the Gini coefficient fell exceeded the Phase I rate. For the Chinese and the Malays the rate was around double the previous pace. Although the Indian Gini declined at the slowest rate in Phase II, it was still too low for the other two races to catch up with. The ranking with the Indians with the lowest Gini and the Malays with the highest, continued to prevail. With all three races, Phase II caused a shifting of income share from T to B and M and in each case, larger increases were seen in B.

It seems that the recession affected the Chinese households more than either the Malay or Indian households, causing their mean income to fall at an annual rate of 2.3 percent. Malay mean income fell only marginally by 0.11 percent annually. While the median income for Chinese households also fell, it rose for Indian and Malay households. The Malay median income rose at a rate of 1.04 percent and the Indian at 0.51 percent. So while the non-Malay mean incomes continue to exceed the Malay mean income, the faster Malay mean income growth rate meant that inter-ethnic group gaps continued to be narrowed. The C-M disparity ratio had fallen further to 1.648 (a 2.18 percent rate of decline), and the I-M disparity ratio was down to 1.255.

Phase III saw a continued improvement in inequality. By 1989, the Chinese Gini coefficient had decreased to almost the Indian level at 0.400 and 0.394 respectively. The Malay Gini coefficient also continued to decline, but was still the highest in 1989 at 0.428.

The changes in income share differed for Phase III for all three groups. It seems that the economic boom in 1987-89 favoured the rich Chinese and Indians. Table IV-12 and 13, show that both Chinese and Indian top 20 percent of households, increased their income share marginally during this period. With the Chinese, there was a direct transfer of income share from M to T with no change in B. The Indians rise in T's income share was at the expense of both B and M, but the decline was faster in B. This would imply a worsening of Chinese and Indian income inequality, which is not supported by the fall in their respective Gini coefficients. This could be due to an improvement in inequality within either one or more of the three groups (T, M and B), which outweigh the negative effect of the change in income shares. To verify this the changes in mean and median incomes for T, M and B need to be examined, which unfortunately are unavailable.

An alternative way to assess the contradictory story, between the Gini coefficient and the movement of income shares, of Chinese and Indian households between 1987 and 1989 is to use an alternative inequality indicator, such as the Atkinson's index (1970). The Atkinson's index incorporates welfare into the index and is sensitive to the bottom end of the distribution. This measure introduces distributional objectives through an explicit parameter, "epsilon". Epsilon represents the weight attached by society to inequality in the distribution of income. It ranges from 0 to infinity. The larger the value of epsilon, the more society cares about the position of the lower income groups.

Table IV-15 shows the Atkinson's Index for Chinese and Indian households from 1987-89. It indicates that there has been a decrease in inequality within Indian households. As this inequality indicator is more

TABLE IV-15
ATKINSON'S INDEX FOR CHINESE AND INDIAN HOUSEHOLDS, 1987-1989

CHINESE	E=1.5	E=2	E=3
1987	0.379	0.475	0.646
1989	0.400	0.610	0.970
AVG ANN. CHANGE	2.8%	14.2%	25.1%

INDIAN	E=1.5	E=2	E=3
1987	0.336	0.423	0.586
1989	0.317	0.394	0.531
AVG ANN. CHANGE	-2.8%	-3.4%	-4.7%

Source: Calculated from HIS 1987 and 1989.

sensitive to the bottom end of the distribution it indicates that there has been an improvement in inequality amongst households in the bottom end of the distribution. This implies that the negative effect on income distribution caused by the increase in Indian T's income share, was outweighed by the improvement in inequality within Indian households at the bottom end of the distribution. As a result, the overall level of inequality among Indian households declined between 1987 and 1989.

In contrast, the Atkinson index show an increase in inequality amongst Chinese households. The greater the value of epsilon, the greater the increase in the Atkinson's index, 2.8 percent when E=1.5 to 25.1 percent, when E=3. The larger the value of epsilon, the greater weight is placed on the bottom end of the distribution. Therefore, this suggests that between 1987 and 1989, inequality among the bottom end of the distribution of Chinese households worsened. This, then implies that the decrease in overall inequality, as shown by the fall in Gini coefficient, is probably due to an improvement in inequality within the top end of the distribution. This improvement in inequality among the richer Chinese households outweighed the worsening effects on income distribution caused by the increase in Chinese T's income share and an increase in inequality within the poorer Chinese households. This resulted in the overall decline in inequality, among Chinese households, as reflected by the Gini coefficient.

The Malays were the only ethnic group to experience a fall in T's income share and this was transferred directly to B, with no change in M. The rate of change however was slower than for the previous two phases (Table IV-11). The economic boom of 1987-89, was reflected the least in Malay households, with Malay mean

income increasing annually by 0.8 percent compared to that of the Chinese and Indians (2.3 & 2.2 percent). This brought about a trend reversal in the disparity income ratios. By 1989, the C-M ratio had increased to 1.698 and I-M ratio to 1.289 (Table IV-14).

In general, the Gini coefficient showed large improvements in the overall income distribution for every ethnic group during this ten year period. The largest decline in income inequality, as indicated by the Gini coefficient, was observed for the Chinese[4]. Compared to 1979, the ranking of inequality in 1989 remained the same for each ethnic group. This was also true of the mean and median incomes. However, although the positioning of mean and median incomes of the different races stayed constant, the different rates of change for each ethnic group meant that Malay mean incomes were rising at a much faster pace than non-Malay mean incomes (3.14 percent per annum versus 1.7 & 1.02 percent) (Table IV-14). If this trend continues, the difference between Malay and non-Malay mean incomes will slowly be reduced and ultimately be eliminated.

II. DECOMPOSITION OF INEQUALITY

The disparity ratios discussed in the previous section simply reflect mean income differences between different groups. Such measures ignore the differences in income within a group. To consider the extent to which disparities between and within different groups contribute to total income inequality in Malaysia, the Theil index will be used to decompose total inequality into 'within-group' and 'between-group' inequality.

The Theil Index is chosen for this analysis as it is neatly decomposable into the 'between-group' and 'within-group' components. The 'between-group' component

(T_b) is defined as the inequality index when differences within the group is suppressed. i.e. it is the amount of inequality caused by income disparities between different groups. The 'within-group' component (T_w) is the amount of inequality arising from differences within the group, i.e. when between-group income differences are suppressed.[5]

The calculation of Theil indices of overall inequality is only done for the three predominant ethnic groups found in the Peninsular; the Malays, Chinese and Indians. Other races comprise less than 0.5% of total population and consist of either extremely high income expatriate families or imported unskilled labour with low incomes. Although data on 'other races' are available, where possible it has been excluded in this analysis. The small sample size and its relatively high degree of inequality (for example in 1989, the Gini coefficient is 0.611) may distort the results.

Although no statistical models exist that allow tests of significance on the decomposition of the Theil index, such decompositions do provide a measure of the magnitude of the contribution of different groups to total inequality. In addition, the pattern of changes in magnitudes can be observed over a period of time.

Tables IV-16 and 17 show the result of decomposition of the Theil index for overall inequality. The 1984 Theil index for overall inequality is 0.428. The decomposition results show that more than 80 percent of inequality arises from disparities within the different groups. The between-race contribution is 8.4 percent (Table IV-16) while the between rural-urban contribution is 11.3 percent (Table IV-17) of total inequality. However the between rural-urban contribution may be over-estimated because when calculating the 1984

TABLE IV-16
PENINSULAR MALAYSIA: THEIL INDEX AND ITS WITHIN AND BETWEEN RACIAL CONTRIBUTION TO INEQUALITY, 1957-1989.

YEAR	THEIL	BETWEEN RACE	WITHIN RACE
1957/58	0.369	20.3%	79.7%
1970	0.469	18.0%	82.0%
1979	0.418	11.2%	88.8%
1984	0.428	8.4%	91.6%
1987	0.372	7.3%	92.7%
1989	0.354	8.7%	91.3%

TABLE IV-17
PENINSULAR MALAYSIA: THEIL INDEX AND ITS WITHIN AND BETWEEN LOCATION CONTRIBUTION TO INEQUALITY, 1957-1989.

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
57/58	0.369	10.7%	89.3%
1970	0.469	16.0%	84.0%
1979	0.418 *	9.7%	90.3%
1984	0.428	11.3%	88.7%
1987	0.372	9.0%	91.0%
1989	0.354	9.7%	90.3%

Note: * R-U in 1984 is over estimated as it included Others in the sample when calculating R-U component

Source Tables IV-16 & 17: 1957/58-1979: Ikemoto (1985)
1984-1989: Calculated from HIS 1984, 1987 and 1989

rural-urban component, the data were not disaggregated to permit the exclusion of 'other races'. Collectively, the between-group component contributed just under 20 percent of overall inequality.

By 1987, the between-race contribution had fallen to 7.3 percent and the between rural-urban component had fallen to 9.0 percent. Between 1984 and 1987, the mean income disparity ratio between Chinese and Malay mean income decreased at a rate of 2.2 percent, while the Malay-Indian income disparity ratio decreased annually by 0.7 percent (Table IV-14). The contribution of between-location (rural-urban component), fell from 11.3 percent to 9.0 percent, while its disparity ratio declined at a rate of 2.7 percent. The narrowing income gap between the different races and locations contributed to the decline in the overall Gini coefficient.

Between 1987 and 1989, the overall Theil index declined to 0.354. However the reverse occurred with the percentage contribution of the between-group components. The between-race contribution increased to 8.7 percent of total inequality (Table IV-16) while the between-location contribution increased to 9.7 percent (Table IV-17). The increase in the between-race component was reflected when looking at the changes in mean income for the different groups. For this period, the mean income disparity ratios between Malays and non-Malays increased at a rate of around one percent (Table IV-14). Despite a marginal, 0.1 percent decrease in the urban-rural mean income disparity ratio (Table IV-10), the between-location contribution increased. The value of the between-location component remained unchanged, but the decrease in overall inequality led to an increase in its percentage contribution. Therefore the decrease in overall inequality was a result of improved income

distribution within the different groups.

The Theil index for all communities in Malaysia has been steadily decreasing from 0.428 in 1984 to 0.354 in 1989, which confirms the trends in the Gini Coefficient. The between-group contribution has remained relatively stable fluctuating at around 8 percent for the racial component and 10 percent for the location component. The larger fall in between-location component between 1984 and 1987 may be in part due to its over estimated value in 1984. However looking at the changes in mean income between 1979 and 1984 (Table IV-10), increases in both the urban-rural disparity ratio and absolute difference would result in the higher between-location component for 1984.

Looking at the trend since 1957/58, there had been a marked decline in the between-race contribution between 1970 and 1979. Between-race contribution fell from 18.0 percent to 11.2 percent while between-location component fell from 16.0 percent to 9.7 percent. Since then, the racial component declined to 8.4 percent by 1984 and had continued to fluctuate around that level. The rural-urban component had stabilised around its 1979 level with the exception of the increase to 11.3 percent in 1984.

Table IV-18 provides Theil indices by race and the within and between-location component for each racial group. As the decomposition is not available for 1979 and 1984, this will be discussed for 1987 and 1989. Between 1987 and 1989 there has been a decrease in inequality, as reflected in the Theil indices, for each of the three races. With the exception of the Malays, this decrease is attributed to a decrease in inequality within each race as it is not reflected in the changes in its rural-urban contribution. The Malays were the

TABLE IV-18
THEIL INDEX BY RACE AND ITS BETWEEN AND WITHIN LOCATION CONTRIBUTION, 1979-1989.

TABLE IV-18A: MALAY

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1979	0.377	na	na
1984	0.428	na	na
1987	0.367	7.3%	92.7%
1989	0.334	7.0%	93.0%

TABLE IV-18B: CHINESE

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1979	0.381	na	na
1984	0.370	na	na
1987	0.326	4.0%	96.0%
1989	0.320	4.7%	95.3%

TABLE IV-18C: INDIAN

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1979	0.344	na	na
1984	0.324	na	na
1987	0.302	7.0%	93.0%
1989	0.286	8.4%	91.6%

Note: R-U denotes "rural-urban"
Source: 1979: Ikemoto (1985)
1984-1989: Calculated from HIS 1984, 1987 and 198

only ethnic group to experience a decline in its between-location component between 1987 and 1989. For the Malays this decline contributed to the improved income distribution observed between these years.

The rural-urban contribution to inequality among both the Chinese and Indians increased between 1987 and 1989. This is confirmed by looking at their respective urban-rural mean income disparity ratios (Table IV-19). Both urban Chinese and urban Indian mean incomes rose faster than their rural mean incomes, causing a widening of their disparity ratios. While the Chinese disparity ratio increased marginally at a rate of less than one percent, the Indian disparity ratio grew annually by seven percent. This led to the jump in the between-location contribution among Indians from seven percent to over eight percent. The decrease in the between-location component among Malays was due to a narrowing of both its urban-rural disparity ratio and the absolute difference in ringgit terms.

These results show that in 1987 and 1989, more than 90 percent of the inequality for each of the three races is caused by differences within the race and not by urban-rural disparities (Tables IV-18A to C). Comparing the three races, the between-location contribution is lowest among the Chinese, with over 95 percent of its inequality caused by differences within the race itself (Table IV-18B).

For the Malays rural-urban disparities played a more important role in total inequality in 1957/58 but this has been decreasing continuously ever since. With the Chinese and Indians, at the start of independence differences in urban and rural incomes hardly contributed to inequality (1.2 percent for Chinese, 0.4 percent for Indians). By 1970 its contribution increased

TABLE IV-19
DISPARITY RATIOS & ABSOLUTE DIFFERENCE IN MEAN MONTHLY INCOME OF URBAN AND RURAL HOUSEHOLDS BY RACE
(M$ 1980 prices)

	1987	1989	AVG. ANN CHANGE
MALAY:			
MALAY RURAL ($)	583	600	3.0%
MALAY URBAN ($)	968	959	-0.9%
MALAY U-R DISPARITY RATIO:	1.66	1.60	-3.8%
DIFFERENCE IN MALAY U-R MEAN Y ($):	385	359	-6.8%
CHINESE:			
CHINESE RURAL ($)	909	950	4.4%
CHINESE URBAN ($)	1,284	1,352	5.3%
CHINESE U-R DISPARITY	1.41	1.42	0.9%
DIFFERENCE IN CHINESE U-R MEAN Y ($):	374	403	7.5%
INDIAN:			
INDIAN RURAL ($)	722	723	0.2%
INDIAN URBAN ($)	1,044	1,120	7.3%
INDIAN U-R DISPARITY	1.45	1.55	7.0%
DIFFERENCE IN INDIAN U-R MEAN Y ($):	323	397	23.1%

Source: HIS 1987 and 1989.

significantly especially for the Indians, after which it has fallen slightly. Among the Chinese the urban-rural component is relatively stable at around 4 percent for the last two decades.

To examine the extent to which racial disparities contribute to income inequality, a similar decomposition is attempted for location and race for 1987 and 1989 (Table IV-20). The results show that racial disparities contribute less than 7 percent of total inequality. In urban areas, the contribution drops to below 4 percent (Table IV-20B), therefore large inequalities within rural and within urban areas exist and account for the bulk of inequality. Between 1987 and 1989, the between-race component in both urban and rural areas rose despite a fall in inequality. This indicates an improvement in income distribution within rural and urban households which compensated for the increased racial component.

The between-race contribution to inequality within urban households has stayed small and relatively stable at around 3 percent since 1957/58 (Table IV-20A). Therefore changes in income inequality are predominantly the result of changes in income disparities within ethnic groups. On the other hand in 1957/58, the between-race contribution in rural areas was almost 25 percent. By 1989, this figure has fallen significantly to below 7.0 percent (Table IV-20B). This suggests that the reduction in racial income differences is an important factor in the decline in rural inequality.

These findings tend to show that inequalities in the separate groups tend to arise from large differences in income within that particular group (whether ethnic or locational) and not because of differences between them. This is especially true for Chinese households and

TABLE IV-20
PENINSULAR: THEIL INDEX BY LOCATION AND ITS BETWEEN AND WITHIN RACIAL CONTRIBUTION, 1957/58-1989.

TABLE IV-20A: URBAN

YEAR	THEIL	BETWEEN RACE	WITHIN RACE
57/58	0.358	3.0%	97.0%
1970	0.423	3.2%	96.8%
1984	0.397	na	na
1987	0.349	2.9%	97.1%
1989	0.344	3.7%	96.3%

TABLE IV-20B: RURAL

YEAR	THEIL	BETWEEN RACE	WITHIN RACE
57/58	0.312	24.7%	75.3%
1970	0.370	16.8%	83.2%
1984	0.378	na	na
1987	0.326	5.8%	94.2%
1989	0.298	6.7%	93.3%

Source:
1957/58-1979: Ikemoto (1985)
1984-1989: author's calculations

urban households in general, where the between-component contribution was below five percent. In 1989, less than nine percent of overall inequality is attributed to between-race and between-location component. The importance of these results is that to obtain further significant improvements in inequality, reducing income disparities between the different groups will not be sufficient. Instead, income differences within each of the groups will have to be reduced. This supports Anand's (1983) view, mentioned in Chapter I, Section B, that equalizing income disparities between different groups would play a minor role in reducing inequality.

Notes:

1. Refer to Chapter I, Section 3 for a discussion on data comparability.

2. Refer to Chapter I, Section I.B. for the discussion on Malaysia's pattern of economic growth.

3. The average annual growth rate of mean household income between 1979 and 1984 =

$$\frac{\text{Mean Income (1984)} - \text{Mean Income (1979)}}{\text{Mean Income (1979)}}$$

divided by 5.

In general, the average annual growth rate from Year A and Year B =

$$\frac{\text{Value (Year B)} - \text{Value (Year A)}}{\text{Value (Year A)}}$$

divided by number of years between Year B and A.

All average growth rates in this study are calculated in this manner.

4. The Atkinson index shows that Chinese income inequality between 1987 and 1989 actually increased. However this measure emphasises and places greater weight on the poor.

5. However, a note of caution should be mentioned about the Theil Index. The calculation of the between-group component, T_b, does not reflect the differences in income within a particular group.

$$T_{bi} = \text{Ln} \left[\frac{\text{income share of group i}}{\text{population share of group i}} \right]$$

multiplied by

(Income share of group i)

T_b = the sum of T_{bi}

Thus T_b only reflects the averages of the different groups. Therefore, if the averages between the different groups are narrowing, the value of T_b will get smaller and imply that the between-group contribution is less important. This is important to bear in mind when using Theil's index to formulate policy measures.

CHAPTER V
SABAH AND SARAWAK: PERSONAL INCOME INEQUALITY

The discussion of income inequality in Sabah and Sarawak in this chapter will follow the same layout as that of Peninsular Malaysia (Chapter IV). The first section will look at trends in inequality followed by a decomposition analysis. As in the previous chapter, the income data presented here refer to average gross monthly income per household. For the same reasons as in Chapter IV, the measures of inequality used are the Gini coefficients, income shares of the top 20% of households (T), middle 40% of households (M), bottom 40% of households (B), mean and median income. Likewise, the Theil index will be used to examine the decomposition of inequality. Explanations for the observed changes in income distribution will be examined in Chapter VIII.

I. TRENDS IN INCOME INEQUALITY

As in Chapter IV, trends in income inequality will be sub-divided into 3 categories:-

a) Overall income inequality
b) Strata (rural-urban) income inequality
c) Ethnic income inequality

and will be conducted in three phases:-

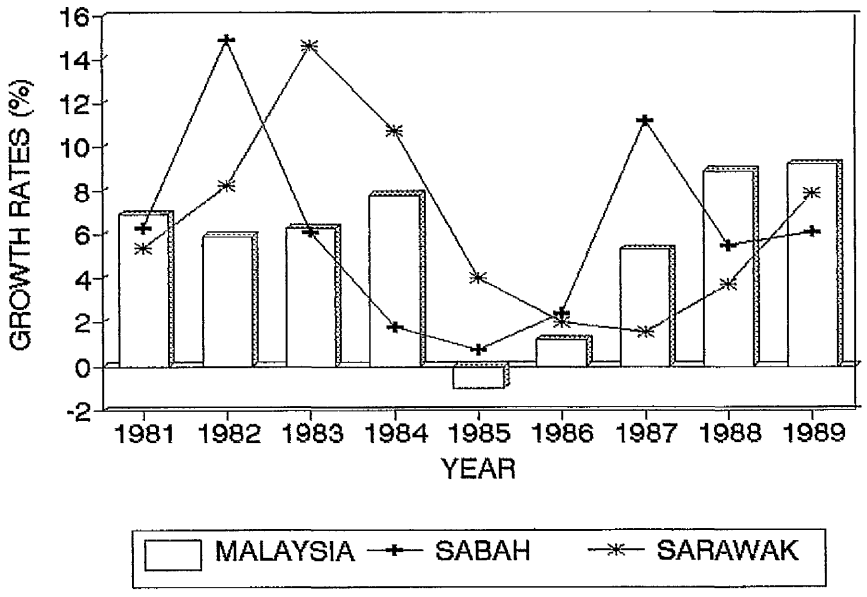
a) Phase 1: 1979 - 1984
b) Phase 2: 1984 - 1987
c) Phase 3: 1987 - 1989

Unlike Peninsular Malaysia, these three phases do not fall into a convenient pattern in economic terms. The economic growth patterns of Sabah and Sarawak differ slightly from that of Malaysia and both states' GDP growth rates exceeded that of the Peninsular in the early 1980s (Table V-1 and Figure V-1). Although Sabah

TABLE V-1
MALAYSIA, SABAH & SARAWAK REAL ECONOMIC GROWTH RATES, 1981-1989 (PERCENT)

YEAR	MALAYSIA	SABAH	SARAWAK
1981	6.9	6.3	5.4
1982	5.9	14.9	8.2
1983	6.3	6.1	14.6
1984	7.8	1.8	10.7
1985	-1.0	0.8	4.0
1986	1.2	2.4	2.0
1987	5.3	11.2	1.6
1988	8.9	5.5	3.7
1989	9.2	6.1	7.9

FIGURE V-1
MALAYSIA: ECONOMIC GROWTH, 1981-1989



Source: "Annual Bulletin of Statistics, Sabah" (various issues)
"Siaran Perangkaan Tahunan, Sarawak" (various issues)
"Economic Report" (various issues)

experienced its economic recession (1985-86) and recovery (1987) at the same time as Malaysia[1], Sarawak's recovery period was delayed by one year, 1988. Sabah and Sarawak are well endowed with natural resources, especially timber and petroleum, and their economies are dominated by the agricultural, forestry and mining sectors. During the 1980s, primary production has typically accounted for between 50 and 60 percent of GDP in Sabah and Sarawak, thereby making their economies very responsive to fluctuations in world commodity prices.

Sabah experienced fast economic growth during the late 1970s and early 1980s, reaching a peak of 14.9 percent in 1982. This fast development was mainly due to the continued exploitation of natural resources. The increase in GDP from the mining sector, mainly from crude petroleum, hydrocarbon and copper deposits, increased by 42.3 percent (real terms) to M$ 906 million in 1982 (Table V-2). GDP output from the agricultural sector also rose by 39 percent to M$ 1,726 million in 1982 (real 1978 prices). This was generated by the increased logging of timber and the rapid development of cocoa and oil palm. The decline in the prices of its major primary commodities after 1982, set the economy on a path of decline with economic growth rates falling to 0.8 percent by 1985.

In the first half of the 1980s the mining and forestry sectors together, account for about 40 percent of GDP and more than 70 percent of the value of total exports. 1983 saw a decline in timber and crude petroleum prices. This led to a decrease in the value of its exports, despite, in the case of petroleum, an 11.2 percent increase in the volume exported (Tables V-4 and 5). However, as the price of other major primary commodities (palm oil, rubber, cocoa beans and copper

TABLE V-2
SABAH: GDP BY INDUSTRIAL ORIGIN IN CONSTANT 1978 PRICES
1980-1989 (M$ 1978 MILLION)

INDUSTRY	1980	1982	1985	1987	1989
1. AGRICULTURE, LIVESTOCK & FORESTRY	1,275	1,726	1,821	2,340	2,311
2. MINING & QUARRYING	774	906	918	1,031	1,363
3. MANUFACTURING	144	160	229	323	437
4. CONSTRUCTION	204	261	271	212	228
5. UTILITIES	27	33	49	54	59
6. TRANSPORT, STORAGE & COMMUNICATION	191	222	285	304	363
7. WHOLESALE & RETAIL TRADE, HOTELS & RESTAURANTS	384	453	544	505	620
8. FINANCE, INSURANCE, REAL ESTATE & BUSINESS SERVICE	192	223	274	295	346
9. GOVT. SERVICE	254	336	388	422	453
10. OTHER SERVICE	42	46	51	53	61
BANK SERVICE CHG	(43)	(58)	(92)	(112)	(168)
IMPORT DUTIES	187	128	88	69	78
GDP(MARKET PRICE)	3,631	4,436	4,826	5,497	6,150

Source: "Annual Bulletin of Statistics, Sabah" (various years)

TABLE V-3
SABAH: PERCENT SHARE OF GDP BY INDUSTRIAL ORIGIN (%)

INDUSTRY	1970	1975	1980	1985	1987
1. AGRICULTURE, LIVESTOCK & FORESTRY	35.1%	38.9%	37.7%	42.6%	37.6%
2. MINING & QUARRYING	21.3%	20.4%	19.0%	18.8%	22.2%
3. MANUFACTURING	4.0%	3.6%	4.7%	5.9%	7.1%
4. CONSTRUCTION	5.6%	5.9%	5.6%	3.9%	3.7%
5. UTILITIES	0.7%	0.7%	1.0%	1.0%	1.0%
6. TRANSPORT, STORAGE & COMMUNICATION	5.3%	5.0%	5.9%	5.5%	5.9%
7. WHOLESALE & RETAIL TRADE, HOTELS & RESTAURANTS	10.6%	10.2%	11.3%	9.2%	10.1%
8. FINANCE, INSURANCE, REAL ESTATE & BUSINESS SERVICE	5.3%	5.0%	5.7%	5.4%	5.6%
9. GOVT. SERVICE	7.0%	7.6%	8.0%	7.7%	7.4%
10. OTHER SERVICE	1.2%	1.0%	1.1%	1.0%	1.0%
BANK SERVICE CHG	na	-1.3%	-1.9%	-2.0%	-2.7%
IMPORT DUTIES	na	2.9%	1.8%	1.3%	1.3%
GDP(MARKET PRICE)	96.0%	100.0%	100.0%	100.0%	100.0%

Source: Calculated from Table V-2

TABLE V-4
SABAH: VOLUME AND VALUE OF MAJOR EXPORTS, 1982-1985
(M$ Current Prices)

EXPORT COMMODITY	1982	1983	1984	1985
TIMBER LOGS:				
VOLUME (Cu. Metre)	9,827,377	9,455,398	7,617,512	8,250,852
TOTAL VALUE (M$'000)	2,092,023	1,688,325	1,525,073	1,372,713
UNIT VALUE (M$/Cu. Mtr)	213	179	200	166
CRUDE PETROLEUM:				
VOLUME (Tonne)	3,695,356	4,107,923	4,149,765	3,920,322
TOTAL VALUE (M$'000)	2,237,992	2,141,059	2,091,108	1,961,046
UNIT VALUE (M$/Tonne)	606	521	504	500
PALM OIL:				
VOLUME (Tonne)	217,184	206,870	250,074	263,825
TOTAL VALUE (M$ '000)	182,733	192,870	350,724	267,561
UNIT VALUE (M$/Tonne)	841	932	1402	1014
RUBBER:				
VOLUME (Tonne)	21,684	21,456	25,200	22,068
TOTAL VALUE (M$ '000)	36,506	45,116	51,186	36,645
UNIT VALUE (M$/Tonne)	1,684	2,103	2,031	1,661
COCOA BEANS:				
VOLUME (Tonne)	29,625	29,954	41,472	47,526
TOTAL VALUE (M$ '000)	104,601	119,142	210,265	235,785
UNIT VALUE (M$/Tonne)	3,531	3,978	5,070	4,961
COPPER CONCENTRATES:				
VOLUME (Tonne)	121,060	121,875	125,886	125,765
TOTAL VALUE (M$ '000)	152,270	162,611	141,564	140,233
UNIT VALUE (M$/Tonne)	1,258	1,334	1,125	1,115

Source: Malaysia, Department of Statistics Sabah "Annual Bulletin of Statistics Sabah" (Various years)

TABLE V-5
SABAH: CHANGE IN VALUE AND VOLUME OF MAJOR EXPORTS, 1983-1985

EXPORT COMMODITY	1983	1984	1985
TIMBER LOGS:			
VOLUME	-3.8%	-19.4%	8.3%
TOTAL VALUE	-19.3%	-9.7%	-10.0%
UNIT VALUE	-16.1%	12.1%	-16.9%
CRUDE PETROLEUM			
VOLUME	11.2%	1.0%	-5.5%
TOTAL VALUE	-4.3%	-2.3%	-6.2%
UNIT VALUE	-13.9%	-3.3%	-0.7%
PALM OIL:			
VOLUME (Tonne)	-4.7%	20.9%	5.5%
TOTAL VALUE (M$ '000)	5.5%	81.8%	-23.7%
UNIT VALUE (M$/Tonne)	10.8%	50.4%	-27.7%
RUBBER:			
VOLUME (Tonne)	-1.1%	17.4%	-12.4%
TOTAL VALUE (M$ '000)	23.6%	13.5%	-28.4%
UNIT VALUE (M$/Tonne)	24.9%	-3.4%	-18.2%
COCOA BEANS:			
VOLUME (Tonne)	1.1%	38.5%	14.6%
TOTAL VALUE (M$ '000)	13.9%	76.5%	12.1%
UNIT VALUE (M$/Tonne)	12.7%	27.5%	-2.1%
COPPER CONCENTRATES:			
VOLUME (Tonne)	0.7%	3.3%	-0.1%
TOTAL VALUE (M$ '000)	6.8%	-12.9%	-0.9%
UNIT VALUE (M$/Tonne)	6.1%	-15.7%	-0.8%

Source: Calculated from Table V-4

concentrates) increased in 1983, the negative effect of falling crude petroleum and timber prices was partially offset, and Sabah's GDP continued to grow at a modest rate of 6.1 percent (Tables V-1, 4 and 5). In 1985, falling commodity prices resulted in a fall in the value of Sabah's exports. With the exception of timber, palm oil and cocoa, the volume of its major commodity exports also declined. However despite an increase in the volume of timber and palm oil exported, the total value of timber and palm oil exports fell.

1987 saw its second peak with economic growth rates of 11.2 percent. This was primarily due to the substantial land potential which allowed Sabah to generate new employment and income opportunities through agricultural development schemes and favourable commodity prices. During this period agricultural GDP (excluding forestry and fishing), increased by 48 percent from M$858.1 million in 1985 to M$1270.1 million in 1987 (constant 1978 prices) (Annual Bulletin of Statistics Sabah 1991).

The economy's contraction since 1987 was in part due to the poor performance of government-linked agencies and corporations (GLAC). At 31 December 1986, total loans outstanding from 13 statutory bodies amounted to M$ 1,780 million (Pang undated). Most were unable to pay even the interest due. A major source of development funds to the state is the federal government. The constitution provides grants for supply/operation purposes (ie. to facilitate revenue growth), development of the economy, infrastructure and the welfare of its people. Such grants constitute about one-fifth of the funds Sabah requires for development. Additional funds can be obtained from federal authorities through a 'bargaining' process. Here, federal authorities review the State's requests, thereby

illustrating the importance of state-federal relations and politics in securing development funds. Sabah's move in 1986 to a state government not in the National Coalition, resulted in strained relations with the federal government, which in turn had an adverse effect on allocation of funds. In 1986, federal grants at M$ 20,595, were 9.4 percent of state development revenue (Tables V-6 and 7). By 1990 at M$ 12,629, federal grants had fallen to comprising less than two percent of state development revenue.

Sarawak's path of economic growth followed a similar path to that of Sabah during Phase 1, namely strong economic growth in the late 1970s and the early 1980s. However, it reached its peak a year later with GDP rising by 14.6 percent (real terms) to M$ 4,599 million (1978 prices) in 1983 (Table V-8). Again the growth was attributed to the primary sectors. Increased forest exploitation raised log production, thereby providing employment opportunities. In addition, Sarawak began exporting liquified natural gas (LNG) to Japan. Together the agricultural and mining sectors accounted for 58.4 percent of GDP (Table V-9). As in Malaysia (Chapter I), post 1983, depressed commodity prices slowed Sarawak's economic growth rate to about 2 percent in 1986 and 1987. Average crude petroleum prices declined from US$ 30.71 in 1982 to US$ 14.82 per barrel in 1986. LNG prices fell from US$ 615 in 1983 to US$ 278 per tonne in 1986 (Economic Report various years). In 1986 the value of LNG and crude petroleum exports declined by over 40 percent, despite increased quantities (Table V-10). Falling 1985 timber prices resulted in an almost 11 percent decline in production of timber. Consequently this led to a fall in the value of its exports the following year. Improved commodity prices after 1986 increased the value of Sarawak's petroleum, LNG and timber exports which contributed to

TABLE V-6
SABAH: STATE DEVELOPMENT REVENUE, 1986-1990
(M$ '000 CURRENT PRICES)

SOURCE	1986	1988	1990
1. APPROPRIATION FROM ORDINARY BUDGET	180,000	300,000	650,000
2. LOAN FUNDS	9,653	13,825	3,316
3. MISCELLANEOUS	8,819	6,500	6,500
4. FEDERAL GRANTS	20,595	13,247	12,629
TOTAL	219,067	333,572	672,445
STATE DEV. REVENUE AS A % OF GDP	3.3%	4.3%	7.5%

Source: "Annual Bulletin of Statistics, Sabah"

TABLE V-7
SABAH: STATE DEVELOPMENT REVENUE BY SOURCE
AS A PERCENTAGE OF TOTAL REVENUE, 1986-1990

SOURCE	1986	1988	1990
1. APPROPRIATION FROM ORDINARY BUDGET	82.2%	89.9%	96.7%
2. LOAN FUNDS	4.4%	4.1%	0.5%
3. MISCELLANEOUS	4.0%	1.9%	1.0%
4. FEDERAL GRANTS	9.4%	4.0%	1.9%
TOTAL	100.0%	100.0%	100.0%

Source: Calculated from Table V-6

TABLE V-8
SARAWAK: GDP BY INDUSTRIAL ORIGIN IN CONSTANT 1978 PRICES
1980-1989 (M$ 1978 MILLION)

INDUSTRY	1980	1983	1986	1987	1989
1. AGRICULTURE, LIVESTOCK & FORESTRY	969	1,139	1,149	1,254	1,555
2. MINING & QUARRYING	1,064	1,543	1,899	1,798	1,896
3. MANUFACTURING	268	384	691	751	824
4. CONSTRUCTION	164	225	229	204	189
5. UTILITIES	43	64	85	89	99
6. TRANSPORT, STORAGE & COMMUNICATION	116	171	239	250	294
7. WHOLESALE & RETAIL TRADE, HOTELS & RESTAURANTS	311	384	400	410	494
8. FINANCE, INSURANCE, REAL ESTATE & BUSINESS SERVICE	144	182	215	229	264
9. GOVT. SERVICE	298	413	474	495	531
10. OTHER SERVICE	35	37	41	42	46
BANK SERVICE CHG	(43)	(70)	(95)	(109)	(151)
IMPORT DUTIES	148	127	70	70	94
GDP(MARKET PRICE)	3,517	4,599	5,397	5,483	6,135

Source: Malaysia, Department of Statistics Sarawak " Siaran Perangkaan Tahunan Sarawak" (Various years)

TABLE V-9
SARAWAK: PERCENT SHARE OF GDP BY INDUSTRIAL ORIGIN (%)
1980-1989

INDUSTRY	1980	1983	1986	1987	1989
1. AGRICULTURE, LIVESTOCK & FORESTRY	27.6%	24.8%	21.3%	22.9%	25.3%
2. MINING & QUARRYING	30.3%	33.6%	35.2%	32.8%	30.9%
3. MANUFACTURING	7.6%	8.3%	12.8%	13.7%	13.4%
4. CONSTRUCTION	4.7%	4.9%	4.2%	3.7%	3.1%
5. UTILITIES	1.2%	1.4%	1.6%	1.6%	1.6%
6. TRANSPORT, STORAGE & COMMUNICATION	3.3%	3.7%	4.4%	4.6%	4.8%
7. WHOLESALE & RETAIL TRADE, HOTELS & RESTAURANTS	8.8%	8.3%	7.4%	7.5%	8.1%
8. FINANCE, INSURANCE, REAL ESTATE & BUSINESS SERVICE	4.1%	4.0%	4.0%	4.2%	4.3%
9. GOVT. SERVICE	8.5%	9.0%	8.8%	9.0%	8.7%
10. OTHER SERVICE	1.0%	0.8%	0.8%	0.8%	0.7%
BANK SERVICE CHG	-1.2%	-1.5%	-1.8%	-2.0%	-2.5%
IMPORT DUTIES	4.2%	2.8%	1.3%	1.3%	1.5%
GDP(MARKET PRICE)	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Calculated from Table V-8

TABLE V-10
SARAWAK: VOLUME AND VALUE OF MAJOR EXPORTS, 1984-1987
(in Current M$ Prices)

EXPORT COMMODITY	1984	1985	1986	1987
SAWLOGS:				
VOLUME ('000 Cu. Metre)	9,209	11,452	10,239	12,584
TOTAL VALUE (M$'000)	1,260,081	1,403,509	1,291,384	1,897,259
UNIT VALUE (M$/Cu. Mtr)	137	123	126	151
CRUDE PETROLEUM:				
VOLUME ('000 Tonne)	6,020	6,159	6,328	5,336
TOTAL VALUE (M$'000)	3,025,432	3,125,217	1,753,601	1,735,518
UNIT VALUE (M$/Tonne)	503	507	277	325
LNG:				
VOLUME ('000 Tonne)	3,458	4,389	5,195	5,876
TOTAL VALUE (M$ '000)	1,774,725	2,299,669	1,445,792	1,827,728
UNIT VALUE (M$/Tonne)	513	524	278	311

ANNUAL PERCENT CHANGE:

EXPORT COMMODITY	1985	1986	1987
SAWLOGS:			
VOLUME	24.4%	-10.6%	22.9%
TOTAL VALUE	11.4%	-8.0%	46.9%
UNIT VALUE	-10.4%	2.9%	19.5%
CRUDE PETROLEUM			
VOLUME	2.3%	2.7%	-15.7%
TOTAL VALUE	3.3%	-43.9%	-1.0%
UNIT VALUE	1.0%	-45.4%	17.4%
LNG:			
VOLUME (Tonne)	26.9%	18.4%	13.1%
TOTAL VALUE (M$ '000)	29.6%	-37.1%	26.4%
UNIT VALUE (M$/Tonne)	2.1%	-46.9%	11.8%

Source: Malaysia, Department of Statistics Sarawak "Siaran Perangkaan Tahunan Sarawak" (Various years)

the improved economic growth rates.

A. OVERALL INCOME INEQUALITY

In total, during the decade 1979 to 1989, the distribution of income in East Malaysia has improved. However compared with Peninsular Malaysia, the improvements as indicated by declines in the Gini coefficient seem to be slower in Sabah and Sarawak, implying that government policies may not be as effective there as in the West, especially in Sabah. Sabah started out with the lowest Gini coefficient in 1979, but by 1989 it had exceeded both the Peninsular's and Sarawak's (Table V-11). Income share patterns also indicated that government policies were working to improve distribution, but the results were less impressive than in Peninsular Malaysia. The trends seen during the decade seem to imply that redistributional policies were effective, but more so in the Peninsular, which is not surprising as this was where the NEP was formulated.

i) Sabah

Sabah had lower income inequality in 1979 than Peninsular Malaysia, as indicated by a Gini coefficient of 0.490 compared to the Peninsular's 0.508 (Table V-11). The income share of the top 20 percent of households (T) was 54.3 percent, and the income share of the bottom 40 percent of households (B) was 12.4 percent (Table V-12). Phase 1 saw Sabah's first and highest peak in terms of GDP growth for the decade and ended moving towards a recession (Table V-1). In terms of income distribution, Phase I saw both T and B's income share rise marginally, combined with a decrease in the income share of the middle 40 percent of households (M). At the same time, the mean and median income of each group rose. However, although the percent changes in T's mean

TABLE V-11
MALAYSIA: GINI COEFFICIENT, 1979-1989

	1979	1984	1987	1989
PENINSULAR MALAYSIA	0.508	0.480	0.456	0.445
SABAH	0.490	0.491	0.467	0.459
SARAWAK	0.501	0.498	0.466	0.448

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

TABLE V-12
SABAH INCOME SHARE OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS, 1979-1989.

% HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	54.3	54.6	52.6	51.8
MID 40%	33.3	32.6	34.1	34.7
BOT 40%	12.4	12.6	13.3	13.5

AVERAGE ANNUAL PERCENT CHANGE

% HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	0.1%	-1.2%	-0.8%
MID 40%	-0.4%	1.5%	0.9%
BOT 40%	0.3%	1.9%	0.8%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989.

and median income were lower than B's, they were higher than M's. (Table V-13).

Phase 1 brought improvements for all three group's mean and median incomes but favoured B over T and M. The overall income distribution remained stable increasing marginally from 0.490 in 1979 to 0.491 in 1984. The fact that each of the three group's percentage increase in mean income was slightly greater than that of median income probably contributed to this. The impact of the boom on income distribution cannot be analyzed as data for 1982 are not available.

Phase 2 saw the Sabah economy in a recession, with real economic growth rates falling to 0.8 percent in 1985. This recession period showed some improvement in income distribution, with the Gini coefficient falling annually by 1.6 percent to 0.467. The decline in the average economic growth rate from 9 percent in Phase 1 to 1.6 percent in Phase 2, resulted in the mean and median income falling by 7.4 percent and 2.5 percent respectively (Table V-14). The median and mean incomes of each group also fell for this period. For both T and M, the fall in mean income was greater than that of median income, which implies an improvement in income distribution of the two groups (Table V-13). This together with a transfer of income share from T to B and M, contributed to the improvement in overall income distribution.

The economic recovery during Phase 3, (GDP rose by 11.2 percent in 1987), appears not to have affected the different groups of households in the same way. The top 20 percent of households experienced declines in real mean and median incomes, while those of the bottom and middle 40 percent of households increased. The bottom 40 percent of the population, which experienced the largest

TABLE V-13
SABAH: MEAN AND MEDIAN MONTHLY GROSS HOUSEHOLD INCOME OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS, 1979-1989 (M$ 1980 prices)

TABLE V-13A: MEAN INCOME (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	2,225	2,708	2,414	2,371
MID 40%	683	808	782	796
BOT 40%	254	316	304	311

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
TOP 20%	4.3%	-3.6%	-0.9%
MID 40%	3.7%	-1.1%	0.9%
BOT 40%	4.8%	-1.2%	1.2%

TABLE V-13B: MEDIAN INCOME (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1,721	2,049	1,986	1,942
MID 40%	652	759	740	752
BOT 40%	263	324	306	312

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
TOP 20%	3.8%	-1.0%	-1.1%
MID 40%	3.3%	-0.8%	0.8%
BOT 40%	4.6%	-1.8%	1.0%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

TABLE V-14
SABAH: GINI COEFFICIENT, MEAN AND MEDIAN MONTHLY GROSS HOUSEHOLD INCOME, 1979-1989 (M$ 1980 prices)

	1979	1984	1987	1989
MEAN (M$)	819	991	918	917
MEDIAN (M$)	527	613	597	608
GINI	0.490	0.491	0.467	0.459

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
MEAN	4.2%	-2.5%	-0.0%
MEDIAN	3.3%	-0.8%	0.9%
GINI	0.0%	-1.6%	-0.9%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

increases in mean and median income, seems to have benefitted the most by the expansion of the economy (Table V-13). Collectively this resulted in an overall improvement in income distribution between 1987 and 1989.

ii) Sarawak

Sarawak's inequality equalled that of the Peninsular in 1979 with a Gini coefficient of around 0.5 (Table V-15). The division of the state's income at the starting year was an income share of 55.2 percent for T, 33.1 percent for M and 11.7 percent for B (Table V-16). Phase 1, was a period of high economic growth, averaging more than nine percent per year and reaching a peak of 14.6 percent in 1983. This strong economic growth was reflected in increases in mean and median household incomes. As the expansion of the economy was in part due to the mining sector[2], the mean and median household incomes increased at the slightly lower rate of about 7 percent per annum. This is due to the fact that the petroleum sector is controlled by the federal government and therefore, the state government receives only five percent royalties on the gross value of production. The slightly larger rise in median income implies an improvement in income inequality, confirmed by the fall in the Gini coefficient to 0.498 in 1984 (Table V-15).

During Phase 1, all three groups experienced large mean and median income rises. In both cases the greatest increases were found in group B. Comparing the increase in mean and median incomes, with the exception of T, larger increases were experienced in the median income (Table V-17). Improvements in income distribution were also brought about by the income share of T falling marginally while rising for B and M (Table V-16).

Phase 2 (1984-1987) was a period of slow economic

TABLE V-15
SARAWAK: GINI COEFFICIENT, MEAN AND MEDIAN MONTHLY GROSS HOUSEHOLD INCOME, 1979-1989 (M$ 1980 prices)

		1979	1984	1987	1989
MEAN	(M$)	627	843	925	929
MEDIAN	(M$)	393	539	611	630
GINI		0.501	0.498	0.465	0.448

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
MEAN	6.9%	3.2%	0.2%
MEDIAN	7.4%	4.5%	1.5%
GINI	-0.1%	-2.2%	-1.9%

TABLE V-16
SARAWAK: INCOME SHARE OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS, 1979-1989.

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	55.2	54.8	52.3	51.1
MID 40%	33.1	33.2	34.2	34.5
BOT 40%	11.7	12.0	13.5	14.4

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
TOP 20%	-0.1%	-1.5%	-1.1%
MID 40%	0.1%	1.0%	0.4%
BOT 40%	0.5%	4.2%	3.3%

Source Tables V-15 & 16: Malaysia, Department of Statistics, "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

TABLE V-17
SARAWAK: MEAN AND MEDIAN MONTHLY GROSS HOUSEHOLD INCOME OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS, 1979-1989 (M$ 1980 prices)

TABLE V-17A: MEAN INCOME (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1,730	2,308	2,420	2,374
MID 40%	498	664	792	800
BOT 40%	184	252	311	335

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
TOP 20%	6.7%	1.6%	-0.9%
MID 40%	6.7%	6.4%	0.5%
BOT 40%	7.4%	7.8%	3.8%

TABLE V-17B: MEDIAN INCOME (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1,314	1,718	1,949	1,909
MID 40%	518	701	758	758
BOT 40%	181	251	309	337

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
TOP 20%	6.1%	4.5%	-1.0%
MID 40%	7.1%	2.7%	0.0%
BOT 40%	7.7%	7.8%	4.6%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

growth in Sarawak, with the growth rate falling to 2 percent in 1986 and 1.6 percent in 1987. Despite slow economic growth, Sarawak's mean and median household incomes grew at an annual rate of 3.2 and 4.5 percent respectively. The analysis for Peninsular Malaysia in Chapter IV showed that urban households were hit more by the recession than rural households. As rural households make up more than 80 percent of total households in Sarawak, overall mean and median incomes would be less affected by slower economic growth rates. A larger rise in median income implies an improvement in income distribution, which is confirmed by a fall in the Gini coefficient to 0.465 by 1987 (Table V-15).

Although positive rises in mean and median income were experienced by all three groups, the largest increases were found for B while the smallest, for T. The brunt of the economy's contraction was thus borne by the higher income groups, as seen in their smaller increases in mean and median income and the redistribution of income shares from T to B and M (Tables IV-13 and 14). Despite the recession, Sarawak with increased mean and median income, appears to have been less affected than Sabah, where the mean and median income of all three groups decreased. Disaggregating GDP growth by industrial sector shows that agricultural GDP grew by 5.5 percent in 1985 and 9.9 percent in 1986. Similarly, mining GDP grew by 5.2 percent, following the increased utilization of gas by the LNG plant and the ammonia and urea plant in Sarawak (Malaysia 1986: 196).

Phase 3 (1987-1989) saw an economic recovery, with GDP growth rates rising steadily to 7.9 percent in 1989. In terms of income distribution, the Gini coefficient fell annually by 1.2 percent to 0.448. Mean household income remained relatively stable at $929, while its median income rose by 1.5 percent per year to $630

(Table V-15). Improvements in income distribution were also shown by a fall in the income share of T, coupled with increases in the income shares of B and M (Table V-16). Significant advancements were also noted with B's mean and median incomes increasing more rapidly than M's mean and median income (Table V-17). Collectively, these factors contributed to the lower Gini coefficient.

B. STRATA (URBAN-RURAL) INEQUALITY

During this ten year period inequality declined steadily in Peninsular Malaysia for urban households. With the exception of a marginal increase of 0.1 percent between 1987 and 1989, this decline was also observed among rural households. In East Malaysia a continued decrease in inequality between 1979 and 1989, was not observed in both rural and urban households (Table V-18). In Sarawak, the continued decline was only seen after 1984 in rural households, with the Gini coefficient falling from 0.465 in 1984 to 0.427 in 1989. Among urban Sarawak households, a cycle of increasing, followed by decreasing, and then increasing Gini coefficients was observed. Despite the cycles, the urban Gini coefficient in Sarawak showed that there was less inequality in 1989 than in 1979 (Table V-18A). In Sabah, only urban households saw a continuous trend of decreasing Gini coefficients over the decade. For rural households, this trend was only found after 1984 (Table V-18B). Improvements in income distribution in Sabah's urban households far outweighed those in rural households, resulting in a lower level of inequality among urban households by 1989.

The difference between rural and urban mean incomes also narrowed until 1987. Between 1987 and 1989, a widening in the U-R income disparity ratio was observed in both states. This occurred at a slower pace for Sabah

TABLE V-18
MALAYSIA: GINI COEFFICIENTS BY STRATA, 1979-1989

TABLE V-18A: URBAN HOUSEHOLDS

	1979	1984	1987	1989
PENINSULAR MALAYSIA	0.501	0.466	0.449	0.445
SABAH	0.471	0.462	0.435	0.434
SARAWAK	0.472	0.485	0.432	0.438

TABLE V-18B: RURAL HOUSEHOLDS

	1979	1984	1987	1989
PENINSULAR MALAYSIA	0.482	0.444	0.427	0.428
SABAH	0.444	0.469	0.461	0.449
SARAWAK	0.463	0.465	0.452	0.427

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

than for Sarawak. However both the U-R disparity ratios in 1989 were lower than that in 1979. As in the case of overall income inequality, the changes in rural and income distribution will be examined for Sabah and Sarawak separately.

i) Sabah

Rural household income distribution in Sabah deteriorated during Phase 1 (1979-1984). The Gini coefficient of rural household income rose annually by 1.1 percent to 0.469 in 1984 (Table V-19). This was caused by a rise in rural T's income share to 52.8 percent, at the expense of both B and M (Table V-20B). In addition, the growth of T's mean income far surpassed B and M's at an annual rate of 8.7 percent compared to 2.8 and 5.2 percent respectively (Table V-21). Although overall rural mean and median incomes in Sabah rose, both increases were mainly due to the disproportionate increases in T's mean and median incomes, which also contributed to the worsening overall rural inequality.

An improvement in rural inequality has been observed since 1984, with the Gini coefficient falling to 0.461 in 1987 and to 0.449 in 1989. A fall in mean income coupled with a rise in median income between 1987 and 1989, contributes to a more equal distribution of income (Table V-19). Another factor in the improvement, was the fall in T's income share coupled with the rise in the income shares of M and B. In addition improved distributions within T and M, as indicated by the changes in their mean and median incomes, would lead towards greater equality in the total distribution (Tables V-20B to 22B).

Urban household income distribution in Sabah improved marginally during Phase 1, with the Gini coefficient falling from 0.471 in 1979 to 0.462 in 1987,

TABLE V-19
SABAH: GINI COEFFICIENT, MEAN AND MEDIAN MONTHLY GROSS HOUSEHOLD INCOME BY STRATA, 1979-1989

TABLE V-19A: GINI COEFFICIENT

	1979	1984	1987	1989
URBAN	0.471	0.462	0.435	0.434
RURAL	0.444	0.469	0.461	0.449

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
URBAN	-0.4%	-1.9%	-0.2%
RURAL	1.1%	-0.6%	-1.3%

TABLE V-19B: MEAN INCOME (M$ 1980 prices)

	1979	1984	1987	1989
URBAN	1,285	1,561	1,328	1,350
RURAL	608	822	818	810

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
URBAN	4.3%	-5.0%	0.8%
RURAL	7.0%	-0.2%	-0.5%

TABLE V-19C: MEDIAN INCOME (M$ 1980 prices)

	1979	1984	1987	1989
URBAN	839	1,033	926	940
RURAL	442	545	540	544

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
URBAN	4.6%	-3.5%	0.8%
RURAL	4.7%	-0.3%	0.4%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

TABLE V-20
SABAH: INCOME SHARE OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS BY STRATA, 1979-1989.

TABLE V-20A: URBAN HOUSEHOLDS (%)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	52.4	51.7	49.4	49.5
MID 40%	34.5	35.0	36.0	35.7
BOT 40%	13.1	13.3	14.6	14.8

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	-0.3%	-1.5%	0.1%
MID 40%	0.3%	1.0%	-0.4%
BOT 40%	0.3%	3.3%	0.7%

TABLE V-20B: RURAL HOUSEHOLDS (%)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	49.8	52.8	52.2	51.0
MID 40%	35.8	33.4	34.0	34.8
BOT 40%	14.4	13.8	13.8	14.2

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	1.2%	-0.4%	-1.1%
MID 40%	-1.3%	0.6%	1.2%
BOT 40%	-0.8%	0.0%	1.4%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

TABLE V-21
SABAH: MEAN MONTHLY GROSS HOUSEHOLD INCOME OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS BY STRATA, 1979-1989 (M$ 1980 prices)

TABLE V-21A: URBAN HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	3,366	4,039	3,280	3,342
MID 40%	1,109	1,363	1,193	1,206
BOT 40%	421	521	486	498

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	4.0%	-6.3%	1.0%
MID 40%	4.6%	-4.2%	0.5%
BOT 40%	4.8%	-2.2%	1.2%

TABLE V-21B: RURAL HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1,514	2,170	2,136	2,068
MID 40%	545	686	695	705
BOT 40%	249	284	281	287

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
TOP 20%	8.7%	-0.5%	-1.6%
MID 40%	5.2%	0.4%	0.7%
BOT 40%	2.8%	-0.4%	1.1%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

TABLE V-22
SABAH: MEDIAN MONTHLY GROSS HOUSEHOLD INCOME OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS BY STRATA, 1979-1989 (M$ 1980 prices)

TABLE V-22A: URBAN HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	2,623	3,170	2,709	2,701
MID 40%	1,046	1,307	1,127	1,141
BOT 40%	431	523	491	504

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	4.2%	-4.8%	-0.1%
MID 40%	5.0%	-4.6%	0.6%
BOT 40%	4.3%	-2.0%	1.3%

TABLE V-22B: RURAL HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1,203	1,607	1,762	1,745
MID 40%	526	648	656	669
BOT 40%	222	290	284	288

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	6.7%	3.2%	-0.5%
MID 40%	4.6%	0.4%	1.0%
BOT 40%	6.1%	-0.7%	0.7%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

and continued to steadily decline to 0.434 in 1989 (Table V-19). This improvement was a result of the redistribution in T's income share to B and M during Phases 1 and 2 (Table V-20A). At the same time, while the mean income for every group increased during Phases 1 and 3, the increases were largest for B and smallest T. Similarly during the recession (1984 to 1987), T's mean income decreased the most, while B's decreased the least (Table V-21A). This served to narrow the gap between the two extreme groups and caused a favourable change in its distribution.

Looking at the changes in overall mean and median income, the increase in overall mean income was higher than that of the median income between 1979 and 1984, while the decline in overall mean income was higher than that of the median income between 1984 and 1987. This is consistent with the decrease in inequality observed (Table V-19). This resulted in the unusual case of lower income inequality among urban households than rural households (Table V-19A). In most cases one finds that inequality is greater in urban areas than in rural areas. The fact that a substantial amount of income, such as retained earnings, savings or undistributed profits of corporations, in urban areas are not reflected in the data could contribute to this. An additional factor is that as the majority of urban households are wage earners, calculating income is easier for urban households compared to rural households (Johari 1988).

Although between 1979 and 1984 there was a worsening of income distribution in Sabah rural households, the increase in mean income exceeded that of urban households (Table V-19B). This would indicate a narrowing in the urban-rural gap, which is confirmed in Table V-23. Rural mean income increased at an annual

TABLE V-23
SABAH: MEAN INCOME URBAN-RURAL DISPARITY RATIO, 1979-1989

	1979	1984	1987	1989
U-R DISPARITY RATIO:	2.11	1.90	1.62	1.67

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
U-R DISPARITY RATIO:	-2.0%	-4.8%	1.3%

Source: Calculated from Table V-19B

rate of 7 percent compared to the 4.3 percent rate of increase in urban mean income, leading to a fall in the U-R disparity ratio from 2.11 to 1.9, a 10.1 percent improvement. However, the large increase in rural mean income is attributed to the rural rich getting richer. For this period mean income of rural T rose at a annual rate of 8.7 percent compared to B's 2.8 percent (Table IV-21B). A possible contributing factor is the presence of the large immigrant population in Sabah. The existence of immigrants affect lower income groups, as they compete for similar types of jobs.

During Phase 2, mean incomes of both rural and urban households decreased. The per annum fall in urban mean income of 5 percent outweighed that of rural mean income (-0.2 percent), leading to a further improvement in the U-R ratio. By 1987, urban mean income was 1.62 times greater than rural mean income. However Phase 3 saw a worsening in the difference between urban and rural mean incomes. By 1989, the U-R disparity ratio had widened to 1.67 (Table V-23).

ii) Sarawak

Sarawak experienced a slight worsening in income inequality during the first phase with an increase in both its rural and urban Gini coefficients, 0.1 and 0.6 percent respectively (Table V-24A). The marginal worsening of inequality among rural households was due to a fall in B's income share, which offset the positive effect of the fall in T's income share (Table IV-25B).

In the case of urban households, the increase in inequality took a different form. The worsening of income distribution in urban households was reflected in the increase of T's income share to 54.2 percent by 1984 (Table V-25A). So while for urban Sarawak, the rich got richer, for rural Sarawak the position of the middle

TABLE V-24
SARAWAK: GINI COEFFICIENT, MEAN AND MEDIAN MONTHLY GROSS HOUSEHOLD INCOME BY STRATA, 1979-1989

TABLE V-24A: GINI COEFFICIENT

	1979	1984	1987	1989
URBAN	0.472	0.485	0.432	0.438
RURAL	0.463	0.465	0.452	0.427

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
URBAN	0.6%	-3.7%	0.8%
RURAL	0.1%	-0.9%	-2.8%

TABLE V-24B: MEAN INCOME (M$ 1980 prices)

	1979	1984	1987	1989
URBAN	1,125	1,527	1,419	1,476
RURAL	488	689	802	804

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
URBAN	7.1%	-2.4%	2.0%
RURAL	8.2%	5.5%	0.1%

TABLE V-24C: MEDIAN INCOME (M$ 1980 prices)

	1979	1984	1987	1989
URBAN	716	959	1,010	961
RURAL	321	473	540	564

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
URBAN	6.8%	1.8%	-2.4%
RURAL	9.5%	4.7%	2.2%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

TABLE IV-25
SARAWAK: INCOME SHARE OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS BY STRATA, 1979-1989

TABLE V-25A: URBAN HOUSEHOLDS (%)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	52.6	54.2	49.2	51.1
MID 40%	33.8	33.0	35.9	34.5
BOT 40%	13.6	12.8	14.9	14.4

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	0.6%	-3.1%	1.9%
MID 40%	-0.5%	2.9%	-1.9%
BOT 40%	-1.2%	5.5%	-1.7%

TABLE V-25B: RURAL HOUSEHOLDS (%)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	51.8	51.5	51.3	49.3
MID 40%	34.6	35.3	34.4	35.4
BOT 40%	13.6	13.2	14.3	15.3

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	-0.1%	-0.1%	-1.9%
MID 40%	0.4%	-0.8%	1.5%
BOT 40%	-0.6%	2.8%	3.5%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

income group improved. If the Gini coefficients are compared, one can see that while they both increased, the rate at which they did was much lower in rural than in urban areas (Table V-24A).

Looking at the three different group's changes in mean and median income, rural Sarawak tended to grow at similar rates; T, M and B's mean and median incomes each increased by around 8 percent (Tables V-26B and 27B). However in the urban case, the higher the income group, the faster the growth (Tables V-26A and 27A). With both the rural and urban T growth rates being on par, this would imply a narrowing of the U-R disparity ratio for M and B. Consequently, the overall rural mean income increased faster than the overall urban mean, 8.2 percent as opposed to 7.1 percent per annum, leading to a fall in the U-R disparity from 2.31 in 1979 to 2.22 in 1984 (Table V-28).

During Phase 2, between 1984 and 1987, inequality improved for both rural and urban Sarawak though faster in urban households. The urban Gini coefficient decreased annually by 3.7 percent compared to rural's 0.9 percent (Table V-24A). For rural households, the improved distribution was a result of the combination of B's income share rising and T's and M's income share falling. In addition, during this period, the median incomes of all three groups increased by a greater percentage than the mean income, showing slight improvements in income distribution within each group. Together these factors aided in reducing the rural Gini coefficient. Similar changes among urban households also led to the fall in the urban Gini coefficient during this period (Tables V-26 and 27).

Overall urban Sarawak mean income fell annually by 2.4 percent, between 1984 and 1987. The modest increases

TABLE V-26
SARAWAK: MEAN MONTHLY GROSS HOUSEHOLD INCOME OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS BY STRATA, 1979-1989 (M$ 1980 prices)

TABLE V-26A: URBAN HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	2,960	4,141	3,491	3,722
MID 40%	953	1,259	1,273	1,274
BOT 40%	380	490	528	555

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	8.0%	-5.2%	3.3%
MID 40%	6.4%	0.4%	0.1%
BOT 40%	5.8%	2.6%	2.6%

TABLE V-26B: RURAL HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1,264	1,772	2,057	1,981
MID 40%	422	608	690	711
BOT 40%	166	228	285	307

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	8.0%	5.4%	-1.9%
MID 40%	8.8%	4.5%	1.5%
BOT 40%	7.5%	8.3%	3.9%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

TABLE V-27
SARAWAK: MEDIAN MONTHLY GROSS HOUSEHOLD INCOME OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS BY STRATA, 1979-1989 (M$ 1980 prices)

TABLE V-27A: URBAN HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	2,280	2,940	2,706	2,956
MID 40%	887	1,204	1,234	1,209
BOT 40%	394	502	538	564

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	5.8%	-2.7%	4.6%
MID 40%	7.1%	0.8%	-1.0%
BOT 40%	5.5%	2.4%	2.4%

TABLE V-27B: RURAL HOUSEHOLDS (M$ 1980 prices)

% OF HOUSEHOLDS	1979	1984	1987	1989
TOP 20%	1,013	1,385	1,630	1,669
MID 40%	407	583	663	685
BOT 40%	161	226	285	312

AVERAGE ANNUAL PERCENT CHANGE

% OF HOUSEHOLDS	79-84	84-87	87-89
TOP 20%	7.3%	5.9%	1.2%
MID 40%	8.6%	4.6%	1.7%
BOT 40%	8.1%	8.7%	4.7%

Source: Malaysia, Department of Statistics "Report of the Household Income Survey Malaysia 1984", HIS 1987, HIS 1989

TABLE V-28
SARAWAK: MEAN INCOME URBAN-RURAL DISPARITY RATIO, 1979-1989

	1979	1984	1987	1989
U-R DISPARITY RATIO:	2.31	2.22	1.77	1.84

AVERAGE ANNUAL PERCENT CHANGE

	79-84	84-87	87-89
U-R DISPARITY RATIO:	-0.8%	-6.7%	1.9%

Source: Calculated from Table V-26

in B & M's mean incomes could not counteract the large fall in T's mean income. As the rural mean income rose, the difference between urban and rural households narrowed. By 1987 the U-R disparity ratio had fallen to 1.77 (Table IV-28).

The fast growth of Phase 3, brought greater changes in urban households with the urban mean income rising yearly by 2.0 percent compared to rural's 0.1 percent. This caused a widening between urban and rural mean incomes. By 1989 the urban-rural disparity ratio had risen to 1.84 Table V-24 and 28). However despite the increase between 1987 and 1989, the urban-rural disparity ratio in 1989 was still much lower compared to in 1979.

The increase in urban T's income share combined with a worsening in M's income distribution resulted in a rise in the urban Gini coefficient to 0.438 by 1989. Despite this increase, the level of inequality among urban Sarawak households in 1989 was still lower compared to 1979. Larger increases in rural Sarawak's median income as opposed to its mean income together with the redistribution of wealth from T, to B and M resulted in a declining rural Gini coefficient (Table V-24).

C. ETHNIC INEQUALITY

As discussed in Chapter I, the ethnic groups found in Sabah and Sarawak are not restricted to Malays, Chinese and Indians. In Sabah the three main additional races found are the indigenous ethnic groups Kadazan, Bajau and Murut, who together with the Malays form the "Bumiputeras". In Sarawak, the Bumiputeras consist of Malay, Iban, Bidayuh and Melanau ethnic groups. Due to data constraints, the discussion of ethnic inequality

for the two East Malaysian states will be confined to 1987 and 1989.

i) Sabah

Unlike Peninsular Malaysia, the Malays in Sabah are not the poorest racial group. With a mean income of M$ 1323 in 1987, only the Chinese and Indians are more affluent. In fact, of the "indigenous" groups, the Malays are the wealthiest. The mean income disparity ratios (Table V-29) show that in 1987, Malay mean income is more than double that of the Kadazan and Murut.

In 1987, the highest inequality was observed for the Kadazan, whose Gini coefficient for household income of 0.424 was considerably higher than that of the Chinese, with the next highest inequality (Table V-30). This was followed by the Bajau ethnic group with a Gini coefficient of 0.390. The Malays ranked fourth, while the Indians had the least inequality as demonstrated by the Gini coefficient.

The fast growth of the economy from 1987 to 1989, saw a worsening of inequality for four out of the six racial groups (Table V-31). The highest increase in inequality was experienced by the Indians (6.1 percent), which changed its position of lowest inequality to the second highest. The Murut Gini coefficient increased at an average rate of 5 percent to 0.410, followed by that of the Kadazan. Inequality in Malay distribution increased only marginally by 0.2 percent. The only two groups to experience any improvements were the Bajau and Chinese. The mean income disparity ratios between Malay and non-Malay mean incomes showed an improvement for the Kadazan, Murut and Chinese but a widening for Bajau and Indian (Table IV-30). However even with these improvements, in 1989, Kadazan and Murut mean income was still less than half of Malay mean income.

TABLE V-29
SABAH: MEAN INCOME DISPARITY RATIO BY RACE, 1987-1989

	1987	1989	AVG ANN. CHANGE
KADAZAN-MALAY	0.46	0.49	3.9%
BAJAU-MALAY	0.59	0.56	-2.3%
MURUT-MALAY	0.39	0.47	9.8%
CHINESE-MALAY	1.39	1.38	-0.3%
INDIAN-MALAY	1.34	1.36	0.8%

TABLE V-30
SABAH: GINI COEFFICIENTS BY RACE, 1987-1989

RACE	1987	1989	AVG ANN. CHANGE
MALAY	0.378	0.380	0.3%
KADAZAN	0.424	0.443	2.2%
BAJAU	0.390	0.377	-1.7%
MURUT	0.373	0.410	5.0%
CHINESE	0.392	0.379	-1.7%
INDIAN	0.369	0.414	6.1%

TABLE V-31
SABAH: MEAN MONTHLY GROSS HOUSEHOLD INCOME
BY RACE, 1987-1989 (M$ 1980 prices)

RACE	1987 (M$)	1989 (M$)	AVG ANN. CHANGE
MALAY	1,323	1,296	-1.0%
KADAZAN	603	637	2.9%
BAJAU	760	730	-2.0%
MURUT	521	610	8.5%
CHINESE	1,840	1,792	-1.3%
INDIAN	1,771	1,762	-0.3%

Source Tables V-29, 30 & 31: HIS 1987, HIS 1989

ii) Sarawak

Of the five main ethnic groups in Sarawak, only the Chinese is not "Bumiputera". As in the case of Sabah, the Malays do not constitute the poorest race. In fact the Malay mean income of M$ 1014 in 1987 is the second highest in Sarawak, behind the Chinese (Table V-32). The Iban with the lowest mean income, M$508, is half that of the Malay.

In 1987, the most equitable distribution of income is found for the poorest racial group, the Iban. The Bidayuh with the second lowest Gini coefficient, 0.401, also has the second lowest mean income. The highest Gini coefficient, 0.433, was observed for the Malays, followed by the Melanau. The Chinese with the highest mean income ranked third in order of inequality (Tables V-32 and 33).

The fast economic growth brought improvements in income distribution for all the races by 1989, with the exception of the Melanau. The increase in Melanau inequality combined with the decrease in Malay inequality led to the Melanau race having the highest Gini coefficient by 1989 (Table V-33). This was the only change in the order of income inequality observed between the races.

With the exception of the Bidayuh race, the improved distribution was reflected in a decrease in T's income share combined with an increase in M and B's income shares. For these groups, the increase in B's income share was greater than that of M. For the Bidayuh, B was the only group to experience a rise in income share at an annual rate of 10.3 percent. This increased B's income share to 18.8 percent, higher than that of any other race (Table V-34).

TABLE V-32
SARAWAK: MEAN MONTHLY GROSS HOUSEHOLD INCOME BY RACE, 1987-1989 (M$ 1980 prices)

RACE	1987 (M$)	1989 (M$)	AVG ANN. CHANGE
MALAY	1014	1023	0.5%
IBAN	508	545	3.7%
BIDAYUH	662	639	-1.7%
MELANAU	775	731	-2.8%
CHINESE	1331	1348	0.6%

Source: HIS 1987, HIS 1989

TABLE V-33
SARAWAK: GINI COEFFICIENTS BY RACE, 1987-1989

RACE	1987	1989	AVG ANN. CHANGE
MALAY	0.443	0.432	-1.3%
IBAN	0.388	0.363	-3.3%
BIDAYUH	0.401	0.368	-4.1%
MELANAU	0.436	0.439	0.4%
CHINESE	0.408	0.390	-2.3%

Source: HIS 1987, HIS 1989

TABLE V-34
SARAWAK: INCOME SHARE OF TOP 20%, MIDDLE 40% AND BOTTOM 40% OF HOUSEHOLDS, 1987-1989

TABLE V-34A: INCOME SHARE OF TOP 20%

RACE	1987 (%)	1989 (%)	AVG ANN. CHANGE
MALAY	50.5	49.8	-0.7%
IBAN	46.7	44.4	-2.5%
BIDAYUH	45.6	44.5	-1.2%
MELANAU	50.6	50.1	-0.5%
CHINESE	47.0	45.8	-1.3%

TABLE V-34B: INCOME SHARE OF MIDDLE 40%

RACE	1987 (%)	1989 (%)	AVG ANN. CHANGE
MALAY	34.6	35.1	0.7%
IBAN	35.5	36.4	1.3%
BIDAYUH	38.8	36.7	-2.7%
MELANAU	34.0	35.6	2.4%
CHINESE	37.2	37.2	0.0%

TABLE V-34C: INCOME SHARE OF BOTTOM 40%

RACE	1987 (%)	1989 (%)	AVG ANN. CHANGE
MALAY	14.9	15.1	0.7%
IBAN	17.8	19.2	3.9%
BIDAYUH	15.6	18.8	10.3%
MELANAU	15.4	14.3	-3.6%
CHINESE	15.8	17.0	3.8%

Source: HIS 1987, HIS 1989

By 1989, the ranking of races by their mean incomes remained the same. However, decreases in the Bidayuh and Melanau mean incomes led to a widening in their disparity ratios with the Malays. A narrowing in the mean income disparity ratio was observed only between the Iban and Malay races, from 0.50 in 1987 to 0.53 in 1989 (Table V-35).

II. DECOMPOSITION OF INEQUALITY

For the reasons given in Chapter IV, the Theil Index is chosen to analyze the extent to which disparities between different groups contribute to income inequality in Sabah and Sarawak. The decomposition analysis reveals that income disparities between different groups are a more important factor in inequality in East Malaysia compared to the Peninsular.

i) Sabah

Apart from 1984, the between-race contribution is calculated from the six main races; Malay, Kadazan, Bajau, Murut, Chinese and Indian. The lack of disaggregated data for 1984, which groups the four indigenous races collectively under the term Bumiputera, and the unavailability of data on Indian households leads to results which refer only to differences between Bumiputera and Chinese households. The previous section illustrates the diversity in the income levels between the Bumiputera races; therefore the lack of disaggregated data in 1984 will produce underestimates of between-race contribution to inequality.

Tables V-36 and 37, show the results of the Theil decomposition for overall inequality in Sabah. There has been a steady decline in overall inequality from 0.423 in 1984 to 0.364 in 1989, which confirms the pattern observed in the Gini coefficients. Despite being

TABLE V-35
SARAWAK: MEAN INCOME DISPARITY RATIO BY RACE, 1987-1989

RACE	1987	1989	AVG ANN. CHANGE
IBAN-MALAY	0.50	0.53	3.2%
BIDAYUH-MALAY	0.65	0.62	-2.2%
MELANAU-MALAY	0.76	0.71	-3.3%
CHINESE-MALAY	1.31	1.32	0.2%

Source: Calculated using HIS 1987, HIS 1989

TABLE V-36
SABAH: THEIL INDEX AND ITS BETWEEN AND WITHIN RACIAL CONTRIBUTION TO INEQUALITY, 1984-1989.

YEAR	THEIL	BETWEEN RACE	WITHIN RACE
1984	0.423	27.5%	72.5%
1987	0.378	28.0%	72.0%
1989	0.364	21.5%	78.5%

TABLE V-37
SABAH: THEIL INDEX AND ITS BETWEEN AND WITHIN LOCATION CONTRIBUTION TO INEQUALITY, 1984-1989.

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1984	0.423	0.4%	99.6%
1987	0.378	2.3%	97.7%
1989	0.364	8.1%	91.9%

Source Tables V-36 & 37: Calculated using HIS 1984, HIS 1987, HIS 1989

underestimated the results illustrate that in 1984, 27.5 percent of total inequality arises from differences between Bumiputera and Chinese incomes. By 1987, the between-race contribution had increased to 28.0 percent of total inequality after which it fell to 21.5 percent in 1989 (Table V-36). This decrease is the result of the narrowing of the income gap between four of the six races. With the exception of the Indian and Bajau households, the mean income disparity ratios between the other races had decreased between 1987 and 1989 (Table V-29), thereby contributing to the decrease in overall inequality.

In contrast, the between-location contribution has been steadily rising since 1984. By 1989, the percentage contribution had risen from 0.4 percent in 1984, to 8.1 percent of total inequality (Table V-37). However, a widening in urban and rural mean income was only observed between 1987 and 1989. In fact between 1984 and 1987, the urban-rural disparity ratio decreased substantially from 1.90 to 1.62.

Table V-38 provides Theil indices by race and its within and between-location component for each racial group. The discussion will be confined to 1987 and 1989 as this decomposition is not available for 1984. Similar changes are observed for the Theil indices as for the Gini coefficients. There has been an increase in inequality for Malay, Kadazan, Murut and Indian households. Except for Indian households, this increase can be attributed to a rise in the between-location contribution.

In 1987, much of the inequality found in the different races was attributed to differences within the racial groups. With the exception of Indian households, less than two percent of inequality found in any one

TABLE V-38
SABAH: THEIL INDEX BY RACE AND ITS BETWEEN AND WITHIN LOCATION CONTRIBUTION TO INEQUALITY, 1987-1989.

TABLE V-38A: MALAY

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.225	0.8%	99.2%
1989	0.229	9.4%	90.6%

TABLE V-38B: KADAZAN

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.304	1.8%	98.2%
1989	0.313	6.0%	94.0%

TABLE V-38C: BAJAU

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.260	1.2%	98.8%
1989	0.229	1.7%	98.3%

TABLE V-38D: MURUT

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.256	0.0%	100.0%
1989	0.280	6.0%	94.0%

TABLE V-38E: CHINESE

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.250	0.0%	100.0%
1989	0.231	2.3%	97.7%

TABLE V-38F: INDIAN

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.230	7.1%	92.9%
1989	0.289	1.5%	98.5%

Note: R-U = Rural-Urban
Source: Calculated using HIS 1987, HIS 1989.

racial group was caused by differences between urban and rural incomes. For the Indians, the rural-urban contribution to inequality was higher, at 7.1 percent (Table V-38F). By 1989, increases had occurred in the rural-urban contribution for the different races. The largest increases were seen for the Malay, Kadazan and Murut households, resulting in a worsening of inequality. The only group to experience a decline in the between-location contribution was the Indian households. Despite the decrease in between-location contribution, Indian households experienced a rise in overall inequality. Thus the increase in Indian inequality was due to increased differences within Indian households (Table V-38F).

A similar decomposition for location and race was carried out to examine the extent to which racial disparities contribute to inequality in urban and rural areas (Table V-39). The results show that racial disparities are a very important contributing factor to inequality in both rural and urban areas. More than 25 percent of inequality found in urban and rural households is explained by differences in racial incomes. While the racial component of inequality in urban areas fell between 1987 and 1989, in rural areas it increased. By 1989, the between-race component contributed to almost 30 percent of inequality in rural households (Table V-39B).

ii) Sarawak

As in the case of Sabah, the decline in Theil indices between 1984 and 1989 confirms the improvement in inequality shown by the Gini coefficients. Tables V-40 and 41 show that both racial and rural-urban disparities contribute significantly to total inequality in Sarawak in the 1980s. However, the racial component is larger and around twice that of the between-location

TABLE V-39
SABAH: THEIL INDEX BY LOCATION AND ITS BETWEEN AND WITHIN RACIAL CONTRIBUTION, 1987 AND 1989.

TABLE V-39A: URBAN

YEAR	THEIL	BETWEEN RACE	WITHIN RACE
1987	0.330	26.5%	73.5%
1989	0.307	25.5%	74.5%

TABLE V-39B: RURAL

YEAR	THEIL	BETWEEN RACE	WITHIN RACE
1987	0.359	28.8%	71.2%
1989	0.326	29.2%	70.8%

Source: Calculated using HIS 1987, HIS 1989.

TABLE V-40
SARAWAK: THEIL INDEX AND ITS BETWEEN AND WITHIN RACIAL CONTRIBUTION TO INEQUALITY, 1984-1989.

YEAR	THEIL	BETWEEN RACE	WITHIN RACE
1984	0.429	22.1%	77.9%
1987	0.391	18.9%	81.1%
1989	0.326	20.8%	79.2%

Source: Calculated using HIS 1984, HIS 1987, HIS 1989

TABLE V-41
SARAWAK: THEIL INDEX AND ITS BETWEEN AND WITHIN LOCATION CONTRIBUTION TO INEQUALITY, 1984-1989.

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1984	0.429	11.8%	88.2%
1987	0.391	9.1%	90.9%
1989	0.326	9.0%	91.0%

Note: R-U = Rural-Urban
Source: Calculated using HIS 1984, HIS 1987, HIS 1989

contribution.

In the 1980s the racial component fluctuated around 20 percent, from 22.1 percent in 1984 down to 18.9 percent in 1987 and up to 20.8 percent by 1989 (Table V-40). The increase between 1987 and 1989 was reflected in the changes in mean income of different races. The mean income disparity ratios between Malay and non-Malays widened for all races with the exception of the Iban (Table V-35).

The declining rural-urban mean income disparity ratio resulted in a fall in the between-location contribution from 11.8 percent of total inequality in 1984 to 9.1 percent by 1987. Since then the percentage contribution has remained at around the same level, despite a widening between rural and urban mean incomes (Table V-41).

The decomposition results show that the decline in Sarawak's overall inequality between 1984 and 1987, was attributed partly to a narrowing of differences within the various groups and partly to a fall in the between-location component of inequality. However the continued decline by 1989 was due to the improvement of inequality within the different groups.

Table V-42 shows that in 1987, the between-location contribution for the five races varies, from 1.1 percent for the Bidayuh to 10.8 percent for the Malays. The low between-location contribution for the Bidayuh may be due to the fact that they are predominantly engaged in rice cultivation in rural areas. Similarly, a 2.3 percent between-location contribution for the Chinese is that they are principally urban dwellers. By 1989, the between-location contribution increased for all the indigenous races except the Malays. Thus the decrease in

TABLE V-42
SARAWAK: THEIL INDEX BY RACE AND ITS BETWEEN AND WITHIN LOCATION CONTRIBUTION TO INEQUALITY, 1987-1989

TABLE V-42A: MALAY

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.382	10.8%	89.2%
1989	0.304	7.1%	92.9%

TABLE V-42B: IBAN

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.291	7.0%	93.0%
1989	0.217	8.6%	91.4%

TABLE V-42C: BIDAYUH

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.272	1.1%	98.9%
1989	0.222	1.8%	98.2%

TABLE V-42D: MELANAU

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.359	3.6%	96.4%
1989	0.315	5.3%	94.7%

TABLE V-42E: CHINESE

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1987	0.289	2.3%	97.7%
1989	0.245	2.2%	97.8%

Note: R-U = Rural-Urban
Source: Calculated using HIS 1987, HIS 1989.

inequality for these races were a result of improvements within each race.

As in the case of Sabah, the between-race contribution to total inequality is greater in rural than urban areas. From 19.6 percent in 1987, it had risen to 21.5 percent by 1989 (Table V-43). Thus the decline in rural inequality was due to an equalization of incomes within rural households, which outweighed the increase in income disparities between racial groups. In urban households a fall in the between-race contribution, from 8.2 percent in 1987 to 5.5 percent by 1989 was observed. Despite this, urban inequality rose indicating a worsening of inequality within urban households.

iii. Comparing Sabah and Sarawak to Peninsular Malaysia

These findings show that, unlike Peninsular Malaysia, differences in income between different groups do contribute significantly to total inequality in Sabah and Sarawak. A comparison of the between-location component of inequality shows that while in 1984, this was minimal in Sabah, by 1989 the percentage contribution was similar for all three areas. Of the two between-components, the racial component is the more important factor of inequality, giving rise to over 20 percent of overall inequality (Table V-44).

Although initially in 1984 the between-race contribution in Sabah was higher than the between-race contribution in Sarawak, 27.5 percent compared to 22.1 percent, by 1989 both values were around 21 percent. However, this is almost three times the value found in Peninsular Malaysia (8.7 percent). This is partly due to the greater number of ethnic groups found in Sabah and Sarawak as well as the large income disparities between the ethnic groups.

TABLE V-43
SARAWAK: THEIL INDEX BY LOCATION AND ITS BETWEEN AND WITHIN RACIAL CONTRIBUTION, 1987 AND 1989.

TABLE V-43A: URBAN

YEAR	THEIL	BETWEEN RACE	WITHIN RACE
1987	0.304	8.2%	91.8%
1989	0.321	5.5%	94.5%

TABLE V-43B: RURAL

YEAR	THEIL	BETWEEN RACE	WITHIN RACE
1987	0.357	19.6%	80.4%
1989	0.296	21.5%	78.5%

Source: Calculated using HIS 1987, HIS 1989.

TABLE V-44
PENINSULAR MALAYSIA, SABAH AND SARAWAK: COMPARISON OF THE IMPORTANCE OF THE BETWEEN-GROUP CONTRIBUTION TO INCOME INEQUALITY

	1984 (%)	1987 (%)	1989 (%)
BETWEEN-LOCATION:			
PENINSULAR MALAY	11.3	9.0	9.7
SABAH	0.4	2.3	8.1
SARAWAK	11.8	9.1	9.0
BETWEEN-RACE:			
PENINSULAR MALAY	8.4	7.3	8.7
SABAH	27.5	28.0	21.5
SARAWAK	22.1	18.9	20.8

Source: Tables IV-15 and 16, Tables V-33 and 44, Tables V-38 and 39.

On average in 1989, Malay incomes in Sabah were still around double that of other Bumiputeras (Table V-29). In Sarawak the different ethnic groups' mean incomes ranged from M$ 545 for Iban, to M$ 1,348 for the Chinese in 1989 (Table V-32) and Malay incomes continue to be much greater than other Bumiputera incomes (Table V-35). This accounts for the continued importance of the between-race contribution in the East Malaysian states. Similarly, the narrowing of differences between Malay and non-Malay mean income in Peninsular Malaysia during the 1980s (Chapter IV, Section I.C and Table IV-14) accounts for the decline in the between-race component in Peninsular Malaysia.

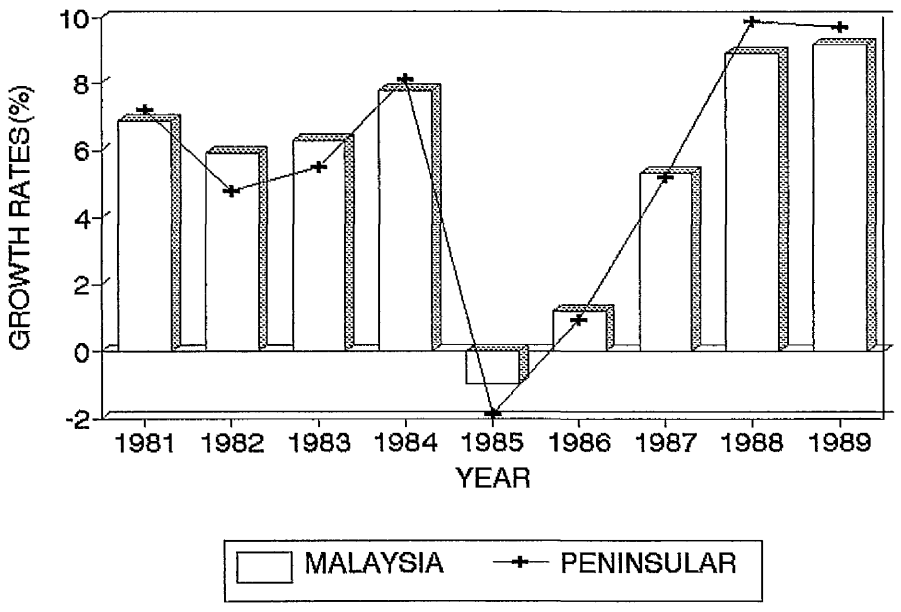
Notes:

1. The economic growth pattern of Peninsular Malaysia mirrors that of Malaysia as a whole.

MALAYSIA AND PENINSULAR MALAYSIA
GROWTH RATES, 1981-1989 (PERCENT)

YEAR	MALAYSIA	PENINSULAR
1981	6.9	7.2
1982	5.9	4.8
1983	6.3	5.5
1984	7.8	8.1
1985	-1.0	-1.9
1986	1.2	0.9
1987	5.3	5.2
1988	8.9	9.9
1989	9.2	9.7

MALAYSIA: ECONOMIC GROWTH 1981-1989.



Source: "Economic Report" (various years)

2. Between 1980 and 1983, the total increase in real GDP by sector was:-

Mining	34 percent
Agriculture	45 percent
Forestry	38 percent
Manufacturing	20 percent

CHAPTER VI
REGIONAL INEQUALITY

Large differences exist between the different Malaysian states in GDP, mean household income and level of development. In the light of the unequal distribution of natural resources and population, Malaysian regional development strategy has sought to redress economic and structural imbalances via selective relocation to areas where development opportunities exist (Malaysia 1976: 199). Continued regional imbalances would counteract policies pursued by the government to achieve the national objective, of an egalitarian society.

This chapter is divided into three main sections. The first section looks at the decomposition of inequality. It will attempt to analyze the contribution of differences between states, towards total inequality, using the Theil Index. As in Chapters III and IV, the income data presented here are gross monthly income per household expressed in 1980 terms. Using Williamson's indicator of regional inequality (1965), the next section discusses Malaysia's historical pattern of regional inequality. The final section looks at the relationship between regional inequality and economic development. This will cover both the contribution of regional labour productivity to spatial disparities in income, and an examination of the degree of regional inequality found in the agricultural and manufacturing sectors.

I. DECOMPOSITION OF REGIONAL INEQUALITY

Table VI-1 shows the Theil indices of household income inequality for Peninsular Malaysia and its decomposition by state for the years 1984, 1987 and 1989. The figures show a decline in the importance of

TABLE VI-1
PENINSULAR MALAYSIA: THEIL INDEX AND ITS BETWEEN AND WITHIN STATE CONTRIBUTION TO INEQUALITY, 1984-1989

YEAR	THEIL	BETWEEN STATE	WITHIN STATE
1984	0.450	18.7%	81.3%
1987	0.381	13.5%	86.5%
1989	0.363	13.3%	86.7%

Source: Calculated using HIS 1984, 1987 and 1989

TABLE VI-2
PENINSULAR MALAYSIA: THEIL INDEX AND ITS BETWEEN AND WITHIN LOCATION CONTRIBUTION TO INEQUALITY, 1984-1989.

YEAR	THEIL	BETWEEN R-U	WITHIN R-U
1984	0.450	na	na
1987	0.381	9.4%	90.6%
1989	0.363	9.9%	90.1%

Note: R-U = Rural-Urban
Source: Calculated using HIS 1984, 1987 and 1989

state income disparities during the 1980s. In 1984, differences in income between the states contributed 18.7 percent of total inequality found in Peninsular Malaysia. By the end of the decade, the between-state contribution had fallen and stabilised at just over 13.5 percent. Therefore more than 80 percent of total inequality arises from differences within each of the states. Although the contribution of the between-location component could not be calculated for 1984, it too appears to have settled at a value of just under 10 percent, by 1987 (Table VI-2).

Table VI-3 shows the Theil indices and the between state contribution for urban and rural areas separately. It appears that between 1987 and 1989, the percentage contribution of the between-state component had increased in both urban and rural households. Despite the increase, by 1989 differences in state household mean income accounted for less than 15 percent of both total rural and urban inequality. In both locations, more than 85 percent of inequality is explained by the variation in incomes within each state.

Theil indices for the various states and their between-location components are given on Table VI-4. The contribution of the between-location component varies considerably, ranging from 3.0 percent in Negri Sembilan to 16.3 percent in Johor (1987). However, nine of the eleven states had values greater than 10 percent. By 1989, the between-location component fell dramatically for all states except for Negri Sembilan and Perlis. While in Perlis the increase in the between-location contribution was small, 12.0 to 13.5 percent, in Negri Sembilan it jumped to 13.1 percent. In all but three states, by 1989 more than 90.0 percent of inequality arises from within location differences in mean household income.

TABLE VI-3
PENINSULAR MALAYSIA: THEIL INDEX BY LOCATION AND ITS BETWEEN AND WITHIN STATE CONTRIBUTION, 1987-1989.

TABLE VI-3A: URBAN

YEAR	THEIL	BETWEEN STATE	WITHIN STATE
1987	0.305	10.8%	89.2%
1989	0.264	14.2%	85.8%

TABLE VI-3B: RURAL

YEAR	THEIL	BETWEEN STATE	WITHIN STATE
1987	0.302	9.5%	90.5%
1989	0.239	14.6%	85.4%

Source: Calculated using HIS 1987 and 1989

TABLE VI-4
PENINSULAR MALAYSIA: THEIL INDEX BY STATE & ITS BETWEEN AND WITHIN LOCATION CONTRIBUTION TO INEQUALITY, 1987-1989.

STATE	THEIL	1987 BETWEEN R-U	WITHIN R-U
JOHOR	0.262	16.3%	83.7%
KEDAH	0.336	10.3%	89.7%
KELANTAN	0.320	12.1%	87.9%
MALACCA	0.293	8.0%	92.0%
N. SEMBILAN	0.334	3.0%	97.0%
PAHANG	0.241	11.3%	88.7%
PENANG	0.314	10.3%	89.7%
PERAK	0.296	13.1%	86.9%
PERLIS	0.294	12.0%	88.1%
SELANGOR	0.373	15.8%	84.2%
TRENGGANU	0.410	14.4%	85.6%
KL	0.394	-	

STATE	THEIL	1989 BETWEEN R-U	WITHIN R-U
JOHOR	0.267	5.3%	94.7%
KEDAH	0.344	5.8%	94.2%
KELANTAN	0.308	8.5%	91.5%
MALACCA	0.293	5.4%	94.6%
N. SEMBILAN	0.242	13.1%	86.9%
PAHANG	0.219	4.8%	95.2%
PENANG	0.301	2.8%	97.2%
PERAK	0.328	10.3%	89.7%
PERLIS	0.285	13.5%	86.5%
SELANGOR	0.348	8.3%	91.7%
TRENGGANU	0.391	8.8%	91.2%
KL	0.354	-	-

Note: KL is an urban area.
R-U = Rural-Urban
Source: Calculated using HIS 1987 and 1989.

Decomposition analysis strongly suggests that although considerable differences in mean income exist between the states in Peninsular Malaysia, by 1989 such differences were no longer a large contributing factor to total inequality. In fact, the magnitude of the existing total inequality is attributed predominantly to differences within each state and region (urban and rural).

II. HISTORICAL PATTERN of REGIONAL INEQUALITY

The historical pattern of regional inequality will be dealt with in two sections: Malaysia as a whole, including Sabah and Sarawak; and Peninsular Malaysia. Two measures for regional development are used; gross household mean income and per capita GDP. When using gross household mean income, the indicators are restricted to the 1980's due to the lack of state-level data in the 1970's.

The indicators of regional inequality developed by Williamson (1965) are coefficients of variation which measure the dispersion of regional income levels relative to the national average. The indicators used in this analysis are:-

a) V_w - each regional deviation is weighted by its share of national population.

b) V_{uw} - unweighted coefficient of variation.

The calculation of V_w involves the squaring of the income differentials of each state, making the index perhaps too sensitive to a few extreme regional differences. As a precaution, an alternative measure, M_w, is also calculated. The calculation of the index M_w, sums the absolute value of regional income differences. It is therefore less sensitive to a few very large disparities and can therefore be used to check the results from V_w.

The results obtained during the period 1970 to 1990 for Malaysia, were consistent in all three indices when using gross household income as the measure of regional development. For each case, the results show a continued decline in regional inequality between 1984 and 1989. However when using per capita GDP, the pattern of change differs between V_w and M_w (Table VI-5). The index V_w, suggests that regional inequality in Malaysia first rises between 1970 and 1978, then drops by 1980. By 1985, regional disparity once again increases only to drop again in 1987. In 1989 the index rises again and declines slightly in 1990. On the other hand, the index M_w produces much smoother results. It shows that regional inequality increases from 1970 to 1980, then decreases until 1987 before increasing again. Both indices however suggest a worsening of regional inequality between 1970 and 1990. All three measures indicate that the level of regional inequality increased between 1970 and 1990, by 9.2 percent for V_w, 26 percent for V_{uw} and 10 percent for M_w.

It is conceivable that the cyclical movements in V_w are due to the method of calculation of the index. As the index sums the square of the differences in per capita GDP, it is extremely sensitive to extreme deviations. Looking at the data, for each year the per capita GDP of Kuala Lumpur is at least about 80 percent greater than the national per capita GDP (Table VI-6). The per capita GDP disparity ratio compares a states' per capita GDP with that of the Malaysian average. Extreme disparities are defined as those states with per capita GDP values either 65 percent greater or less, than the national average. For 1978, 1985 and 1989 this occurs for two or more states (Table VI-7). This could account for the fluctuations observed in V_w as its value will be affected.

TABLE VI-5
MALAYSIA: WILLIAMSON'S INDICATOR OF REGIONAL INEQUALITY

		V(w)	V(uw)	M(w)
GROSS HHOLD	1984	0.314	0.315	23.73
MEAN INCOME:	1987	0.296	0.297	23.31
	1989	0.284	0.284	22.53
PER CAPITA	1970	0.358	0.319	28.54
GDP:	1978	0.380	0.379	29.91
	1980	0.365	0.363	30.12
	1985	0.383	0.398	28.77
	1987	0.359	0.369	28.51
	1989	0.443	0.441	30.61
	1990	0.391	0.402	31.42
CHANGE BASED ON PER CAPITA GDP, 1970-90:		9.3%	25.9%	10.1%

Source: Calculated using HIS 1984, 1987, 1989 and data from Regional Economics Section, EPU.

TABLE VI-6
COMPARING THE PER CAPITA GDP OF KUALA LUMPUR TO THAT OF MALAYSIAN AVERAGE (M$ 1980 PRICES)

YEAR	KUALA LUMPUR (M$1980)	MALAYSIA (M$1980)
1970	na	2,210
1978	5,086	3,162
1980	5,824	3,545
1985	6,783	3,978
1987	6,512	4,094
1989	7,707	4,358
1990	8,593	4,899

Source: Regional Economics Section, EPU

TABLE VI-7
MALAYSIA: STATES WITH EXTREME PER CAPITA GDP DISPARITY RATIO, 1970 - 1990

YEAR	STATE	PER CAPITA GDP DISPARITY RATIO
1970	SELANGOR	1.68
1978	SELANGOR	1.67
	KUALA LUMPUR	1.78
1980	KUALA LUMPUR	1.82
1985	KUALA LUMPUR	1.88
	TRENGGANU	1.65
1987	KUALA LUMPUR	1.76
1989	KUALA LUMPUR	2.07
	SELANGOR	1.64
	TRENGGANU	1.77
1990	KUALA LUMPUR	1.94

Notes: 1. Per Capita GDP Disparity ratio is defined as:
Per Capita GDP of ith state/Per Capita GDP of Malaysia
Extreme is defined a disparity ratio value of either less than 0.4 or greater than 1.65
2. 1970 Selangor GDP includes that of Kuala Lumpur as before 1978 Kuala Lumpur was part of Selangor and not a Federal Territory

Source: Calculated from data from the Regional Economics Section, EPU.

The same analysis carried out for Peninsular Malaysia resulted in a similar pattern of regional inequality between 1970 and 1990 (Table VI-8). If however we look at the value of the regional inequality indices, they seem to indicate that the level of regional inequality is higher when Sabah and Sarawak are not included in the sample.

The increase in inequality based on per capita GDP is reflected in terms of the difference in regional growth rates. Although the per capita GDP of each state has increased steadily between 1970 and 1990 (Table VI-9), the gap between the poorest and richest[1] states, Kelantan and Kuala Lumpur[2], has also widened (Figure VI-1). Regional imbalances in terms of growth persisted as a result of their varying historical development, differences in resource endowment and sources of growth among states.

Although regional development policy has led to a decrease in the number of industries located in the most developed western regions, 74.6 to 63 percent of total manufacturing industries (Table VI-10), imbalances continue to exist within each region. Eventhough the percentage share of manufacturing industries located in the northern region[3] doubled, between 1979 and 1991, this was mainly due to the off-shore petroleum production and its downstream activities in Trengganu. With the exception of industrial estates in Kulim and Sungai Petani, other industrial estates established in Perlis and Kedah showed low occupancy rates (Malaysia 1986: 176). Between 1985 and 1990, less than 8 percent of the approved investment projects were located in Kedah, Perlis and Kelantan (Malaysia 1991a: 137).

An additional factor contributing to the widening gap in per capita GDP between regions, was the

TABLE VI-8
PENINSULAR MALAYSIA: WILLIAMSON'S INDICATOR OF REGIONAL INEQUALITY.

		V(w)	V(uw)	M(w)
GROSS HHOLD MEAN INCOME:	1984	0.347	0.340	27.20
	1987	0.328	0.321	26.40
	1989	0.317	0.307	26.05
PER CAPITA GDP:	1970	0.381	0.345	31.31
	1978	0.402	0.433	30.65
	1980	0.389	0.382	33.41
	1985	0.421	0.429	34.03
	1987	0.377	0.382	32.54
	1989	0.391	0.392	32.87
	1990	0.412	0.416	34.95

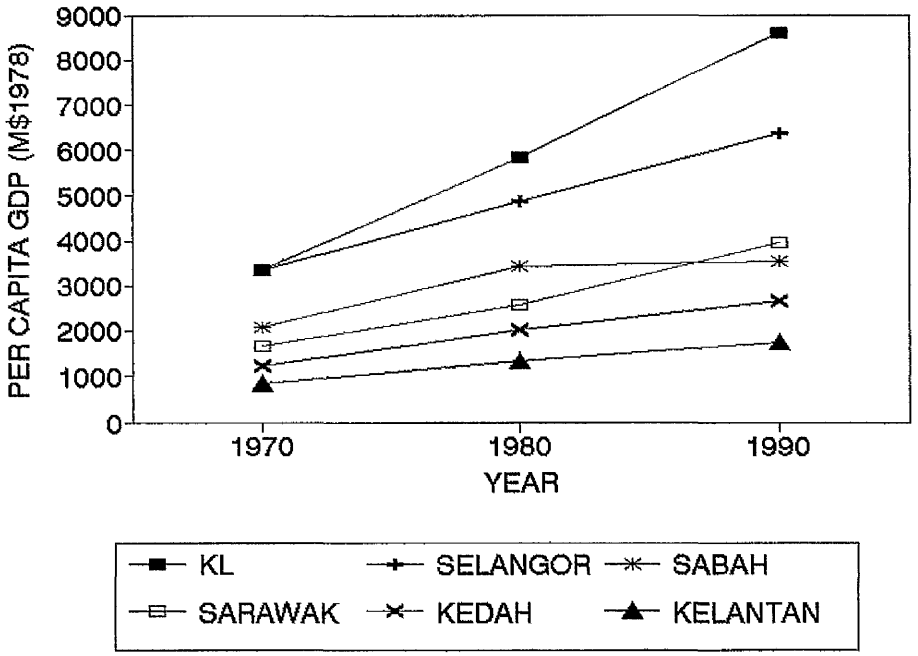
Source: Calculated using HIS 1984, 1987, 1989 and data from Regional Economics Section, EPU.

TABLE VI-9
MALAYSIA: PER CAPITA GDP BY STATE 1970-1990
(CONSTANT M$ 1978 PRICES)

STATE	PER CAPITA GDP (in constant M$ 1978 prices)		
	1970	1980	1990
JOHOR	1,751	2,725	4,020
KEDAH	1,248	2,038	2,653
KELANTAN	844	1,346	1,749
MALACCA	1,440	2,518	3,723
N. SEMBILAN	1,857	2,476	3,811
PAHANG	2,177	2,895	3,661
PENANG	1,757	4,051	5,274
PERAK	2,369	2,675	3,528
PERLIS	*a	2,361	3,076
SELANGOR	3,363	4,886	6,363
TRENGGANU	1,369	4,173	7,025
KL	*b	5,824	8,593
SABAH	2,108	3,441	3,560
SARAWAK	1,675	2,581	3,963
MALAYSIA	1,999	3,207	4,431

1. *a-In 1970 Perlis GDP is combined with Kedah GDP
2. *b-In 1970 Kuala Lumpur was part of Selangor.
Source: Regional Economics Section, EPU.

FIGURE VI-1:
TREND OF PER CAPITA GDP, 1970-1990



Note: 1. 1970 Kedah GDP includes Perlis GDP
2. In 1970, Selangor GDP includes Kuala Lumpur GDP
Source: Table VI-9

TABLE VI-10
PENINSULAR MALAYSIA: REGIONAL DISTRIBUTION OF THE LOCATION OF MANUFACTURING INDUSTRIES, 1979 & 1991

REGION	1979 (%)	1991 (%)
WESTERN STATES	74.6	63.0
SOUTHERN STATES	20.4	27.2
NORTHERN STATES	5.0	9.8
TOTAL	100.0	100.0

Note: This refers to the number of establishments
Source: Spinager (1986: 121) and calculated from
Malaysia, Dept. of Statistics (1991: 96)

difference in agricultural sector growth rates. The sector growth rates for Kedah and Kelantan during the Fifth Malaysia Plan were slow at 4.4 and 4.9 percent per annum respectively, compared with those of Sabah (11.7 percent), Sarawak (7.1 percent) and Pahang (6.5 percent) (Malaysia 1989: 44).

The continued dominance of regional urban growth centres in the more developed states also contributed to the increasing regional inequality. The northern states of Kedah and Perlis were among the least urbanized states in the 1980s, partly due to the proximity of Georgetown (Penang) and Ipoh (Perak). These two large urban centres provided high-order services[4] for the surrounding areas, thus the regional centres such as Alor Setar (Kedah) continued to merely play the role of supporting secondary towns. The agglomeration of the urban population in the Klang Valley encouraged the growth of tertiary sector activities[5] in the area. This in turn led to its continued predominance as private investors continue to prefer locating in these areas. Therefore, certain areas remained less developed in relative terms, thus the increased regional inequality.

III. REGIONAL LABOUR PARTICIPATION AND SECTORAL DISTRIBUTION

This section attempts to study the relationship between regional inequality and economic development. The role of regional variations in labour and sectoral participation rates and their contribution to disparities in per capita GDP levels are also investigated.

Results A in Table VI-11 show the inequality indices using regional per capita GDP weighted by regional population shares for Malaysia. Results B

exhibit inequality indices weighted by regional labour force shares, therefore based on labour productivity[1]. Both results suggest that regional inequality increased between 1980 and 1990. Results C, which compare results A and B, is simply the ratio of the inequality index based on per capita GDP to that based on labour productivity. It appears that while inequality indices based on regional labour productivity were lower in 1980, by 1990 they are higher in each case with the exception of M_w (Table VI-11).

Table VI-12 shows the computed inequality indices for Peninsular Malaysia. The same trend of increasing inequality indices are observed between 1980 and 1990. However for Peninsular Malaysia, the inequality index is lower when calculated from regional labour productivity data for both years. Results C indicate that although the index based on labour productivity continues to be lower, by 1990 the difference between them is minimal.

Tables VI-13 and 14 show the results of decomposing regional income into two different economic sectors, agriculture and manufacturing, for Malaysia and for Peninsular Malaysia. The indices measure the degree of regional inequality within that sector. Here, sector productivity differentials are weighted by the regional share of labour force engaged in that sector, i.e. agriculture or manufacturing.

In both cases, Malaysia and Peninsular Malaysia, inequality indices based on the agricultural sector increased between 1980 and 1990. A comparison of the Malaysia results with those of Peninsular Malaysia demonstrates that for both years, regional agricultural inequality is lower in the Peninsular. In addition, while the inequality indices increase over time, the increase was much greater when Sabah and Sarawak are

TABLE VI-11
MALAYSIA: WILLIAMSON'S INDICATOR OF REGIONAL INEQUALITY BY LABOUR PARTICIPATION, 1980 & 1990.

		1980	1990
RESULTS A:	V(w)	0.365	0.391
PER CAPITA GDP	V(uw)	0.363	0.402
	M(w)	30.12	31.42
RESULTS B:	V(w)	0.321	0.395
GDP/WORKER	V(uw)	0.322	0.430
(LABOUR PRODUCTIVITY)	M(w)	27.49	30.50
RESULTS C:			
RATIO OF INEQUALITY INDICES	V(w)	1.14	0.99
PER CAP GDP:LABOUR	V(uw)	1.13	0.93
PRODUCTIVITY	M(w)	1.10	1.03

TABLE VI-12
PENINSULAR MALAYSIA: WILLIAMSON'S INDICATOR OF REGIONAL INEQUALITY BY LABOUR PARTICIPATION, 1980 & 1990

		1980	1990
RESULTS A:	V(w)	0.389	0.412
PER CAPITA GDP	V(uw)	0.382	0.416
	M(w)	33.41	34.95
RESULTS B:	V(w)	0.339	0.405
GDP/WORKER	V(uw)	0.338	0.435
(LABOUR PRODUCTIVITY)	M(w)	29.89	32.95
RESULTS C:			
RATIO OF INEQUALITY INDICES	V(w)	1.15	1.02
PER CAP GDP:LABOUR	V(uw)	1.13	0.96
PRODUCTIVITY	M(w)	1.12	1.06

Note: Per Cap GDP = Per Capita GDP

Source Tables VI-11 & 12: Calculated using Malaysia, Dept. of Statistics (1983; 1991); Malaysia (1986: 101) and data from Regional Economics Section, EPU

TABLE VI-13
MALAYSIA: WILLIAMSON'S INDICATOR OF REGIONAL INEQUALITY BY SECTORAL DISTRIBUTION, 1980 & 1990

		1980	1990
RESULTS A:	V(w)	0.291	0.384
AGRI. GDP/WORKER	V(uw)	0.358	0.420
(AGRIC. LAB PRODICTIVITY)	M(w)	23.98	32.54
RESULTS B:	V(w)	0.515	0.473
MANUF. GDP /WORKER	V(uw)	0.504	0.378
(MANUF LABOUR PRODUCTIVITY)	M(w)	42.81	37.93
RESULTS C:	V(w)	0.56	0.81
RATIO OF INEQUALITY INDICES	V(uw)	0.71	1.11
AGRIC:MANUF PRODUCTIVITY	M(w)	0.56	0.86

TABLE VI-14
PENINSULAR MALAYSIA: WILLIAMSON'S INDICATOR OF REGIONAL INEQUALITY BY SECTORAL DISTRIBUTION, 1980 & 1990

		1980	1990
RESULTS A:	V(w)	0.271	0.282
AGRI. GDP/WORKER	V(uw)	0.361	0.383
(AGRIC. LAB PRODICTIVITY)	M(w)	20.19	22.94
RESULTS B:	V(w)	0.503	0.487
MANUF. GDP /WORKER	V(uw)	0.513	0.406
(MANUF LABOUR PRODUCTIVITY)	M(w)	41.24	39.95
RESULTS C:	V(w)	0.54	0.58
RATIO OF INEQUALITY INDICES	V(uw)	0.70	0.94
AGRIC:MANUF PRODUCTIVITY	M(w)	0.49	0.57

Source Tables VI-13 & 14: Calculated using Malaysia, Dept. of Statistics (1983; 1991); Malaysia (1986: 101) and data from Regional Economics Section, EPU

included in the sample.

Inequality indices based on the manufacturing sector fell between 1980 and 1990 for both Malaysia and the Peninsular, though the change was greater for Malaysia as a whole. Comparing the two results, regional inequality was higher when Sabah and Sarawak were included in 1980. However, the larger decrease during the ten year period led to lower regional inequality based on the manufacturing sector for Malaysia by 1990.

Results C in Tables VI-13 and 14 provide the calculated ratio of agricultural to manufacturing inequality indices. For both Malaysia and Peninsular Malaysia regional income inequality is more severe in the manufacturing sector. When excluding Sabah and Sarawak, regional income inequality in the agricultural sector in 1980 was about half that in the manufacturing sector. But when Sabah and Sarawak are included, i.e. Malaysia as a whole, regional income inequality in the agricultural sector is about sixty percent of that in the manufacturing sector (a rise of ten percentage points). The improvement of regional inequality in the manufacturing sector combined with the worsening in the agricultural sector, throughout the decade, has led to a narrowing of the difference in sectoral regional inequality. This is most evident when looking at Malaysia as a whole, where by 1990 regional inequality in the agricultural sector is more than eighty percent of the manufacturing sector using the V_w index.

Williamson (1965: 149-155) found that with the exception of Japan, each of the countries he examined had greater levels of regional inequality in the agricultural sector than in the manufacturing sector. Contrary to his conclusion, this investigation shows that in Malaysia, like Japan, regional dualism is more

severe in the manufacturing sector although the difference declined over the 1980s. The large disparities found in the manufacturing sector are due to two main factors: the concentration of industries in certain regions; and the diverse range of industries found in the manufacturing sector. These range from the simple technology labour intensive industries, such as those producing traditional handicraft items, wood products and wearing apparel, to the capital intensive heavy industries; chemicals, petroleum, non-metallic and basic metal products.

The regional spread of industries is concentrated in the western and more developed regions of Malaysia. Spinager (1986: 114-130) stated that at the end of 1977, 74.6 percent of industries were located in the western states of Peninsular Malaysia (Perak, Selangor, Negri Sembilan and Penang) (Table VI-10). In addition his study showed that almost 80 percent of capital intensive industries were also located in these more developed states, which would further aggravate regional differences in manufacturing productivity.

The decrease in regional inequality based on the manufacturing sector has been due to conscious government strategy to redress economic imbalances. To achieve a more balanced growth among regions, industrial estates have been established to facilitate the dispersal of industries to the less developed states. Government efforts undertaken to disperse industries to the less developed states are also directed at revitalising and promoting village industries. Various specific industrialisation measures were introduced to overcome disparities between the more developed regions and the less developed regions. In line with the infant-industry argument, locational incentives such as tax exemptions were introduced, to compensate for locational

disadvantages. Although the high and middle income states continue to receive the largest number of projects, the less developed areas, due to proximity and availability of raw materials, attract resource-based projects, which include capital intensive industries such as petroleum products (Malaysia 1986: 340-343).

Although there is still a concentration of industries in the western and more developed states, and the inflow of industries expected to follow the major improvements in infrastructure in other parts of the country did not materialise, a dispersal of industries was observed between 1979 and 1991. By 1991, only 63.0 percent of the total number of manufacturing industries were located in the western states. The percentage of manufacturing industries located in the southern states, had increased from 20.4 percent in 1979 to 27.2 percent in 1991. The percentage share of manufacturing industries has almost doubled in the least developed northern states since 1979 (Table VI-10).

Although as discussed earlier the dispersal of industries was less than the government expected (Malaysia 1986: 179), some movement away from the western states has resulted in an increase in manufacturing labour productivity[6] in the less developed regions. This is especially true for the least developed states in the northern region. Between 1980 and 1990, manufacturing labour productivity doubled from M$ 4,260 to M$ 8,503 (1980 prices) (Table VI-15). In 1980, the manufacturing labour productivity of the western states was 4.4 times that of the northern states. By 1990 the disparity ratio had fallen to 2.4. This was a result of the establishment of a few large-scale, capital-intensive industries, including a sponge iron and billet plant in Trengganu and increased hydrocarbon production in Sarawak. In addition the manufacturing output in

TABLE VI-15
PENINSULAR MALAYSIA: MANUFACTURING LABOUR PRODUCTIVITY BY REGION: 1980 & 1990 (M$ 1980 PRICES)

REGION	1980 (M$1980)	1990 (M$1980)	GROWTH (1980-90)
WESTERN STATES	18822	20702	10.0%
SOUTHERN STATES	10676	10906	2.2%
NORTHERN STATES	4260	8503	99.6%

Source: Calculated using data from Regional Economics Section and Malaysia, Department of Statistics (1983; 1991)

TABLE VI-16
PENINSULAR MALAYSIA: PERCENTAGE SHARE OF MANUFACTURING VALUE ADDED BY REGION, 1973 & 1991

REGION	1973 (%)	1991 (%)
WESTERN STATES	78.1	72.3
SOUTHERN STATES	17.6	20.1
NORTHERN STATES	4.3	7.6
TOTAL	100	100

Source: Calculated using data from Spinager (1986: 120) and Malaysia, Department of Statistics (1991)

Kedah, Perlis and Kelantan more than tripled during this time. A similar change was also seen in the share of value added in the manufacturing sector. Table VI-16 shows that since 1973 there has been a decline in the western states' share of value added. By 1991 the western states' share of value added had declined from 78.1 to 72.3 percent. A corresponding increase in the value added share of the southern and northern states was observed (Table VI-16). These factors have contributed to the reduction of regional inequality observed in manufacturing during the 1980s.

The agricultural sector was traditionally characterised by inefficient unorganized smallholders, small farmers and fishermen, who lacked capital, utilised low level technology and were oriented more towards meeting subsistence needs. The objective of the National Agricultural Policy (NAP) is to maximise income from agriculture through the revitalisation of the agricultural sector and efficient utilisation of resources (Malaysia 1986: 296). Development efforts were directed at the modernization and commercialization of small farmers and the development of new resources. Modern technology as well as capital and expertise were introduced to the agricultural sector. This has resulted in the increased regional inequality observed in the agricultural sector.

Increased dualism in the agricultural sector is due to the presence of an efficient well-organized estate subsector, engaged in export-oriented production of tree crops and the less efficient unorganized smallholder subsector. Although public sector programmes have resulted in the emergence of an increasingly efficient organized smallholder subsector, the number of farmers and hectarage in the unorganized category is still substantial. Although rural development programs have

contributed towards increasing productivity levels and income[7], they only do so to the targeted areas. For example, paddy yields under the MUDA scheme were on average 30 percent higher than the average yield of the rice industry (Paddy Statistics, various years). Thus despite making some positive headway, there still remain many rural areas where little has been achieved (Mustapha 1990), thereby accentuating differences between targeted and non-targeted areas. In the livestock and fisheries subsectors, producers are differentiated according to those using modern and specialised production units and those engaging in traditional methods. The large disparity in agricultural income is a result of the differences in the level of efficiency, productivity and competitiveness. Uneconomic-sized holdings, traditional methods of production, underutilization, low management resource base, low-return crops and an ageing rural labour force further contribute to dualism.

Increased income inequality is confirmed when looking at regional agricultural labour productivity[8] (Table VI-17). Although, agricultural labour productivity increased in all regions, the increases were much greater in the most developed western states. In the western states, productivity increased from M$ 5,900 to M$ 10,614 (constant 1980 prices), equivalent to an 80 percent increase, while the northern states increased by only 40 percent to M$ 6,276 in 1990.

Notes:

1. This is in terms of per capita GDP.

2. Kuala Lumpur is not a state but a Federal Territory

3. Northern states comprise Kelantan, Trengganu, Perlis and Kedah.

TABLE VI-17
PENINSULAR MALAYSIA: AGRICULTURAL LABOUR PRODUCTIVITY BY REGION, 1980 & 1990 (M$ 1980 PRICES)

REGION	1980 (M$1980)	1990 (M$1980)	CHANGE (%)
WESTERN STATES	5900	10614	79.9%
SOUTHERN STATES	7042	9464	34.4%
NORTHERN STATES	4489	6276	39.8%
SABAH/SARAWAK	4757	7466	56.9%

Source: Calculated using data from Regional Economics Section and Malaysia Department of Statistics (1983; 1991)

4. High order services are specialised services such as medical services, colleges, universities, merchant banks and specialised business services.

5. Tertiary sector activities include commercial, financial and administrative activities i.e. high order services.

6. Manufacturing labour productivity is defined as the value of manufacturing output (M$) divided by the number employed in the manufacturing sector.

7. Rural development programs are discussed in detail in Chapter VIII.

8. Agricultural labour productivity is defined as the value of agricultural output (M$) divided by the number employed in the agricultural sector.

CHAPTER – VII
POVERTY

As there has been much debate on the poverty line income used by the Malaysian government, it seems appropriate to begin a chapter on poverty with a discussion of how the official Malaysian poverty line has been calculated. This will be followed by a demonstration of how the poverty line has been updated and a discussion on the appropriateness of the methodology.

Malaysia is a country where progress in poverty eradication is well documented in official publications. Changes in poverty are carefully monitored by the government and the trends are published regularly in documents, such as the various Malaysia Plans. As the main trends revealed by official documents have been summarized in Chapter II, this chapter will look at the poverty profile in Malaysia in 1989. The analysis is confined to one year due to data availability.

I. CALCULATION OF THE OFFICIAL MALAYSIAN POVERTY LINE

The official poverty line developed by the Economic Planning Unit (EPU) of the Prime Minister's Department, is based on a minimum needs basket required to sustain an average household at a "subsistence" level. In addition, it includes non-food basic essentials deemed necessary to maintain a decent living. The Malaysian poverty line has 3 main components:-

a) Food Expenditure
b) Clothing and Footwear Expenditure
c) Other Non Food Expenditure

The 1973 Household Expenditure Survey (HES) showed that the average national household size was 5.4. It consisted of 2 adults, 1 male and 1 female, and 3.4

children of ages 1-3, 4-6 and 7-9. The HES 1973 also indicated that the food component in a poor household constitutes a larger share of total income than in a rich household, 60 percent compared to 28 percent.

a) Food Expenditure

Daily caloric requirements of a 5 member household were obtained from the Institute of Medical Research Malaysia. They are as follows:

Adult:	Male:	2,530 calories
	Female:	2,000 calories
Child:	1-3 years:	1,360 calories
	4-6 years:	1,830 calories
	7-9 years:	2,190 calories

These caloric requirements are translated into commonly consumed food items which is then converted into monetary equivalents. This is based on expenditure patterns of households with monthly incomes of less than M$200.00 as reported by HES 1973. An additional 10 percent was added to allow for additional spices and condiments (5 percent) and extra milk supplement for the youngest member (5 percent). This figure is further adjusted to a household size of 5.4 persons, to reflect the national average. A figure of M$160.00 was derived as the food expenditure in 1977 (Mahbob 1976).

b) Clothing and Footwear Expenditure

Estimates obtained from the Ministry of Welfare provided the basis for expenditure and clothing for a 5 member household. Like the food component, this was converted into the monetary equivalent and adjusted to the average size of 5.4 members. It was valued at M$22.57 (Mahbob 1976).

c) Other Non Food Expenditure

The government deemed that in order to have a decent living 5 other non food items were essential.

This included:

1) Shelter - rent, fuel and power.
2) Furniture and household equipment
3) Medical care and health expenses
4) Transport and communication
5) Recreation, education and cultural services

As for the other components a monetary value for these items is calculated - M$57.77 in 1977.

The poverty line is derived by adding the monetary value of its three components. To avoid understatement a further 5 percent is added as a safety margin. The 1977 poverty line was M$252.36 (Mahbob 1976). Its components are shown in Table VII-1.

TABLE VII-1

1977 POVERTY LINE FOR A 5.4 MEMBER HOUSEHOLD

1. Food	M$ 160.00
2. Clothing & Footwear	M$ 22.57
3. Non Food Items:	
a) Shelter	M$ 28.59
b) Furniture	M$ 6.01
c) Medical	M$ 2.51
d) Transport	M$ 13.73
e) Recreation	M$ 6.93
TOTAL	M$ 240.34
4. Plus 5% Safety Margin	M$ 12.02
POVERTY LINE	M$ 252.36

Source: Mahbob (1976)

II. UPDATING THE POVERTY LINE

There has been much discussion of the derivation of the numerical value of the official poverty line. Apart from an unpublished mimeo of the EPU by Mahbob (1976) the poverty line data have not been officially published until 1989 in the MTR5MP (Malaysia 1989: 45). This source states that the poverty line incomes in 1987 were as follows:

a) M$350 for a household of 5.14 persons in Peninsular Malaysia
b) M$533 for a household of 5.36 persons in Sabah
c) M$429 for a household of 5.24 persons in Sarawak

The government also claims that the poverty line incomes are updated annually using Consumer Price Indices (CPI) to reflect changes in the cost of living and price levels (Malaysia 1986: 89).

To estimate poverty line incomes (PLI) for Peninsular Malaysia from 1978 to 1989, the Mahbob 1977 PLI has been updated annually component by component. Price changes for each component, except for food, are available directly from various issues of the Yearbook of Statistics. The CPI is available for 'food' and 'beverages and tobacco' separately. As the PLI component, food includes beverages, a weighted average of 'food' and 'beverages & tobacco' is calculated and used as the inflator. Table VII-2 shows the calculations involved to arrive at the 1978 PLI. The same procedure is carried out for each successive year to obtain the PLI, which can be seen in Table VII-4.

Between 1979 and 1984, the average household size in Peninsular Malaysia fell from 5.4 to 5.14. The two components adjusted to reflect this change in household size are food and clothing. Expenditure on these two

TABLE VII-2
UPDATING THE PENINSULAR MALAYSIA POVERTY LINE
(HOUSEHOLD SIZE: 5.4)

COMPONENTS	1977		1978		
	$	% OF TOTAL	CPI	$	% OF TOTAL
1. FOOD	160.00	63.40%	5.02	168.03	63.53%
2. CLOTHING	22.57	8.94%	3.50	23.36	8.83%
3. NON FOOD					
A. RENT	28.59	11.33%	5.00	30.02	11.35%
B. FURNITURE	6.01	2.38%	4.10	6.26	2.37%
C. MEDICAL	2.51	0.99%	3.60	2.60	0.98%
D. TRANSPORT	13.73	5.44%	5.90	14.54	5.50%
E. RECREATION	6.93	2.75%	2.10	7.08	2.68%
TOTAL	240.34			251.88	
4. 5% SAFETY MARGIN	12.02	4.76%		12.59	4.76%
POVERTY LINE	252.36	100%		264.47	100%

Source: Calculated using Table VII-1 and Malaysia, Ministry of Finance "Economic Report" (various years)

TABLE VII-3
ADJUSTING THE PENINSULAR MALAYSIA POVERTY LINE TO A HOUSEHOLD SIZE OF 5.14 MEMBERS

COMPONENTS	1980 (M$)	1980 % OF TOTAL
1. FOOD	178.45	64.43%
2. CLOTHING	26.57	9.59%
SUB-TOTAL OF FOOD AND CLOTHING	205.02	74.02%
FOR HOUSEHOLD SIZE OF 5.14 PERSONS	195.15	70.46%
3. NON FOOD		
A. RENT	35.07	12.66%
B. FURNITURE	6.97	2.52%
C. MEDICAL	2.98	1.07%
D. TRANSPORT	16.09	5.81%
E. RECREATION	7.52	2.72%
TOTAL	263.77	
4. 5% SAFETY MARGIN	13.19	4.76%
POVERTY LINE	276.96	100%

Source: Calculated using Table VII-1 and Malaysia, Ministry of Finance "Economic Report" (various years)

TABLE VII-4
PENINSULAR MALAYSIA: POVERTY LINE INCOME,
1977-1990 (current prices)

POVERTY LINE INCOME			
YEAR	5.4 PERSONS (M$)	YEAR	5.14* PERSONS (M$)
1977	252.36		
1978	264.47		
1979	273.08		
1980	287.33	1980	276.96
1981	318.07	1981	306.52
1982	339.98	1982	327.55
1983	352.34	1983	339.50
		1984	353.00
		1985	351.47
		1986	353.40
		1987	356.17
		1988	366.02
		1989	375.98
		1990	389.41

Note: * : The government only changed the average household size in 1993 - 4.8 persons

Source: Calculated using Table VII-1 and Malaysia, Ministry of Finance "Economic Report" (various years)

components are directly dependent on the size of a household and are very sensitive to changes in household size. Expenditure on other non-food items are not as sensitive to minor changes in the average household size. The conversion of the PLI for a household of 5.4 persons to a household of 5.14 persons is shown in Table VII-3 for the year 1980. The same methodology is used to arrive at the Poverty Line Incomes for the years from 1980 to 1990, for the average household of 5.14 persons[1], shown in Table VII-4. PLI for both household sizes are calculated for the years 1980 to 1983 as the actual year the change occurred is not known.

My estimate of the 1987 PLI, M$356.17 is very close to the official one published in MTR5MP, M$350.00. The difference between them is about M$ 6.00, or 1.8 percent. In addition, Table VII-5 compares the percentage composition of each component for 1990, from my estimate and from EPU (the EPU figures are from its Distribution Section). The estimate is virtually identical to that given by EPU. Both these factors suggest that the estimates shown in Table VII-4 are fairly accurate.

The Sabah and Sarawak poverty line incomes are considerably higher than that of the Peninsular, reflecting differences in price levels and household size. Table VII-6 shows expenditure patterns for the expenditure class below M$200.00. It demonstrates that expenditure patterns in Sabah are similar to those in the Peninsular. However this is not the case for Sarawak, where the food component comprises 60.8 percent of total expenditure. This is 16.3 percentage points higher than the Peninsular food component. This indicates that the higher Sarawak PLI could be due, in addition to price levels[2] and household size, to differences in household expenditure patterns.

TABLE VII-5
PENINSULAR MALAYSIA: PERCENTAGE BREAKDOWN
BY COMPONENT OF 1990 POVERTY LINE BASED
ON A HOUSEHOLD SIZE OF 5.14:
EPU AND AUTHOR'S ESTIMATES

	EPU	ESTIMATE
1. FOOD	63.3%	62.5%
2. CLOTHING	8.5%	8.5%
3. NON FOOD		
A. RENT	12.6%	12.4%
B. FURNITURE	2.3%	2.3%
C. MEDICAL	1.1%	1.1%
D. TRANSPORT	6.1%	6.3%
E. RECREATION	2.1%	2.1%
4. SAFETY MARGIN	4.8%	4.8%
TOTAL	100%	100%

Source: EPU Distribution Section & author's estimates.

TABLE VII-6
MALAYSIA: PERCENTAGE BREAKDOWN OF EXPENDITURE
FOR EXPENDITURE CLASS BELOW M$200.

EXPENDITURE GROUP	PENINSULAR (%)	SABAH (%)	SARAWAK (%)
0. FOOD:	44.5%	42.5%	60.8%
1. BEVERAGES/TOBACCO	3.6%	3.7%	2.8%
2. CLOTHING	4.7%	6.4%	3.9%
3. SHELTER	24.0%	28.9%	22.6%
4. HOUSEHOLD GOODS	3.7%	2.8%	1.8%
5. MEDICAL	0.8%	0.2%	0.7%
6. TRANSPORT	5.3%	4.8%	2.0%
7. RECREATION	1.9%	0.5%	0.4%
8. MISCELLANEOUS	11.5%	10.0%	5.0%
TOTAL EXPENDITURE	100%	100%	100.0%

Note: The reference year for Peninsular Malaysia is 1980 while that of Sabah and Sarawak is 1982
Source: Malaysia, Department of Statistics (1986)

The 1982 HES showed that in Sarawak, for the expenditure class below M$200.00, M$34.40 was spent on rice. The same expenditure class in Peninsular Malaysia spent M$15.95 on the same item (Table VII-7). As the price of rice is controlled by the government through the National Padi and Rice Marketing Board and does not vary much by region, this suggests that more rice is consumed in Sarawak than in Peninsular Malaysia by the same expenditure class. Although furniture, furnishings and household equipment prices in Sarawak are 12 percent higher than in Peninsular Malaysia (Anand 1992), the amount spent on these items were less, M$2.80 in Sarawak compared to M$4.99 in Peninsular Malaysia. This implies that less household equipment items are purchased in Sarawak compared to Peninsular Malaysia. The equivalent household equipment expenditure in Sarawak would be M$5.59 (Table VII-7). This suggests that expenditure patterns in Sarawak differ from those in Peninsular Malaysia.

The poverty line incomes for the years 1977 to 1990 are derived differently for Sabah and Sarawak. Only the 1987 PLI and the percentage breakdown by component for 1990 were available (Table VII-8). Using this information in conjunction with consumer price indices, the monetary value for each component in 1987 was calculated. This figure is then adjusted for the appropriate household size. The estimates are given in Table VII-9 and Table VII-10. Unlike Peninsular Malaysia, the accuracy of these estimates cannot be compared to the 1987 PLI published in MTR5MP. This is because the official 1987 Sabah and Sarawak PLIs published in MTR5MP, were utilised when estimating Sabah and Sarawak poverty line incomes for the years 1977 to 1990.

TABLE VII-7
COMPARING PENINSULAR MALAYSIA AND SARAWAK EXPENDITURE ON SELECT ITEMS

ITEM	PENINSULAR	SARAWAK	
	(M$)	(M$)	*a SAME EXPEND. (M$)
RICE	15.95	34.40	15.95
MEAT	2.05	8.13	2.36
CLOTHING & FOOTWEAR	6.45	6.14	7.22
HOUSEHOLD EQUIPMENT	4.99	2.80	5.59
TRANSPORT & COMM.*b	7.30	3.12	8.10

Note: *a - This the cost of purchasing the same goods as Peninsular in Sarawak (equal to expenditure in Peninsular mulitipllied by the difference in price)
*b - transport and communication expenditure
The price of rice is controlled
Peninsular Malaysia refers to 1980, Sarawak refers to 1982
Source: Malaysia, Department of Statistics (1986) & calculated using Anand (1992: 56)

TABLE VII-8
AVAILABLE DATA USED TO CALCULATE SABAH
& SARAWAK POVERTY LINE INCOME

A. SABAH & SARAWAK: PERCENTAGE BREAKDOWN
BY COMPONENT OF 1990 POVERTY LINE

COMPONENT	SABAH	SARAWAK
1. FOOD	50.0%	57.5%
2. CLOTHING	6.8%	7.2%
3. NON FOOD		
A. RENT	23.2%	9.3%
B. FURNITURE	3.0%	3.2%
C. MEDICAL	1.0%	5.7%
D. TRANSPORT	7.6%	7.6%
E. RECREATION	3.5%	4.8%
4. SAFETY MARGIN	4.8%	4.8%
TOTAL	100%	100%

Source: EPU Distribution Section

B. SABAH & SARAWAK: 1987 POVERTY LINE INCOME

	PLI (M$)
SABAH	533
SARAWAK	429

Source: Malaysia (1989: 45)

TABLE VII-9
SABAH: POVERTY LINE INCOME 1977-1990

POVERTY LINE INCOME			
YEAR	5.4 PERSONS (M$)	YEAR	5.36* PERSONS (M$)
1977	389.18		
1978	397.44		
1979	411.43		
1980	438.25	1980	436.33
1981	479.87	1981	477.75
1982	508.66	1982	506.44
1983	534.76	1983	532.46
		1984	539.72
		1985	537.12
		1986	539.77
		1987	533.00
		1988	530.50
		1989	540.69
		1990	552.16

Note: * : The government only changed the average household size in 1993 - 5.1 persons for Sabah
Source: Calculated using Table VII-1 and Malaysia, Ministry of Finance "Economic Report" (various years)

TABLE VII-10
SARAWAK: POVERTY LINE INCOME 1977-1990

POVERTY LINE INCOME			
YEAR	5.6 PERSONS (M$)	YEAR	5.24* PERSONS (M$)
1977	323.22		
1978	328.96		
1979	341.36		
1980	367.71	1980	351.26
1981	406.57	1981	388.36
1982	425.35	1982	406.06
1983	432.64	1983	413.26
		1984	428.01
		1985	418.76
		1986	426.00
		1987	429.00
		1988	438.37
		1989	449.70
		1990	463.40

Note: * : The government only changed the average household size in 1993 - 5.1 persons for Sabah
Source: Calculated using Table VII-1 and Malaysia, Ministry of Finance "Economic Report" (various years)

III. PROBLEMS WITH THE MALAYSIAN POVERTY LINE

The main issue concerning the official poverty line used in Malaysia is the appropriateness of using the same poverty line, updated for inflation, for nearly twenty years. A secondary issue is that, although Malaysia has different poverty lines for the Peninsular, Sabah and Sarawak, it uses a single poverty line for both rural and urban areas within these three regions.

Most Asian countries set different poverty line incomes for rural and urban areas. One reason is that the relationship between food energy intake and consumption expenditure varies across regions. It will vary according to activity levels, relative prices and different tastes. Generally for any given consumption expenditure level, the caloric intake is higher in rural areas than urban areas (Ravaillon 1992: 74-79). Usually, the urban poverty line is higher than the rural poverty line. For example, the 1976 urban poverty line income in Thailand was 49.5 percent higher than the rural poverty line income (Krongkaew 1993). In 1990 the Indonesian urban poverty line calculated by the Indonesian Central Bureau of Statistics was 55.1 percent higher than the rural poverty line income (Booth 1993).

A single poverty line for urban and rural areas, assumes that prices are uniform within the region. It also does not reflect price differentials faced by households in different locations. To the extent that prices do vary by location, an income level which can sustain a household at subsistence level in rural areas may not be able to sustain the same household in urban areas. Certainly the Malaysian government's policy of price control on certain basic food essentials such as rice, sugar, flour, milk and other items, may be one justification for the use of a single poverty line.

However there are still important elements of the poverty line, such as housing and transport, which have different prices in urban and rural areas.

The simple percentage breakdown of the PLI for Peninsular Malaysia into food and non food components can be calculated for the expenditure class below $200 (1973 terms), based on 1980 expenditure patterns (Table VII-11). This suggests that urban households spend about 22 percent more of their income on non-food items, than rural households. Assume that is due in part to the fact that prices of non-food items are say, 15 percent higher in urban areas. Then, a separate PLI for urban areas in Peninsular Malaysia can be obtained by adjusting the overall PLI to reflect this price differential. Using the updated 1977 PLI and adjusting it for price, the 1984 urban PLI is estimated to be M$371.35 for a household of 5.14 persons (Table VII-12). Using this estimate, the 1984 incidence of poverty of urban households in the Peninsular is 9.4 percent. When using a single PLI, the incidence of poverty in urban areas is 8.2 percent (Malaysia 1989: 52), which suggests that the use of a single PLI may underestimate poverty in urban areas.

Even if prices were uniform across urban and rural areas, it could be argued that separate poverty line incomes should still be used for urban and rural areas. The application of a single poverty line in both urban and rural areas makes the strong assumption that consumption patterns for both urban and rural households are similar. Table VII-13A and VII-13B show the average monthly expenditure of relatively poor urban and rural households in Peninsular Malaysia, that is of expenditure classes below $300[3]. Poor rural households spend a greater proportion of their expenditure, on food items compared to poor urban households. For example

TABLE VII-11
PENINSULAR MALAYSIA: PERCENTAGE BREAKDOWN OF PLI BY FOOD AND NON-FOOD ITEMS FOR URBAN AND RURAL AREAS, 1980

	RURAL	URBAN
1. FOOD COMPONENT	44.8%	32.9%
2. NON FOOD COMPONENT	55.2%	67.1%
URBAN-RURAL NON FOOD COMPONENT RATIO =		1.22

Notes:
Based on household expenditure group below $200 (1973 prices)
Source: Calculated using Malaysia, Department of Statistics (1986)

TABLE VII-12
PENINSULAR MALAYSIA: CALCULATING AN URBAN POVERTY LINE, 1984 (current prices).

	OVERALL ($)	URBAN ($)
1. FOOD COMPONENT	219.72	219.72
2. NON-FOOD COMPONENT	116.48	133.95
ADJUSTED FOR URBAN (MULTIPLY BY 1.15)		
3. 5% SAFETY MARGIN	16.81	17.68
POVERTY LINE	353.00	371.35

Notes:
Urban non-food expenditure is adjusted by 1.15
Source: Calculated from Table VII-2

TABLE VII-13
PENINSULAR MALAYSIA: AVERAGE MONTHLY EXPENDITURE FOR HOUSEHOLD EXPENDITURE CLASSES BELOW M$300 BY STRATA, 1980.

TABLE VII-13A: URBAN HOUSEHOLDS

EXPENDITURE GROUP	HOUSEHOLD EXPENDITURE CLASS			
	$0-199		$200-299	
	(M$)	SHARE OF EXP.	(M$)	SHARE OF EXP.
0. FOOD:	56.15	38.6%	75.34	29.7%
1. BEVERAGES/TOBACCO	5.80	4.0%	9.59	3.8%
2. CLOTHING	7.51	5.2%	13.99	5.5%
3. SHELTER	35.62	24.5%	57.96	22.9%
4. HOUSEHOLD GOODS	4.05	2.8%	9.36	3.7%
5. MEDICAL	1.70	1.2%	2.81	1.1%
6. TRANSPORT	6.26	4.3%	12.56	5.0%
7. RECREATION	5.37	3.7%	14.28	5.6%
8. MISCELLANEOUS	23.10	15.9%	57.36	22.6%
TOTAL EXPENDITURE	145.56	100%	253.25	100%

TABLE VII-13A: RURAL HOUSEHOLDS

EXPENDITURE GROUP	HOUSEHOLD EXPENDITURE CLASS			
	$0-199		$200-299	
	(M$)	SHARE OF EXP.	(M$)	SHARE OF EXP.
0. FOOD:	61.54	45.5%	109.72	44.0%
1. BEVERAGES/TOBACCO	4.76	3.5%	11.38	4.6%
2. CLOTHING	6.27	4.6%	13.32	5.3%
3. SHELTER	32.30	23.9%	51.86	20.8%
4. HOUSEHOLD GOODS	5.14	3.8%	10.65	4.3%
5. MEDICAL	0.98	0.7%	1.99	0.8%
6. TRANSPORT	7.52	5.6%	16.84	6.8%
7. RECREATION	2.21	1.6%	9.53	3.8%
8. MISCELLANEOUS	14.44	10.7%	24.08	9.7%
TOTAL EXPENDITURE	135.16	100%	249.37	100%

Source: Malaysia, Department of Statistics (1986)

with households in the expenditure class below M$200.00, 45.5 percent of total expenditure is spent on food in rural households compared to 38.6 percent in urban households. Urban households spend more of their income on non-food items with the exception of household furniture and equipment and transport.

The composition of food expenditure also differs between urban and rural households. Table VII-14, shows that proportion of income spent on rice in urban households is much lower than in rural households. In the household expenditure class below M$200.00, 17.0 percent of the food budget was spent on rice in urban households compared to 27.6 percent in rural households. However, 8.0 percent of food expenditure is spent on meat in urban households compared to only 2.7 percent in rural households. Table VII-14 shows that for the same expenditure group, expenditure for each food component differs between the two regions. Differences in food and non-food consumption patterns should thus give rise to different poverty lines for urban and rural households.

To summarize, Section II clearly demonstrates that the original 1970s poverty line income updated for inflation has been used for nearly twenty years. This approach of adjusting the poverty line income raises the issue of its relevance as a measure of relative deprivation. As is well known, poverty can be seen as a situation of either absolute deprivation or relative deprivation (See Chapter II, Section IV.B). If seen to be one of absolute deprivation, the poverty line income is defined independent of a society's living standard. However, if perceived as a situation of relative deprivation, the poverty line is defined in relation to a society's general style of living.

The Malaysian government claims that poverty is

TABLE VII-14
PENINSULAR MALAYSIA: PERCENTAGE BREAKDOWN
OF FOOD EXPENDITURE, 1980.

FOOD ITEMS:	HOUSEHOLD EXPENDITURE CLASS			
	$0-199		$200-299	
	URBAN	RURAL	URBAN	RURAL
RICE	17.0%	27.6%	14.8%	22.6%
BREAD/CEREAL	12.6%	10.7%	12.7%	10.0%
MEAT	8.0%	2.7%	12.6%	5.9%
FISH	22.4%	20.9%	18.7%	21.3%
MILK/CHEESE/EGGS	5.9%	4.6%	7.3%	5.7%
OILS/FATS	3.2%	4.4%	3.6%	4.5%
FRUITS/VEGETABLE	20.5%	15.6%	20.5%	16.9%
SUGAR	3.9%	7.0%	3.2%	6.3%
COFFEE/TEA	1.7%	2.7%	3.2%	2.4%
OTHER FOODS	4.9%	3.7%	3.5%	4.4%
TOTAL	100%	100%	100%	100%

Source: Calculated from Malaysia, Department of Statistics (1986)

defined relative to the standard of living prevalent in Malaysia (Malaysia 1986: 83). Bhalla and Kharas (1992: 53) state that in 1970, the international poverty line based on purchasing power parities was equivalent to M$18.50 per capita per month. In 1970, the official Malaysian poverty line was identified as M$33.00 per capita per month (Bhalla and Kharas 1992: 52), thus confirming the claim that poverty is officially seen as a situation of relative rather than absolute deprivation. But a poverty line which is updated for inflation over a long period of time ceases to reflect relative deprivation. It will only do so if the Malaysian standard of living has remained constant over the last two decades. Given that real economic growth rates of 7.8 percent per annum were achieved during the 1970s and 6.8 percent per annum during the 1980s, it is obvious that the general standard of living in Malaysia has greatly improved.

Thus it is highly unlikely that consumption patterns in 1989 are identical to those in 1973. In fact, the government itself claims that expenditure patterns in Peninsular Malaysia changed between 1973 and 1980 (Malaysia, Department of Statistics 1986: 47-49). Table VII-15 shows that based on the 1973 HES, poor households spent 63.4 percent of total expenditure on food. By 1980, the proportion of expenditure spent on food, as calculated from HES 1980, had fallen to 48.3 percent. This is consistent with Engels' Law which suggests that the proportion of income spent on food declines as income increases. The percentage composition of the other poverty line components has also changed, the most significant being the proportion of total expenditure spent on shelter. This increased from 11.3 percent in 1973 to 26.9 percent by 1980.

Table VII-16 estimates the 1980 PLI adjusted to

TABLE VII-15
PENINSULAR MALAYSIA: PERCENTAGE BREAKDOWN OF POVERTY LINE COMPONENTS FOR EXPENDITURE CLASS BELOW M$200 (M$ 1973 prices), BASED ON HES 1973 AND HES 1980

	1973 (%)	1980 (%)
FOOD	63.4	48.3
CLOTHING	8.9	5.8
SHELTER	11.3	25.6
HOUSEHOLD GOOD	2.4	4.4
MEDICAL	1.0	0.9
TRANSPORT	5.4	6.7
RECREATION	2.7	3.6
5% SAFETY MARGIN	5.0	5.0
TOTAL	100	100

Note:
$200 in 1973 prices is equivalent to $305.80 in 1980 prices. However, due to the format of the data, the cut-off expenditure group used to calculate the breakdown of the poverty line income is $200-299.

Sources:
1973: Mahbob (1976)
1980: This is a weighted average of the expenditure groups $0-199 and $200-299. Malaysia, Department of Statistics (1986)

TABLE VII-16
ADJUSTING 1980 PENINSULAR MALAYSIA PLI TO REFLECT CHANGE IN CONSUPMTION PATTERNS BASED ON HES 1980.

COMPONENTS	HOUSEHOLD SIZE 5.4 1980 $	% TOTAL	HOUSEHOLD SIZE 5.14 1980 $	% TOTAL
1. FOOD	178.45	48.3%	169.86	47.3%
2. CLOTHING	21.35	5.8%	20.32	5.7%
3. NON FOOD				
A. RENT	94.24	25.5%	94.24	26.3%
B. FURNITURE	16.20	4.4%	16.20	4.5%
C. MEDICAL	3.31	0.9%	3.31	0.9%
D. TRANSPORT	24.66	6.7%	24.66	6.9%
E. RECREATION	13.25	3.6%	13.25	3.7%
TOTAL	351.46		341.84	
4. 5% SAFETY MARGIN	17.57	4.8%	17.09	4.8%
POVERTY LINE	369.46	100%	358.93	100%

Note: Calculated using Tables VII-3 and 15

reflect the changes in consumption pattern given in Table VII-15. The 1977 food component is updated, using the CPI for inflation, to obtain the 1980 food component, M$178.45. This value is then taken to be 48.3 percent of the new PLI. Using the HES 1980 expenditure patterns in Table VII-15, the remaining components are then calculated as a proportion of this new PLI. The 1980 PLI estimate is M$358.93 for a household size of 5.14 persons. This is clearly considerably higher than M$276.96 (Table VII-4), the 1980 PLI not adjusted for changes in consumption patterns.

To summarize, the basic flaws with the official Malaysian PLI are:

a) the use of the CPI to adjust over time
b) failure to allow for differences in urban and rural living costs
c) failure to allow for changing consumer patterns as income grows

These points suggest that the official PLI underestimates the extent of poverty that currently exists in Malaysia. Adjusting the PLI only for inflation fails to allow for changes in consumption patterns which have occurred during the last twenty years. Therefore the PLI may no longer reflect the appropriate minimum needs basket required to sustain an average household at "subsistence level". In addition, a single PLI which is not adjusted for regional price differences may fail to include those living below the accepted living standards in more expensive areas. For example, urban poverty may be underestimated as the income level required to sustain a household at subsistence level in rural areas may not be able to do so, for the same household, in urban areas.

IV. A PROFILE OF POVERTY IN 1989

This section discusses the profile of poverty based on the official Malaysian per capita poverty line income. Section II estimated the 1989 Peninsular Malaysia PLI for a household size of 5.14 persons as M$ 375.98. Thus the per capita PLI is M$73.15 per month. Similarly the per capita PLIs for Sabah and Sarawak are estimated at M$100.88 and M$85.82 per month, respectively.

This discussion identifies the poor in terms of socioeconomic variables such as location, ethnic group, main source of income, education, employment status, and occupation. The variables, education, occupation, age, sector of employment and employment status, refer to that of the head of household. In addition this analysis will not only look at the concentrations of poverty but also the high-risk poverty groups. i.e. socioeconomic groups which have a particularly high incidence of poverty although they may account for a small percentage of overall poverty.

A. PENINSULAR MALAYSIA

Tables VII-17 to 21 illustrate the characteristics of households and the head of households in Peninsular Malaysia based on monthly per capita income[4]. The problem of poverty is seen to be predominantly a rural one, with 87.8 percent of poor households living in rural areas (Table VII-17B). Poverty is also very largely a Malay phenomenon. In 1989 88.3 percent of poor households are Malay, of which 89.5 percent reside in rural areas. Chinese and Indian households each account for less than 6 percent of total poverty (Table VII-17C). The incidence is highest for rural Malay households with more than 17 percent suffering from poverty. This is nearly double that of the Peninsular

TABLE VII-17
PENINSULAR: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - LOCATION, RACE, RACE & LOCATION (PLI = M$ 73.15*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
PENINSULAR MALAYSIA			10.6%
TABLE VII-17B: LOCATION			
URBAN	35.6%	12.2%	3.4%
RURAL	64.4%	87.8%	13.5%
TOTAL	100.0%	100.0%	
TABLE VII-17C: RACE			
MALAY	60.0%	88.3%	14.6%
CHINESE	30.3%	5.9%	1.9%
INDIAN	9.3%	5.5%	5.9%
TOTAL*b	99.7%	99.7%	
TABLE VII-17D: RACE & LOCATION			
URBAN MALAY	14.9%	9.3%	6.2%
RURAL MALAY	45.2%	79.0%	17.4%
URBAN CHINESE	16.6%	1.6%	1.0%
RURAL CHINESE	13.7%	4.3%	3.1%
URBAN INDIAN	3.9%	1.2%	3.2%
RURAL INDIAN	5.4%	4.3%	7.8%
TOTAL*b	99.6%	99.7%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
3. *b - As "Other races" are omitted, the total is less than 100%
Source: HIS 1989

TABLE VII-18
PENINSULAR: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - STATE, EDUCATION (PLI = M$ 73.15*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
TABLE VII-18A: STATE			
JOHOR	15.4%	8.1%	5.2%
KEDAH	9.3%	20.2%	21.5%
KELANTAN	7.8%	19.9%	25.4%
MALACCA	3.7%	1.8%	5.0%
N. SEMBILAN	4.6%	2.1%	4.5%
PAHANG	7.5%	4.7%	6.1%
PENANG	7.4%	2.7%	3.6%
PERAK	13.8%	17.2%	12.4%
PERLIS	1.5%	1.7%	11.5%
SELANGOR	15.5%	6.7%	4.3%
TRENGGANU	5.0%	13.9%	27.6%
KL	8.6%	1.1%	1.3%
TOTAL	100.0%	100.0%	
TABLE VII-18B: EDUCATION OF HEAD*b			
NONE	16.0%	27.1%	16.9%
RELIGIOUS	0.1%	0.2%	18.9%
NO CERT	55.6%	67.4%	12.0%
LCE	6.7%	3.0%	4.4%
VOCATIONAL	0.2%	0.0%	0.0%
MCE	13.9%	2.0%	1.4%
HSC	1.9%	0.3%	1.6%
DIPLOMA	2.9%	0.0%	0.0%
UNIVERSITY	2.7%	0.0%	0.1%
UNKNOWN	0.0%	0.0%	100.0%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
3. *b - highest level of education attained by the head of household
Source: HIS 1989

TABLE VII-19
PENINSULAR: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - INCOME RECIPIENTS, SECTOR OF EMPLOYMENT (PLI = M$ 73.15*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
TABLE VII-19A: NUMBER OF INCOME RECIPIENTS			
0	0.0%	0.1%	100.0%
1	48.5%	62.6%	12.8%
2	30.9%	27.2%	8.7%
3	12.5%	7.4%	5.9%
4	5.1%	2.1%	4.1%
5	1.8%	0.5%	2.8%
6+	1.1%	0.1%	0.7%
TOTAL	100.0%	100.0%	
TABLE VI-19B: SECTOR OF EMPLOYMENT OF HEAD*b			
NOT ADEQUATELY DEFINED	17.5%	18.1%	10.2%
AGRICULTURAL	24.4%	57.2%	23.3%
MINING/QUARRYING	0.6%	0.3%	5.4%
MANUFACTURING	10.5%	4.6%	4.3%
PUBLIC UTILITIES	0.9%	0.1%	1.2%
CONSTRUCTION	5.4%	5.4%	9.8%
WHOLESALE/RETAIL/HOTELS	13.2%	6.4%	4.8%
TRANSPORT/COMMUNICATION	5.2%	2.5%	4.8%
FINANCE/INSURANCE	3.1%	0.5%	1.7%
COMMUNITY/SOCIAL SEVICES	19.1%	4.9%	2.5%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
3. *b - sector of employment of the head of household
Source: HIS 1989

TABLE VII-20
PENINSULAR: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - OCCUPATION, ACTIVITY STATUS (PLI = M$ 73.15*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
TABLE VII-20A: OCCUPATION OF HEAD			
NONE	17.5%	18.1%	10.2%
PROFESSIONAL/TECHNICAL	6.7%	0.7%	1.1%
ADMINSTRATIVE/MANAGERIAL	3.2%	0.2%	0.6%
CLERICAL/RELATED	5.8%	0.4%	0.7%
SALES	9.2%	4.7%	5.1%
SERVICES	10.5%	3.2%	3.0%
AGRICULTURAL	25.0%	58.1%	23.0%
PRODUCTION	22.1%	14.6%	6.6%
TOTAL	100.0%	100.0%	
TABLE VII-20B: ACTIVITY STATUS			
SELF-EMPLOYED	31.3%	56.3%	17.9%
EMPLOYEE	50.8%	25.1%	4.9%
FAMILY WORK	0.4%	0.6%	12.8%
HOUSEWORK	9.9%	9.2%	9.2%
OTHER WORK	7.6%	8.9%	11.6%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
Source: HIS 1989

TABLE VII-21
PENINSULAR: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - AGE, MAIN SOURCE OF INCOME (PLI = M$ 73.15*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
TABLE VII-21A: AGE OF HEAD*b			
UNDER 14	0.0%	0.2%	84.6%
15-19	0.9%	0.7%	8.6%
20-24	4.0%	1.1%	2.8%
25-29	9.7%	5.5%	5.6%
30-34	13.4%	11.3%	8.4%
35-39	14.1%	16.5%	11.6%
40-44	12.5%	16.5%	13.1%
45-64	34.7%	34.5%	9.9%
OVER 65	10.6%	13.5%	12.7%
TOTAL	100.0%	100.0%	
TABLE VII-21B: MAIN SOURCE OF INCOME			
PAID-EMPLOYMENT	62.0%	31.9%	5.1%
SELF-EMPLOYED	27.4%	51.9%	18.8%
RENT	1.0%	2.3%	22.2%
PROPERTY	0.3%	0.4%	13.3%
GROSS TRANSFERS	9.3%	13.5%	14.3%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
3. *b - head refers to the head of household
Source: from HIS 1989

Malaysian average of 10.6 percent.

Kedah, Kelantan, Perak and Trengganu collectively account for over 70 percent of poor households in Peninsular Malaysia. These four states also have the highest incidence of poverty. Although of the four states, Trengganu's share of poor households is the lowest, 13.9 percent compared to Kedah's 20.2 percent, it has the highest incidence of poverty. Almost 30 percent of Trengganu households fall below the poverty line (Table VII-18A).

A strong negative correlation exists between education and poverty. The highest incidence of poverty is found where the head of household's education, falls below Secondary 3 (Lower Certificate of Education, LCE) or he/she attended a religious school. However, those attending religious schools make up only 0.2 percent of poor households. On the other hand, 94.5 percent of poor households are headed by persons having either no or less than LCE education. Among household heads obtaining the LCE, the incidence of poverty falls from 12 percent to 4.4 percent (Table VII-18B).

A negative correlation also exists between poverty and the number of income recipients. As expected, when there are no income earners, the incidence of poverty is 100 percent. However only 0.1 percent of poor households fall into this category. The incidence of poverty drops to 12.8 percent for a single income recipient household and when there are six or more recipients the incidence lowers to 0.7 percent (Table VII-19A).

The incidence of poverty is highest among households with heads in the agricultural sector. Almost 25 percent of these households are poor and they comprise almost 60 percent of poor households (Table

VII-19B). Similar figures are seen for household heads engaged in agricultural occupations (Table VII-20A). Although accounting for a quarter of poor households, the poverty incidence of employee headed households is below 5 percent and is the lowest for this socioeconomic category. The highest incidence, 17.9 percent, is among households headed by the self-employed, who also form the largest proportion of poor households (Table VII-20B).

Looking at the age of the head of household, the highest incidence is found for those under fourteen years of age. Almost 85 percent of such households are poor, but as less than 0.02 percent of all households are headed by persons below the age of fourteen, only 0.2 percent of poor households are of this type. There does not appear to be a strong correlation between age and poverty although higher incidences are observed for the ages between 35 and 45 and above 65 (Table VII-21A). However, the difference is not as pronounced as in the case of households headed by some of the other socioeconomic characteristics.

However a common factor among the socioeconomic characteristics which have a high incidence of poverty is that they are disproportionately over-represented by the Malay ethnic group. For example the incidence of poverty in rural areas is 13.5 percent. Almost 70 percent of rural households are Malay households. The incidence of poverty is also high for households headed by individuals employed in the agricultural sector (Table VII-19B). In 1990, 75 percent of those employed in the agricultural sector were Bumiputeras (Malaysia 1989: 65).

Although the incidence of poverty for the different socioeconomic groups has fallen dramatically since 1970,

a comparison with Anand's 1983 study shows that the composition of poor households has remained relatively similar. Using 1970 data and a poverty line of M$33.00, Anand claimed that 85.2 percent of poor households were located in rural areas, 73.0 percent were Malay households and 76.8 percent received little or no form of education (Anand 1983: 139-141). The percentage distribution among poverty households in 1989 and 1970, as reflected by race and location, are strikingly similar (Table VII-22). Although the composition of poor households by ethnic group has changed, poverty continues to be a Malay problem. In fact the Malay share of poor households has risen to 88.3 percent in 1989 compared with 73.0 percent in 1970[5].

This may be attributed to the use of a single poverty line for both urban and rural areas in Peninsular Malaysia. Using a single poverty line may underestimate the number of poor households in urban areas and thus underestimate the number of poor Chinese households. Applying the methodology used in Section III, my estimate for the 1989 per capita urban PLI is M$ 76.98. Using this PLI in urban areas the incidence of poverty, based on monthly per capita household income is 4.3 percent. The official 1989 per capita PLI, estimated at M$ 73.15, results in an incidence of poverty of only 3.4 percent in urban areas.

In addition, there is a greater proportion of Chinese and Indian households in urban areas, compared to rural areas. The HIS 1989 estimates that 46.7 percent of urban households are Chinese, 41.8 percent Malay and 10.9 percent Indian. Among rural households, 70.1 percent are Malay, 21.2 percent are Chinese and 8.4 percent are Indians. If the use of a single poverty line underestimates urban poverty, an important implication is that the number of poor Chinese and Indian households

TABLE VII-22
PENINSULAR MALAYSIA: PERCENTAGE COMPOSITION OF POOR HOUSEHOLDS BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1970 AND 1989.

	1970	1989
POVERTY LINE (Current M$ prices)	$33.00	$73.15
URBAN	14.8%	12.2%
RURAL	85.2%	87.8%
TOTAL:	100.0%	100.0%
MALAY	73.0%	88.3%
CHINESE	16.0%	5.9%
INDIAN	9.3%	5.5%
TOTAL:*	98.3%	99.7%

Note:
1. M$ 33.00 in 1970 prices is equivalent to M$79.00 in 19 prices. Of the three poverty lines used by Anand (1983), t is the closest, in real terms to the 1989 poverty line of M$73.15. The other two poverty lines used M$15.00 and M$25.00 are equivalent to M$35.91 and M$59.85 in 1989 prices respectively.
2. *= The total percentage composition does not add up t 100% as the value for "Other races" has been omitted.

Source: Anand (1983:139); HIS 1989.

may also be underestimated. As a result, the percentage contribution of Chinese and Indian races to poverty may be under-represented when using the official PLI.

Table VII-23 compares the incidence of poverty obtained when using the single official PLI and when using the estimated urban PLI. The results show that urban poverty is underestimated for each ethnic group. Using the urban PLI the incidence of poverty among urban households increased from 6.2 to 7.5 percent for Malay households, 1.1 to 1.4 percent for Chinese households and 3.2 to 4.2 percent for Indian households. This in turn results in a change in the ethnic percentage breakdown of poor households. The share of both Chinese and Indian households as a proportion of poor households increased, while that of Malays households decreased. The share of Chinese households increased from 5.9 to 6.4 percent of poor households, while that of Indian households increased from 5.5 to 5.7 percent (Table VII-24). Even so, the figures still indicate that poverty is predominantly a rural problem as 84.9 percent of poor households consist of rural Malay, Chinese and Indian households.

As mentioned in Chapter II, Section IV.B, the incidence of poverty fails to consider the extent to which the income of the poor, falls below the PLI. The poverty gap measures the difference between the mean income of the poor and the PLI. Table VII-25A shows that although the incidence of poverty is 3.4 percent in urban areas and 13.5 percent in rural areas, the poverty gap in urban areas, at 20.9 percent, is less than 3 percentage points lower than the poverty gap in rural areas. Similarly within each of the different races, although there were marked differences in the headcount measure between urban and rural areas, the poverty gap was fairly similar. In ringgit terms the mean income of

TABLE VII-23
PENINSULAR MALAYSIA: THE INCIDENCE OF URBAN POVERTY BY RACE BASED ON PER MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989

RACE	INCIDENCE OF POVERTY	
	*a ESTIMATED URBAN PLI (%)	*b OFFICIAL SINGLE PLI (%)
MALAY	7.5	6.2
CHINESE	1.4	1.1
INDIAN	4.2	3.2

Note: *a - methodology used to calculate 1989 urban PLI is demonstrated in Table VII-13
*b - official estimates use a single PLI for urban and rural households
Source: Table VII-17D & calculated using HIS 1989

TABLE VII-24
PENINSULAR MALAYSIA: PERCENTAGE BREAKDOWN OF POOR HOUSEHOLDS BY ETHNIC GROUP, 1989.

RACE	POOR HOUSEHOLDS	
	*a AUTHOR'S ESTIMATE (%)	OFFICIAL ESTIMATE (%)
MALAY	87.6	88.3
CHINESE	6.4	5.9
INDIAN	5.7	5.5
TOTAL *b	99.7	99.7

Note: *a - author uses a separate PLI for urban and rural areas to calculate the number of poor households
*b - total percentage composition does not add up to 100% as "other races" have been omitted
Source: HIS 1989 & calculated using HIS 1989

TABLE VII-25
PENINSULAR MALAYSIA: POVERTY BY SELECTED CHARACTERISTICS, 1989.

STATE	INCIDENCE OF POVERTY (%)	POVERTY GAP (%)
TABLE VII-25A: LOCATION		
URBAN	3.4	20.9
RURAL	13.5	23.6
TABLE VII-25B: RACE		
MALAY	14.6	24
CHINESE	1.9	18
INDIAN	5.9	18.4
TABLE VII-25C: LOCATION & RACE		
MALAY URBAN	6.2	22.4
MALAY RURAL	17.4	24.2
CHINESE URBAN	1	16
CHINESE RURAL	3.1	18.8
INDIAN URBAN	3.2	18
INDIAN RURAL	7.8	18.5

Notes:
1. Incidence of poverty figures are official estimates
2. Poverty gap is defined as 100 minus the ratio of the mean income of the poor to the poverty line
3. Refer to Section 2 for calculation of poverty line
4. The poverty line used is M$ 73.15
Source: HIS 1989 & calculated using HIS 1989

poor urban Malay households at M$56.77, was only $1.35 higher than the mean income of poor rural Malay households. This suggests that although the number of poor households for each ethnic group varies by location (urban or rural), the depth of poverty, as measured by the extent to which the incomes of the poor fall short of the poverty line, in both locations is fairly similar.

B. SABAH AND SARAWAK

Economic and social dualism is prevalent in Sabah and Sarawak as a consequence of the creation of economic enclaves in an otherwise traditional society. The majority of Sabah and Sarawak's population reside in rural areas and are involved in low productivity, labour intensive traditional activities. As a result of economic dualism, an unbalanced pattern of economic development between the economic enclaves and the rest of the economy exists.

There is a concentration of socioeconomic facilities and services in the growth centres, while large areas remain relatively undeveloped. The lack of infrastructure in Sabah and Sarawak is evident, as large areas are still inaccessible by road. This gives rise to the existing fragmented spatial structure. Without a good or even basic road infrastructure, as well as strong economic and social linkages between the modern and traditional sectors, the spread of development will be slow. In addition, inadequate access to education and employment opportunities in the formal sector will cause poverty to persist.

Although the two states are similar, a detailed poverty profile will be developed for Sabah and Sarawak separately.

i. Sabah

Using the official PLI, the incidence of poverty in Sabah, at 26.3 percent, is more than double that of Peninsular Malaysia, in 1989. Tables VII-26 to 28 show the profile of poverty for 1989. Poverty is predominantly a rural phenomenon, 90 percent of poor households are in rural areas. In addition, almost 30 percent of rural households live below the poverty line compared to 12.7 percent of urban households (Table VII-26A).

In Sabah 37.1 percent of poor households are made up of immigrants from Indonesia and the Philippines. Of the remaining 62.9 percent, 97.6 percent (i.e. 61.4 percent of poor households) consist of indigenous races. However, in contrast to Peninsular Malaysia, in Sabah the Malays only form 2.3 percent of the total poor and the incidence of poverty among Malays is only 8.8 percent. This is considerably lower than all other indigenous groups, where the incidence of poverty is higher than 30 percent in every case. The other indigenous races, Kadazan, Bajau and Murut collectively make up almost half of the poor in 1989. Although Murut households only represent 3.3 percent of total poor, almost forty out of every hundred are poor (Table VII-26B).

There appears to be an exceptionally strong negative relationship between the educational attainment of the household head and poverty (Table VII-27A). The highest incidence of poverty is found among those whose household heads have no education, 43.1 percent. Almost 98 percent of poor households have little or no education. Even when only the Lower Certificate of Education (LCE)[6] is obtained, the incidence falls dramatically to 6 percent.

TABLE VII-26
SABAH: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989- LOCATION, RACE (M$ 100.88*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
SABAH			26.3%
TABLE VII-26A: LOCATION			
URBAN	19.8%	9.5%	12.7%
RURAL	80.2%	90.5%	29.7%
TOTAL	100.0%	100.0%	
TABLE VI-26B: RACE			
MALAY	6.9%	2.3%	8.8%
CHINESE	17.0%	1.4%	2.2%
INDIAN	1.1%	0.2%	4.8%
KADAZAN	22.7%	33.3%	38.7%
BAJAU	8.4%	10.3%	32.3%
MURUT	2.3%	3.3%	37.3%
OTHER INDIGENOUS	10.4%	12.2%	30.9%
INDONESIAN	19.1%	20.6%	28.4%
FILIPINO	11.6%	16.5%	37.4%
OTHERS	0.6%	0.0%	1.8%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
Source: HIS 1989

TABLE VII-27
SABAH: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - EDUCATION, SECTOR OF EMPLOYMENT (M$ 100.88*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
TABLE VII-27A: EDUCATION OF HEAD*b			
NONE	25.1%	41.0%	43.1%
RELIGIOUS	0.0%	0.0%	0.0%
NO CERT	54.7%	56.8%	27.3%
LCE	8.5%	1.9%	6.0%
VOCATIONAL	0.3%	0.0%	0.0%
MCE	7.9%	0.2%	0.7%
HSC	0.5%	0.0%	0.0%
DIPLOMA	1.3%	0.0%	0.0%
UNIVERSITY	1.7%	0.0%	0.0%
TOTAL	100.0%	100.0%	
TABLE VII-27B: SECTOR OF EMPLOYMENT OF HEAD*b			
NOT ADEQUATELY DEFINED	10.2%	7.2%	18.6%
AGRICULTURAL	39.6%	70.7%	47.0%
MINING/QUARRYING	0.8%	0.2%	8.5%
MANUFACTURING	6.7%	3.9%	15.4%
PUBLIC UTILITIES	0.7%	0.3%	12.6%
CONSTRUCTION	5.4%	4.1%	20.3%
WHOLESALE/RETAIL/HOTELS	11.2%	4.7%	11.1%
TRANSPORT/COMMUNICATION	6.1%	3.2%	13.9%
FINANCE/INSURANCE	1.9%	0.3%	4.6%
COMMUNITY/SOCIAL SEVICES	17.4%	5.1%	7.8%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
*b - head refers to head of household
Source: HIS 1989

TABLE VII-28
SABAH: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE
BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 -
ACTIVITY STATUS, INCOME RECIPIENTS , OCCUPATION (M$ 100.88*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
TABLE VII-28A: ACTIVITY STATUS			
SELF-EMPLOYED	35.2%	57.5%	43.0%
EMPLOYEE	54.5%	35.0%	16.9%
FAMILY WORK	0.1%	0.3%	69.2%
HOUSEWORK	4.4%	3.8%	22.6%
OTHER WORK	5.8%	3.4%	15.7%
TOTAL	100.0%	100.0%	
TABLE VII-28B: NUMBER OF INCOME RECIPIENTS			
1	57.4%	73.2%	33.6%
2	27.6%	20.9%	20.0%
3	9.3%	4.5%	12.8%
4	3.6%	1.1%	8.3%
5	1.3%	0.2%	3.5%
6+	0.8%	0.0%	1.4%
TOTAL	100.0%	100.0%	
TABLE VII-28C: OCCUPATION OF HEAD			
NONE	10.2%	7.2%	18.6%
PROFESSIONAL/TECHNICAL	5.6%	0.5%	2.1%
ADMINSTRATIVE/MANAGERIAL	2.6%	0.2%	2.4%
CLERICAL/RELATED	5.9%	1.0%	4.5%
SALES	7.6%	3.2%	11.2%
SERVICES	7.3%	3.3%	12.0%
AGRICULTURAL	38.4%	70.3%	48.2%
PRODUCTION	22.4%	14.2%	16.7%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
Source: HIS 1989

The highest risk group was found to be employed in the agricultural sector, where almost 50 percent of households live below the poverty line. Agricultural households also comprise over 70 percent of the Sabah poor. Poverty is thus over-represented in the agricultural sector, as less than 40 percent of total households in Sabah are involved in this sector (Table VII-27B). More than half of poor households are accounted for by those households whose heads are self employed. The highest risk group is the group engaged in family work (Table VII-28A). In this instance, the incidence of poverty is almost 70 percent. However, as only 0.1 percent of Sabah's total population falls into this activity status, its contribution to total poverty is merely 0.3 percent.

As in the case of educational attainment, a negative relationship exists between poverty and the number of income recipients. The lower the number of earners, the higher the risk of being poor. The incidence of poverty of a one income recipient household is 33.6 percent. An additional income recipient reduces the incidence of poverty to 20.0 percent. If there are more than six income recipients, the incidence of poverty falls to 1.4 percent (Table VII-28B). The composition of poverty is thus dominated by the high risk groups and 94.1 percent of poor households have two or less income recipients.

To summarize, poverty is widespread among the Bumiputera communities, excluding the Malays. As is the case in West Malaysia, poverty is both predominantly a rural and an agricultural phenomenon. As more than half of the rural population consist of Bumiputeras engaged in the agricultural sector, they continue to be the group with the highest risk of being poor.

ii. Sarawak

Using their respective official PLIs, the incidence of poverty in Sarawak is considerably lower than in Sabah in 1989, 16.2 percent compared to 26.3 percent. Here, poverty is virtually a rural problem only, with almost 98 percent of poor households living in rural areas (Table VII-29A). The incidence of urban poverty is a mere 2 percent compared with 19.4 percent in rural areas. The racial composition of poor households is similar to that of total households with the exception of the Iban and Chinese. Iban households form 30 percent of total households but they account for 46 percent of poor households. On the other hand, the Chinese, accounting for 30 percent of Sarawak's population, make up less than 6 percent of poverty (Table VII-29B). When looking at location and race, even the indigenous households living in urban areas constitute a very small proportion of poverty and the incidence is very low (less than 5 percent for all groups, Table VII-30A). Thus, poverty is very much confined to the indigenous races living in rural areas.

Poverty is also widespread among households whose heads have little or no formal schooling as well as those self-employed in the agricultural sector (Tables VII-30B and 31B). Almost 99 percent of poverty is made up of households whose heads have not completed the LCE. Nearly 72 percent are self employed (Table VII-31A) and just under 82 percent are working in the agricultural sector. There appears to be a strong positive relationship between the incidence of poverty and the composition of poverty[7]. For each of these socioeconomic variables, the characteristic accounting for the greatest proportion of poor households also has the highest incidence. For example in the category "sector of employment of household head", the highest incidence of poverty was observed for households headed by

TABLE VII-29
SARAWAK: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - LOCATION, RACE (M$ 85.82*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
SARAWAK			16.2%
TABLE VII-29A: LOCATION			
URBAN	18.6%	2.3%	2.0%
RURAL	81.4%	97.7%	19.4%
TOTAL	100.0%	100.0%	
TABLE VII-29B: RACE			
MALAY	19.2%	17.3%	14.6%
IBAN	30.2%	46.0%	24.7%
BIDAYUH	7.6%	13.1%	28.0%
MELANAU	6.1%	9.6%	25.2%
OTHER INDIGENOUS	5.8%	8.3%	23.1%
CHINESE	30.4%	5.5%	2.9%
OTHERS	0.8%	0.1%	2.4%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
Source: HIS 1989

TABLE VII-30
SARAWAK: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - LOCATION & RACE, EDUCATION (M$ 85.82*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
TABLE VII-30A: LOCATION & RACE			
URBAN MALAY	2.7%	0.6%	3.3%
RURAL MALAY	16.4%	16.8%	16.5%
URBAN IBAN	2.5%	0.6%	4.1%
RURAL IBAN	27.7%	45.4%	26.5%
URBAN BIDAYUH	0.6%	0.1%	2.5%
RURAL BIDAYUH	7.0%	13.0%	30.1%
URBAN MELANAU	0.9%	0.3%	5.0%
RURAL MELANAU	5.2%	9.3%	28.9%
URBAN CHINESE	11.1%	0.6%	0.9%
RURAL CHINESE	19.2%	4.9%	4.1%
TOTAL*b	93.4%	91.6%	
TABLE VII-30B: EDUCATION OF HEAD			
NONE	32.3%	55.5%	27.7%
RELIGIOUS	0.1%	0.0%	0.0%
NO CERT	46.8%	43.1%	14.9%
LCE	7.1%	0.9%	2.1%
VOCATIONAL	0.1%	0.0%	0.0%
MCE	7.6%	0.4%	0.8%
HSC	0.7%	0.0%	0.0%
DIPLOMA	2.8%	0.0%	0.0%
UNIVERSITY	2.5%	0.1%	0.8%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
3. *b - As "Other races" are omitted, the total is less than 100%
Source: HIS 1989

TABLE VII-31
SARAWAK: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - MAIN SOURCE OF INCOME, SECTOR OF EMPLOYMENT (M$ 85.82*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
TABLE VII-31A: MAIN SOURCE OF INCOME			
PAID-EMPLOYMENT	50.5%	15.8%	5.0%
SELF-EMPLOYED	37.1%	71.8%	31.3%
RENT	0.8%	1.1%	23.1%
PROPERTY	0.2%	0.0%	0.0%
GROSS TRANSFERS	11.5%	11.3%	15.9%
TOTAL	100.0%	100.0%	
TABLE VII-31B: SECTOR OF EMPLOYMENT OF HEAD			
NOT ADEQUATELY DEFINED	11.3%	9.2%	13.1%
AGRICULTURAL	42.1%	80.8%	31.0%
MINING/QUARRYING	0.4%	0.4%	14.1%
MANUFACTURING	5.7%	1.8%	5.0%
PUBLIC UTILITIES	0.7%	0.3%	7.0%
CONSTRUCTION	5.9%	2.2%	6.0%
WHOLESALE/RETAIL/HOTELS	8.8%	1.7%	3.1%
TRANSPORT/COMMUNICATION	4.0%	1.1%	4.3%
FINANCE/INSURANCE	2.2%	0.2%	1.5%
COMMUNITY/SOCIAL SEVICES	18.8%	2.5%	2.1%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
Source: HIS 1989

TABLE VII-32
SARAWAK: POVERTY PROFILE AT THE OFFICIAL POVERTY LINE BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - INCOME RECIPIENTS, AGE (M$ 85.82*a)

SELECTED CHARACTERISTIC OF HOUSEHOLD	PERCENT OF TOTAL HHOLDS	PERCENT OF POOR HHOLDS	INCIDENCE OF POVERTY
TABLE VII-32A: NUMBER OF INCOME RECIPIENTS			
1	42.4%	41.6%	15.9%
2	28.4%	30.8%	17.6%
3	16.1%	17.0%	17.1%
4	7.8%	7.9%	16.3%
5	3.5%	1.8%	8.1%
6+	1.9%	0.9%	8.0%
TOTAL	100.0%	100.0%	
TABLE VII-32B: AGE OF HEAD			
UNDER 14	0.0%	0.0%	0.0%
15-19	0.7%	0.5%	11.0%
20-24	3.9%	2.0%	8.2%
25-29	10.5%	7.4%	11.3%
30-34	14.1%	13.5%	15.4%
35-39	14.4%	16.6%	18.7%
40-44	13.1%	12.8%	15.8%
45-64	33.6%	35.7%	17.2%
OVER 65	9.6%	11.6%	19.4%
TOTAL	100.0%	100.0%	

Note: 1. Incidence of poverty figures are official estimates
2. *a - Author's estimate of official PLI as calculated in Section 2
Source: HIS 1989

individuals involved in the agricultural sector, 31.0 percent (Table VII-31B). The same group of households also made up 80.8 percent of total poor households.

As in Peninsular Malaysia and Sabah, a negative relationship exists between the number of income recipients and the proportion of poor households. Single income earner households account for the largest proportion of poor households, i.e. 41.6 percent of poor households in Sarawak have only one income earner. However while in Sabah the incidence of poverty decreases as the number of income recipients increase, the risk of being poor in Sarawak is fairly similar for all households having less than five income recipients (Table VII-32A). A possible explanation for the difference may lie with Sabah's large immigrant population. A large number of immigrant households may also be single member households, as only the fit and able search for work abroad. These immigrants then remit money back to those family members left behind. This would account for the higher incidence of poverty in a single recipient household observed in Sabah than either Sarawak or Peninsular Malaysia, 33.6 percent in Sabah as opposed to 15.9 and 12.8 percent in Sarawak and Peninsular Malaysia (Tables VII-19A, 28B and 32A).

The age of the household's head is not an important characteristic as the probability of being poor is fairly similar for all age groups at and above the age of thirty (between 15 and 20 percent incidence of poverty). For the ages between fifteen and thirty the incidence of poverty falls to between 8 and 11 percent. With regards to the composition of poor households by age, it is fairly well represented by Sarawak's population breakdown.

C. Conclusion

To evaluate the severity of poverty among poor households in the different states, the poverty gap was calculated by state. While those with the highest incidences of poverty also had the largest poverty gaps, Sabah, Kelantan, Trengganu and Kedah, this was not observed at the other end of the spectrum. Kuala Lumpur, whose incidence of poverty was 1.3 percent in 1989, had a poverty gap of 19.2 (Table VII-33). This poverty gap was the seventh lowest (eighth highest) value. The state with the lowest poverty gap, Negri Sembilan - 10.2 percent, was only ranked fifth lowest in terms of the headcount measure. This shows that although the number of households falling below the PLI is greater in Negri Sembilan compared to Kuala Lumpur, the average poor household in Negri Sembilan is better off than the average poor household in Kuala Lumpur.

The large disparities observed using the two different poverty measures arises from the fact that while the incidence of poverty is completely insensitive to the extent to which the incomes of the poor fall below the poverty line, the poverty gap is completely insensitive to the number of poor falling below the poverty line. Therefore a poverty measure incorporating the different aspects of poverty, the Sen index, was calculated. As discussed in Chapter II, Section IV.B, the Sen index incorporates these two related but distinct aspects of poverty. In addition it also includes a measure of inequality of the distribution of income of the poor. This third property allows the Sen index to reflect changes in income that may occur among the poor. For example a transfer of income from a poor person to one less poor but also below the poverty line (before and after the transfer). It can be argued that this change has increased aggregate poverty as the poorer person is worse of than before the transfer and

TABLE VII-33
MALAYSIA: POVERTY BY STATE, 1989

STATE	INCIDENCE OF POVERTY (%)	POVERTY GAP (%)	SEN INDEX
JOHOR	5.2	16.3	0.012
KEDAH	21.5	27.5	0.080
KELANTAN	25.4	23.7	0.082
MALACCA	5.0	17.1	0.012
N. SEMBILAN	4.5	10.2	0.006
PAHANG	6.1	13.5	0.011
PENANG	3.6	18.0	0.010
PERAK	12.4	24.3	0.042
PERLIS	11.5	16.4	0.027
SELANGOR	4.3	26.0	0.016
TRENGANNU	27.6	27.5	0.104
KL	1.3	19.2	0.004
PENINSULAR	10.6	23.3	0.034
SABAH	26.3	32.4	0.111
SARAWAK	16.2	24.6	0.054

Notes:
1. Poverty gap is defined as 100 minus the ratio of the mean income of the poor to the poverty line
2. Sen Index is defined as $H\{I+(1-I)G\}$ where,
H = Incidence of Poverty, I = Poverty Gap and
G = Gini Coefficient of poor households
3. Refer to Section 2 for calculation of poverty line
4. The poverty line for every state in the Peninsular is M$73.15
5. The poverty line for Sabah is M$ 100.88
6. The poverty line for Sarawak is M$ 85.82
7. Incidence of poverty figures are official estimates
Source: HIS 1989

that his acute deprivation cannot be outweighed by an increase in income of a person who was less poor to start with (Sen 1992: 112-116). However such a transfer would leave both the poverty gap and incidence of poverty unchanged.

The Sen index showed that the ranking of the states in descending order of poverty was similar to that using the incidence of poverty. Both these measures showed that the poorest states were Trengganu, Sabah, Kelantan, Kedah, Sarawak, Perak and Perlis (Table VII-34). With the exception of Perlis, the other six states were also found to be the poorest when using the poverty gap. However unlike the poverty gap, both the Sen index and the incidence of poverty found that Kuala Lumpur had the least poverty, 1.3 percent incidence of poverty and 0.004 Sen index (Table VII-33). Differences are still observed at the bottom end of the spectrum. Selangor which has the third lowest (twelfth highest) incidence of poverty (4.3 percent) and fourth highest poverty gap (26.0 percent) has the eighth highest (seventh lowest) Sen index (0.016). These results suggest that although the number of poor located in certain states is low, the extent of poverty among the poor[8] in these states is fairly high. i.e. although the number falling below the poverty line is small, the extent to which their incomes fall short of the poverty line is large.

To determine which factors influence poverty, various regression equations were estimated, each using the incidence of poverty as the dependent variable. The regression equations are carried out in 2 sub-groups:-

i) Model A: Malaysia - 14 observations

Incidence = constant + mean income + %agric + aglab + school

TABLE VII-34
MALAYSIA: STATES RANKED IN DESCENDING ORDER OF POVERTY ACCORDING TO THE VARIOUS POVERTY MEASURES, 1989.

RANK		POVERTY MEASURE		
		INCIDENCE OF POVERTY	POVERTY GAP	SEN INDEX
HIGHEST	1	TRENGGANU	SABAH	SABAH
:	2	SABAH	KEDAH & TRENG.	TRENGGANU
:	3	KELANTAN		KELANTAN
:	4	KEDAH	SELANGOR	KEDAH
:	5	SARAWAK	SARAWAK	SARAWAK
:	6	PERAK	PERAK	PERAK
:	7	PERLIS	KELANTAN	PERLIS
:	8	PAHANG	K. LUMPUR	SELANGOR
:	9	JOHOR	PENANG	JOHOR
:	10	MALACCA	MALACCA	MALACCA
:	11	NEGRI	PERLIS	PAHANG
:	12	SELANGOR	JOHOR	PENANG
:	13	PENANG	PAHANG	NEGRI
LOWEST	14	K. LUMPUR	NEGRI	K. LUMPUR

Notes: 1. TRENG = Trengganu
2. NEGRI = Negri Sembilan
3. K. LUMPUR = Kuala Lumpur
Source: Table VII-33

ii) Model B: Malaysia, excluding Kuala Lumpur - 13 observations

Incidence = constant + mean income + %agric + aglab + school

where: "%agric" = the percentage contribution of agriculture to GDP,

"aglab" = the labour productivity in the agricultural sector (as explained and calculated in Chapter VI, Section 3)

"school" = the average number of years of schooling

As poverty is a rural and agricultural phenomenon, Kuala Lumpur is excluded in Model B[9]. This is due to the fact that 0 percent of its population are involved in agriculture and it is purely an urban area.

The results (Table VII-35A) show that the variable which has the most influence on the incidence of poverty is "school". In Model A, it is significant at the 2 percent significant level in the multiple regression and at the 1 percent level in the simple regression. Although the simple regression of estimating the incidence of poverty by mean income produces a coefficient which is significant at the 5 percent significance level, the value of R^2 is only 0.342. This is less than half the value when the variable "school" is included in the estimated equation. A simple regression with "school" as the independent variable suggests that an additional year of schooling reduces the incidence of poverty by 7.96 percent.

Excluding Kuala Lumpur from the sample in Model B improved the fit of the equation as indicated by the value of R^2. The value of R^2 increased from 0.679 to 0.770 in the multiple regression. Regressing the incidence of poverty against all four variables produced significant results for three of the four independent

TABLE VII-35
MALAYSIA: REGRESSION ANALYSIS OF POVERTY BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - DEPENDENT VARIABLE: INCIDENCE OF POVERTY

COEFFICIENT OF INDEPENDENT VARIABLE					(R)2
CONSTANT	MEAN INCOME	%AGRIC	AGLAB	SCHOOL	
TABLE 35A: MODEL A - 14 OBSERVATIONS					
68.4	0.00751 (.174)	-0.128 (-.663)	-3.4E-06 (-.007)	-9.47 (-3.06)	0.679
29.2	-0.080 (-2.50)				0.342
5.68		0.283 (1.46)			0.151
58.3				-7.96 (-4.79)	0.656
TABLE VII-35B: MODEL B - 13 OBSERVATIONS					
83.7	-0.051 (-1.11)	-0.233 (-1.36)	0.0012 (1.74)	-11.8 (-4.15)	0.770
31.6	-0.093 (-2.13)				0.272
67.5				-9.67 (-4.70)	0.668

Note: MEAN INCOME = mean monthly per capita household income
%AGRIC = percentage share of GDP in Agriculture
AGLAB = agricultural labour productivity as calculated in Ch. VI
SCHOOL = years of schooling
t-statistics given in parentheses

Source: Calculated using HIS 1989 and Quattro Pro

variables. "%Agric" was significant at the 20 percent significance level, "aglab" at the 2 percent significance level and "school" at the 1 percent significance level (Table VII-35B). Again the only two variables having significant results under simple regressions were mean income and "school".

Replacing the incidence of poverty with the poverty gap and the Sen index as the dependent variable showed similar results (Tables VII-36 and 37). However a weaker relationship, as suggested by the t-statistics and value of R^2, is obtained when the poverty gap is used. In Model A regressing the poverty gap against all four variables, only yielded significant results for "school". "School" was significant at the 10 percent significance level and the value of R^2 was 0.370 (Table VII-36A). Although the fit of the equation improved when excluding Kuala Lumpur (Model B), the results are still weaker than when using the incidence of poverty as the dependent variable (Table VII-36B). Although the strength of the relationship varies upon the poverty measure used, all three measures show that "school" is the most important explanatory variable. Using the incidence of poverty in rural areas as the dependent variable produced similar results for Model B (Table VII-38)[10].

As indicated by the significance level of the t-statistics and the value of R^2, it is evident that "school" is the most important explanatory variable. The relative importance of "school" is shown by the size of its coefficients. In each case, the effect of an additional year of schooling is to decrease the incidence of poverty by more than eight percentage points. Education appears to be of greater importance among rural households with the coefficients rising to -13.7. These results confirm Balisacan's (1992) findings

TABLE VII-36
MALAYSIA: REGRESSION ANALYSIS OF POVERTY BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - DEPENDENT VARIABLE: POVERTY GAP

COEFFICIENT OF INDEPENDENT VARIABLE					(R)2
CONSTANT	MEAN INCOME	%AGRIC	AGLAB	SCHOOL	
TABLE 36A: MODEL A - 14 OBSERVATIONS					
47.1	0.0508 (1.27)	-0.147 (-0.815)	3.87E-04 (-0.879)	-6.34 (-2.20)	0.370
35.0				-2.38 (-1.36)	0.134
TABLE VII-36B: MODEL B - 13 OBSERVATIONS					
56.6	0.0145 (.299)	-0.212 (-1.17)	0.00115 (1.54)	-7.8 (-2.57)	0.468
57.7		-0.233 (-1.47)	0.00126 (2.05)	-7.59 (-2.72)	0.462
39.8				-3.28 (-1.43)	0.156

Note: MEAN INCOME = mean monthly per capita household income
%AGRIC = percentage share of GDP in Agriculture
AGLAB = agricultural labour productivity as calculated in Ch. VI
SCHOOL = years of schooling
t-statistics given in parentheses
Source: Calculated using HIS 1989 and Quattro Pro

TABLE VII-37
MALAYSIA: REGRESSION ANALYSIS OF POVERTY BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 - DEPENDENT VARIABLE: SEN INDEX

COEFFICIENT OF INDEPENDENT VARIABLE					(R)2
CONSTANT	MEAN INCOME	%AGRIC	AGLAB	SCHOOL	
TABLE 37A: MODEL A - 14 OBSERVATIONS					
0.263	0.00012 (.621)	-0.00064 (-0.738)	7.84E-07 (0.369)	-0.0415 (-2.98)	0.608
0.0958	-0.00026 (-1.83)				0.218
0.212				-0.0296 (-3.84)	0.551
TABLE VII-37B: MODEL B - 13 OBSERVATIONS					
0.336	-0.00016 (-0.807)	-0.0011 (-1.55)	6.7E-06 (2.20)	0.0527 (-4.30)	0.751
0.324		-0.00091 (-1.37)	5.44E-06 (2.12)	-0.0551 (-4.71)	0.730
0.102	-0.00029 (-1.44)				0.158
0.253				-0.0371 (-3.86)	0.575

Note: MEAN INCOME = mean monthly per capita household income
%AGRIC = percentage share of GDP in Agriculture
AGLAB = agricultural labour productivity as calculated in Ch. VI
SCHOOL = years of schooling
t-statistics given in parentheses
Source: Calculated using HIS 1989 and Quattro Pro

TABLE VII-38
MALAYSIA: REGRESSION ANALYSIS OF POVERTY FOR RURAL HOUSEHOLDS BASED ON MONTHLY PER CAPITA HOUSEHOLD INCOME, 1989 -

DEPENDENT VARIABLE: INCIDENCE OF POVERTY (RURAL)

TYPE OF MODEL	COEFFICIENT OF INDEPENDENT VARIABLE					(R)2
	CONSTANT	MEAN INCOME	%AGRIC	AGLAB	SCHOOL	
MODEL B	98.5	-0.0594 (-1.21)	-0.318 (-1.73)	0.00146 (1.94)	-13.7 (-4.49)	0.790
	36.0	-0.102 (-1.97)				0.261
	76.7				-10.9 (-4.66)	0.664

Note: MEAN INCOME = mean monthly per capita household income
%AGRIC = percentage share of GDP in Agriculture
AGLAB = agricultural labour productivity as calculated in Ch. VI
SCHOOL = years of schooling
t-statistics given in parentheses
Source: Calculated using HIS 1989 and Quattro Pro

concerning the importance of educational attainment in explaining rural poverty in the Philippines. He used a regression model to asses the relative contribution of various socioeconomic and geographic factors to rural poverty. He found that the relative importance of the household's head educational attainment in explaining rural poverty was apparent in the magnitude of its coefficient.

This analysis shows that in Malaysia, poverty is predominantly a rural and an agricultural phenomenon, which is influenced by education. With the exception of Trengganu, the states with the highest levels of poverty as indicated by the three poverty measures - Trengganu, Sabah, Kedah, Kelantan and Sarawak, are predominantly rural states, with more than 70 percent of households in these states living in rural areas. In the case of Kedah, Sarawak and Sabah more than 80 percent of households are located in rural areas. In terms of contribution to GDP, the agricultural sector was the largest contributor in these states with the exception of Trengganu and Sarawak. Eventhough the agricultural sector does not account for the largest share of GDP in Trengganu and Sarawak, more than 50 percent of GDP in these two states is derived from the agricultural and mining sector collectively (72.9 and 56.2 percent respectively in 1990). Thus the primary sector accounts for more than half of GDP in these two states. Although mainly a rural problem, the poverty gap demonstrates that the severity of poor households in urban areas, as measured by the average income of poor households, is similar to those living in rural areas. Therefore although the number of poor located in urban areas may be small, the average gap of the income of the poor from the poverty line in urban areas is similar to that in rural areas. Therefore the intensity of deprivation of poor households is similar for both urban and rural

households.

Notes:

1. Since 1984, government publications refer to 5.14 persons as the average household size in Peninsular Malaysia, 5.36 in Sabah and 5.24 in Sarawak. This remained until 1993 (as indicated in Malaysia 1993: 59) when the average household size declined to 4.8 persons in Peninsular Malaysia, and 5.1 persons in Sabah and Sarawak.

2. In 1975, prices in Sarawak were on average 9.2 percent higher than in Kuala Lumpur (Anand 1992)

3. The estimated PLI in 1980 is M$276.96 for a household size of 5.14 persons or M$287.33 for a household size of 5.4 persons (Table VII-4). A household whose expenditure falls below the PLI is deemed poor. However, due to the format of the data, M$300 is used as the cut-off expenditure, therefore expenditure classes below M$300 are classified as poor.

4. The estimates of poverty are government estimates obtained based on the official poverty line. However as the official poverty line is not given, based on Section 2 of this chapter, I estimate the 1989 per capita PLI to be:-

i) M$ 73.15 for Peninsular Malaysia
ii) M$100.88 for Sabah
iii) M$ 85.82 for Sarawak

5. As M$33.00 is equivalent to M$79.00 in 1989 prices, the poverty line used by Anand is higher than the 1989 official poverty line (M$73.15). Anand's results using two alternative poverty lines, M$25.00 and M$15.00, show that the lower the poverty line, the greater the percentage of Malay poor households.

PLI = M$15.00		PLI = M$25.00	
Malay	85.3%	Malay	78.1%
Chinese	7.8%	Chinese	12.9%
Indian	5.4%	Indian	8.0%
TOTAL	98.5%	TOTAL	99.0%

Source: Anand (1983: 128, 136)

As M$73.15 in 1989 prices is equivalent to M$30.56 in 1970 prices), the percentage of Malay poor households most likely lies between 73.0 and 78.1 percent.

6. The Lower Certificate of Education is an examination taken at the end of the third year of secondary school (i.e. 9 years of schooling).

7. "Composition of poverty" is defined as the percentage breakdown of poor households by socio-economic characteristic. For example by the characteristic "main source of income", the composition of poverty is:-

15.8% - paid employment
71.8% - self-employed
1.1% - rent
11.3% - gross transfers

(Table VII-31A)

8. As measured by the extent to which the incomes fall short of the poverty line and by the distribution of income among the poor.

9. The poverty gap measure for Kuala Lumpur in 1989 is 19.2 percent. Although this suggests that the severity of poor households in Kuala Lumpur is worse than some states such as Johor, Malacca, Pahang and Negri Sembilan, Kuala Lumpur only accounts for 1.1 percent of total number of poor households in West Malaysia (Table VII-18A).

10. For rural areas the poverty gap and Sen index are not used as dependent variables as they cannot be calculated for rural areas at the state level due to lack of data. The incidence of poverty by state in rural areas are official estimates obtained from the EPU.

APPENDIX VII-1
CALCULATING THE MEAN YEARS OF SCHOOLING

Data on the highest level of education attained by each household's head is available by state in the HIS 1989. Each level of education was assigned a value, which is an estimate of the number of years schooling taken to obtain that particular level of education. Table VIII-39 shows the nine categories and the assigned number of years taken to achieve the particular level.

For certain categories the value to be assigned was obvious, for example LCE[1], Vocational School[2], MCE[3] and HSC[4]. The LCE is obtained after successfully passing an examination at the end of Secondary 3 (i.e. after 9 years of schooling). Similarly the MCE is obtained after 11 years of schooling, while the HSC, after 13 years. For other categories the value to be assigned is not so clear cut. For example, students successfully completing Secondary 5 (MCE) can choose to obtain a Diploma qualification. The course length varies considerably and typically range from 2 to 4 years, depending on the actual course studied. As data of this nature are not available, I have assigned a value of 3 additional years for obtaining a Diploma, i.e. number of years of schooling is 14. The values assigned to the remaining categories are arrived at by similar reasoning.

Let S_i be equal to the number of household heads completing a particular level of education "i", multiplied by the value assigned for that category. This is then repeated for each level of education. The mean years of schooling for a particular state is simply the sum of every S_i divided by the population.

"School" = $[E(S_i)]$/population

(E = the sum from i=1 to n)

TABLE VII-39
LEVELS OF EDUCATION AND THE ESTIMATED CORRESPONDING NUMBER OF YEARS OF SCHOOLING

LEVEL OF EDUCATION	*a SCHOOL
NO SCHOOL	0
RELIGIOUS SCHOOL*b	5
NO CERTIFICATE	9
LCE	11
VOCATIONAL SCHOOL	11
MCE	11
HSC	13
DIPLOMA	14
UNIVERSITY	17

Notes:
1. *a - Estimated number of years spent in school to achieve this level of education.
2. *b - religious schools offer both primary & secondary education. However, as LCE and MCE examinations are still taken at these institutions after completing Secondary 3 and 5, those in this category have had between 2 to 8 years of schooling. Thus the median of 5 years is given
3. *c - the range is from 2 to 8. The median of 5 years is given
4. the range of schooling years among the different states is from 4.7 in Kelantan to 7.9 in Kuala Lumpur

Source: HIS 1989

The mean schooling years for Johor is calculated as an example on Table VII-40. This estimation procedure results in 5.8 mean years of schooling for Malaysia. This is a comparable to the value given in the UNDP Human Development Report 1993, which states that the mean years of schooling in Malaysia for the year 1990 is 5.3 years[5].

Appendix Notes:

1. Refer to footnote 6 of Chapter VII

2. Vocational education are conducted at the upper secondary level (Secondary 4 and 5) in subjects such as engineering trades, agriculture, commerce and home science, leading to Malaysian Certificate of Vocational Education.

3. Middle School Certificate is an examination taken at the end of Secondary 5 (i.e. 11 years of schooling)

4. Following the MCE, students can enter the Lower and then Upper Sixth Forms towards obtaining their High School Certificate (i.e. 13 years of schooling)

5. My estimate is 7 percent higher the UNDP value, however no additional information is available to further refine the estimate.

TABLE VII-40
CALCULATING THE MEAN NUMBER OF YEARS OF SCHOOLING FOR JOHOR IN 1989

LEVEL OF EDUCATION	(1) NO OF HEADS *a	(2) SCHOOL ESTIMATE *b	(3) S(i)
NO SCHOOL	20356	0	0
RELIGIOUS SCHOOL	14	5	70
NO CERTIFICATE	85736	5	428680
LCE	10122	9	91098
VOCATIONAL SCHOOL	350	11	3850
MCE	16044	11	176484
HSC	1918	13	24934
DIPLOMA	4186	14	58604
UNIVERSITY	2044	17	34748
TOTAL	140770		818468
MEAN SCHOOLING YEARS*c		5.8	

Notes:
1. *a - no of heads of household finishing this level of education
2. *b - Estimated number of years spent in school to achieve this level of education.
3. *c - mean schooling years = total column 3 divided by the total of column 1.

Source: Calculated using HIS 1989

CHAPTER VIII
EXPLANATION FOR CHANGES IN INCOME DISTRIBUTION AND POVERTY

Malaysia's success in reducing poverty and income inequality in the 1980s lies in the government's "redistribution through growth strategy". It should be noted however, that for the most part, the government's goal has only been to eradicate poverty and reduce differences between racial groups. Income distribution as a policy goal was first mentioned in 1981 in the Fourth Malaysia Plan, a decade after NEP's conception. However, policies aimed at reducing poverty and racial imbalances have also had a positive effect on income inequality. The poorest groups in Malaysia consist of rural households, which are disproportionately represented by Bumiputeras. Thus strategies designed to raise the income of the poor at a faster rate than the rest of the population would also increase Bumiputera incomes at a faster rate thereby reducing inequality over time.

Between 1980 and 1989, the incidence of poverty in Peninsular Malaysia has fallen from 29.2 to 15.0 percent[1]. During this period, the incidence of poverty among urban households fell from 12.8 to 7.3 percent while the incidence of poverty among rural households, fell from 37.7 to 19.3 percent (Table VIII-1). This decline in poverty can be attributed to two main forces:-

a) the move of households out of target group occupations, where poverty is concentrated
b) the decrease in the incidence of poverty within target groups

Under the NEP, various low paying occupational groups (commonly referred to as target groups) had been

TABLE VIII-1
PENINSULAR MALAYSIA: INCIDENCE OF POVERTY
1980-1989

GROUP	1980 (%)	1984 (%)	1987 (%)	1989 (%)
PENINSULAR	29.2	18.4	17.3	15.0
URBAN	12.6	8.2	8.1	7.3
RURAL	37.7	24.7	22.4	19.3
PADDY	55.1	57.7	50.2	na
RUBBER	41.3	42.7	40	na
COCONUT	38.9	46.2	39.2	na
FISHERMEN	45.3	26.1	24.5	na
ESTATE	35.2	19.6	15.0	na
OTHER RURAL	32.0	19.0	17.7	na

Note: na = not available
Source: Malaysia (1981: 33; 1989: 52; 1991a: 52)

identified for the purpose of poverty eradication. These include paddy farmers, rubber smallholders, coconut smallholders, fishermen and estate workers. In 1980, the target group made up 33.6 percent of total households and 49.7 percent of poor households (Table VIII-3B and 2B). By 1987, the target group had been reduced to 16.0 percent of total households and 33.9 percent of poor households[2]. This indicates that between 1980 and 1987, 316,400 households or 41.3 percent of target group households (13.9 percent of total households) moved out of the target groups into occupations with lower poverty incidences (Table VIII-3A).

Between 1980 and 1987, the total number of households increased by 23.2 percent. During this period the number of urban households increased by 30.9 percent (239,200 households), while that of rural households increased by 19.2 percent (290,400 households). If the assumption that urban and rural households both increase at the same rate of 23.2 percent is made, by 1987 the number of urban and rural households would increase to 954,000 and 1,859,600 households respectively. As the total of number of rural households in 1987 was 1,800,000, this suggests that 59,600 households (2.6 percent) would have moved to urban areas. This can be confirmed by using data on internal migration from the Labour Force Survey. The average internal migration rate between 1981 and 1986 is calculated as 5.8 percent of total population (Table VIII-4). However as rural to urban migration made up only 16.5 percent of total internal migration, rural urban migration is less than one percent of total population. This suggests that although some rural-urban migration occurred, the majority of households from the target groups moved into other occupations in rural areas.

The move of households out of the target groups is

TABLE VIII-2
PENINSULAR MALAYSIA: POOR HOUSEHOLDS BY SELECTED GROUPS, 1980-1990

TABLE VIII-2A: NUMBER OF POOR HOUSEHOLDS

GROUP	1980 ('000)	1984 ('000)	1987 ('000)	1989 ('000)
PENINSULAR	666.1	483.3	485.8	448.9
URBAN	97.6	81.3	82.6	77.5
RURAL	568.5	402.0	403.2	371.4
PADDY	83.2	70.5	54.4	na
RUBBER	175.9	68.5	83.1	na
COCONUT	13.3	6.7	4.9	na
FISHERMEN	19.4	10.7	10.7	na
ESTATE	39.5	16.4	11.7	na
OTHER RURAL	237.2	229.2	238.4	na

TABLE VIII-2B: PERCENT OF POOR HOUSEHOLDS

GROUP	1980 (%)	1984 (%)	1987 (%)	1989 (%)
PENINSULAR	100.0	100.0	100.0	100.0
URBAN	14.7	16.8	17.0	17.3
RURAL	85.3	83.2	83.0	82.7
PADDY	12.5	14.6	11.2	na
RUBBER	26.4	14.2	17.1	na
COCONUT	2.0	1.4	1.0	na
FISHERMEN	2.9	2.2	2.2	na
ESTATE	5.9	3.4	2.4	na
OTHER RURAL	35.6	47.4	49.1	na

Note: na = not available
Source: Malaysia (1981: 33; 1989: 52; 1991a: 52)

TABLE VIII-3
PENINSULAR MALAYSIA: TOTAL NUMBER OF HOUSEHOLDS
BY SELECTED GROUPS, 1980-1989

TABLE VIII-3A: NUMBER OF HOUSEHOLDS

GROUP	1980 ('000)	1984 ('000)	1987 ('000)	1989 ('000)
PENINSULAR	2284.0	2621.1	2813.6	2986.0
URBAN	774.4	991.7	1013.6	1061.6
RURAL	1509.6	1629.4	1800.0	1924.4
PADDY	151.0	122.2	108.4	na
RUBBER	425.9	160.4	207.7	na
COCONUT	34.2	14.5	12.5	na
FISHERMEN	42.8	41.0	43.7	na
ESTATE	112.5	83.7	78.0	na
OTHER RURAL	743.2	1207.6	1349.7	na

TABLE VIII-3B: PERCENT OF TOTAL HOUSEHOLDS

GROUP	1980 (%)	1984 (%)	1987 (%)	1989 (%)
PENINSULAR	100.0	100.0	100.0	100.0
URBAN	33.9	37.8	36.0	35.6
RURAL	66.1	62.2	64.0	64.4
PADDY	6.6	4.7	3.9	na
RUBBER	18.6	6.1	7.4	na
COCONUT	1.5	0.6	0.4	na
FISHERMEN	1.9	1.6	1.6	na
ESTATE	4.9	3.2	2.8	na
OTHER RURAL	32.5	46.1	48.0	na

Note: na = not available
Source: Calculated from Tables VIII-1 and 2

TABLE VIII-4
MALAYSIA: INTERNAL MIGRATION

NUMBER OF INTERNAL MIGRANTS EXPRESSED AS A PERCENT OF THE TOTAL POPULATION

YEAR	(%)
1981	5.5
1982	5.3
1983	6.0
1986	6.2
AVERAGE FOR 1981 TO 1986	5.8

RURAL TO URBAN MIGRATION AS A PERCENT OF TOTAL INTERNAL MIGRATION

YEAR	(%)
1981	18.0
1986	15.0
AVERAGE FOR 1981-1986	16.5

Source: Lucas and Verry (1990: III-15 & 16)

a more significant contribution to the reduction of poverty than the increase of incomes within the target groups. While the incidence of poverty between 1980 and 1987, for fishermen and estate workers decreased significantly, 45.3 to 24.5 percent and 35.2 to 15 percent respectively, the decrease was less than 5 percentage points for paddy farmers and marginal for rubber smallholders (1.3 percentage points). In fact, this period showed an increase in the incidence of poverty among coconut farmers, 38.9 to 39.2 percent (Table VIII-1). However, despite the increase in the incidence of poverty among coconut farmers the number of poor coconut households decreased from 13,300 in 1980 to 4,900 households in 1987 (Table VIII-2A). Table VIII-5 shows that this reduction is due entirely to the move of coconut growers out of coconut farming.

A continued decline in the number of poor households was experienced by each target group between 1980 and 1987. In fact this was true for all categories except fishermen households, where there was no change in the number of poor households between 1984 and 1987, and "other rural" households, whose absolute number of poor households increased by 1,200 households. By 1987, 49.1 percent of poor households were from "other rural" households, an increase of 13.5 percentage points (Table VIII-2B). Even so, the incidence of poverty among other rural households had fallen from 32.0 percent in 1980 to 17.7 percent in 1987 (Table VIII-1).

Although, the incidence of poverty among paddy farmers decreased marginally, the number of poor households in this category declined by 34.6 percent, from 83,200 in 1980 to 54,400 in 1987. Table VIII-6 shows that if there had been no change in the incidence of poverty between 1980 and 1987, the number of poor paddy farmers in 1987 would have been 59,700. This shows

TABLE VIII-5
PENINSULAR MALAYSIA: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS, 1980-1987 - COCONUT FARMERS

YEAR	POVERTY INCIDENCE (%)	NUMBER OF HOUSEHOLDS		
		TOTAL ('000)	POOR ('000)	a POOR (CONSTANT 1980 POV INCIDENCE) ('000)
1980	38.9	34.2	13.3	13.3
1984	46.2	14.5	6.7	5.6
1987	39.2	12.5	4.9	4.9
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1980 AND 1987				-8.4
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				0.0
2. CHANGE OF OCCUPATION				-8.4

Note: a - the number of poor households if the incidence of poverty is equal to the 1980 incidence of poverty
Source: Calculated from Tables VIII-1, 2 and 3

TABLE VIII-6
PENINSULAR MALAYSIA: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS, 1980-1987 - PADDY FARMERS

YEAR	POVERTY INCIDENCE	NUMBER OF HOUSEHOLDS		
		TOTAL	POOR	a POOR (CONSTANT 1980 POV INCIDENCE)
	(%)	('000)	('000)	('000)
1980	55.1	151.0	83.2	83.2
1984	57.7	122.2	70.5	67.3
1987	50.2	108.4	54.4	59.7
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1980 AND 1987				-28.8
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				-5.3
2. CHANGE OF OCCUPATION				-23.5

Note: a - the number of poor households if the incidence of poverty is equal to the 1980 incidence of poverty
Source: Calculated from Tables VIII-1, 2 and 3

that of the total fall in number of poor households (28,800), 5,300 households moved out of poverty as a result of the decline in the incidence while 23,500 households moved out of poverty because paddy farmers moved into other occupations. Therefore more than 80 percent of the decline in numbers of poor paddy households is attributed to the movement out of the paddy sector. Similar calculations for the other target groups produced the same conclusions for rubber smallholders. The number of poor rubber smallholder households declined by 92,800 households (Table VIII-7). 90,100 of this reduction was due to rubber smallholders leaving this occupation and only 2,700 households was a result of a decline in the incidence of poverty.

However, similar calculations showed that the increase in income among fishermen and estate workers was a more important contributing factor to the reduction in the number of poor households, than the move out of the occupation. In fact among fishermen, the decline in the incidence of poverty resulted in the number of poor fishermen households falling by 9,100 (Table VIII-8). However, the change in poor households between 1980 and 1987 was only 8,700 households. This was a result of the move of households into this occupation, as the incomes of 400 of the 900 new fishermen households are below the PLI. Among estate workers increased incomes accounted for over half the reduction in poor households (Table VIII-9).

These improvements can be attributed to the various programmes and policies implemented by the government, in an effort to reduce poverty and racial imbalances. These programmes and policies can be broadly classified into two categories:-

I) Rural Development Programmes

II) Human Resource Development

TABLE VIII-7
PENINSULAR MALAYSIA: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS, 1980-1987 - RUBBER SMALLHOLDERS

YEAR	POVERTY INCIDENCE (%)	NUMBER OF HOUSEHOLDS TOTAL ('000)	POOR ('000)	a POOR (CONSTANT 1980 POV INCIDENCE) ('000)
1980	41.3	425.9	175.9	175.9
1984	42.7	160.4	68.5	66.2
1987	40.0	207.7	83.1	85.8
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1980 AND 1987				-92.8
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				-2.7
2. CHANGE OF OCCUPATION				-90.1

Note: a - the number of poor households if the incidence of poverty is equal to the 1980 incidence of poverty
Source: Calculated from Tables VIII-1, 2 and 3

TABLE VIII-8
PENINSULAR MALAYSIA: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS, 1980-1987 - FISHERMEN

YEAR	POVERTY INCIDENCE (%)	NUMBER OF HOUSEHOLDS TOTAL ('000)	POOR ('000)	a POOR (CONSTANT 1980 POV INCIDENCE) ('000)
1980	45.3	42.8	19.4	19.4
1984	26.1	41.0	10.7	18.6
1987	24.5	43.7	10.7	19.8
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1980 AND 1987				-8.7
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				-9.1
2. CHANGE OF OCCUPATION				0.4

Note: a - the number of poor households if the incidence of poverty is equal to the 1980 incidence of poverty
Source: Calculated from Tables VIII-1, 2 and 3

TABLE VIII-9
PENINSULAR MALAYSIA: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS, 1980-1987 - ESTATE WORKERS

YEAR	POVERTY INCIDENCE (%)	NUMBER OF HOUSEHOLDS		
		TOTAL ('000)	POOR ('000)	a POOR (CONSTANT 1980 POV INCIDENCE) ('000)
1980	35.2	112.5	39.5	39.6
1984	19.6	83.7	16.4	29.5
1987	15.0	78.0	11.7	27.5
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1980 AND 1987				-27.8
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				-15.8
2. CHANGE OF OCCUPATION				-12.0

Note: a - the number of poor households if the incidence of poverty is equal to the 1980 incidence of poverty
Source: Calculated from Tables VIII-1, 2 and 3

A key feature in these programmes, was the broadly-based growth strategy, which allowed the poor a part in the opportunities provided by the growing economy.

I. RURAL DEVELOPMENT PROGRAMMES

As was explained in Chapter VII, poverty in Malaysia is heavily concentrated in rural and agricultural occupations. Thus under the NEP, a high priority has been placed on agricultural and rural development. These programmes vary from the general forms of investment such as the provision of social services and infrastructure to specific agricultural programmes. Each will be discussed in turn.

A. GENERAL PROGRAMMES

The 1980s saw the continued expansion of public services contributing to improvements in the socio-economic status of the lower income groups. This included the provision of electricity, piped water and free medical care. Health services continued to be increased. The existing facilities were upgraded and additional ones provided in rural areas, to increase the coverage. In remote areas, accessibility was achieved by the introduction of mobile clinics. Improvements in the population's state of health were reflected by declining mortality rates and longer life expectancy. Life expectancy at birth in Peninsular Malaysia increased from 66.7 years in 1980 to 68.8 years in 1990 for males and from 71.6 years to 73.4 years for females. Infant mortality rates declined from 23.9 per thousand live births in 1980 to 13.3 per thousand in 1990.

The expansion of health services also included nutrition and health programmes designed to educate the public on the importance of preventative measures. The

economic significance of such public services is that improved health increases the capacity to work, thereby raising earnings. Healthier children will benefit more from education which in the long run raises productivity levels.

Other general programmes to meet the basic needs of low-income rural households were the provision of basic utilities, such as potable and piped water, electricity and sanitary latrines. In 1980 less than 50 percent of rural households were supplied with these basic amenities. By 1990, the coverage of rural population supplied with potable and piped water had risen to 72.8 percent; with electricity to 76.6 percent and sanitary latrines, to 90 percent (Malaysia 1986: 94). However, general programmes such as those mentioned above have little targeting component. Therefore while the rural poor benefitted, so did the less poor, suggesting that although rural welfare in general is raised, the general programmes may tend to sustain rural inequalities.

B. SPECIFIC DEVELOPMENT PROGRAMMES

One of the aims of the poverty eradication strategy is to raise the productivity of farmers via 'in- situ' or new land development programmes. This includes the provision of irrigation, extension, marketing, farm rehabilitation, subsidies, credit and replanting using higher yielding varieties. The new land development schemes which involved the resettlement of households, were aimed at relieving the over-crowded agricultural areas and increasing their productive assets. These programmes were implemented by various agencies such as the Federal Land Development Authority (FELDA), Federal Land Consolidation and Rehabilitation Authority (FELCRA), and Rubber Industry Smallholders Development Authority (RISDA).

i) New Land Development Programmes

The bulk of large scale development of new lands was carried out by FELDA. FELDA aims to eliminate rural poverty by increasing the production and productivity levels in rural areas, thereby, increasing income levels of its settlers and improving the quality of life and social development. During the 1980s, a total of 696,215 hectares of new land was developed by public sector agencies (Table VIII-10).

Under this scheme, land is cleared and prepared for development by FELDA, who then select new settlers, chosen from amongst the landless poor, to work the land. They are provided with housing and guaranteed a minimum income until their farm incomes reach break-even point. In addition, FELDA provides technical, marketing and other forms of assistance. The new land development is also equipped with roads, clinics, schools and other basic amenities. By the end of 1989, FELDA had developed about 777,843 hectares and has provided employment to 119,353 settler families (Table VIII-11).

Shari (1990) reports that a 1988 World Bank study on two FELDA schemes in the Jengka Triangle, Pahang, found that the settlers expectations had been met. This World Bank study found that the average monthly incomes of both oil palm and rubber settlers on these two FELDA schemes are high, about 3 to 3.5 times above the poverty line (Table VIII-12). The large difference in income between rubber and oil palm settlers was due to differences in yields and land size. The income of FELDA settlers had improved substantially when compared to their pre-settlement average incomes. Not only had their average incomes risen, but living conditions had also greatly improved. Of particular importance was the provision of educational facilities, which is a means of upward mobility.

TABLE VIII-10
MALAYSIA: NEW LAND DEVELOPMENT, 1981-1990 (HECTARES)

AGENCY/PROGRAMMES	1981-85	1986-90
FELDA	161,600	175,745
FELCRA	31,100	
RISDA	9,770	
STATE PROGRAMMES	158,000	160,000
JOINT VENTURES/ PRIVATE SECTOR	57,100	17,551
TOTAL	417,570	353,296

Source: Malaysia (1986; 1991a)

TABLE VIII-11
FELDA LAND DEVELOPMENT AND SETTLEMENT UP TO THE END OF 1989

CROP	UP TO END OF 1989		
	# Schemes	Area (hect)	# Settler Families
OIL PALM	200	511,308	76,523
RUBBER	119	187,370	42,227
SUGAR CANE	1	5,118	449
COCOA	1	21,024	60
COFFEE	-	806	-
SAWIT/KOKO	1	1,378	94
TOWN/VILLAGE	-	50,839	-
TOTAL	322	777,843	119,353

Source: FELDA Annual Report (1989; 1990)

TABLE VIII-12
AVERAGE NET MONTHLY INCOME OF FELDA SETTLERS ON THE JENGKA PROJECTS, 1982-1984 (CURRENT PRICES)

	1982 (M$)	1983 (M$)	1984 (M$)
OIL PALM SETTLERS	530	692	1,017
RUBBER SETTLERS	428	521	690

Source: Shari 1990

On the other hand, Mehmet (1986) claims that the position of settlers on such schemes were no better than others. In his study on two other FELDA schemes, Bukit Rokan Utara Phase 1 (rubber) and Pasoh 4 (oil palm),he stresses the difficulty in measuring income on FELDA schemes. This was due to seasonal fluctuations, credit arrangements and personal deductions. He argued that problems of credit arrears are common on FELDA schemes and true net incomes were severely reduced if this was accounted for. He claimed that a recent survey indicated that 86 percent of settlers stated that they did not want their children to remain on the settlements.

Table VIII-13 shows that real earnings between different agricultural groups differ substantially. The level of average income per household varies by crop type and development scheme. The average household income of oil palm and rubber settlers in FELDA, are higher than in FELCRA, though by 1990 the difference had narrowed considerably. However, settler incomes continue to be dependent on world commodity prices. FELDA has not been able to combat the problem of income instability. The 1985-86 recession saw a decline in settler incomes under both FELDA and FELCRA schemes.

One of the main criticisms of the new land development schemes has been that, despite large expenditures, only a very small minority of the rural poor benefit. During the 5MP (1986-1990) M$ 2,179.35 million was allocated to new land development (Malaysia 1989: 61). An average resettlement rate of about 9,400 settlers per annum (Lim T. G. 1989), indicates that the average cost per settler was about M$ 46,369. At this prevailing rate and cost, it will take about 60 years and M$ 25,683.87 million to resettle the remaining 553,900 poor households[3].

TABLE VIII-13
AVERAGE MONTHLY NET INCOME OF SELECTED DEVELOPMENT SCHEMES' HOUSEHOLDS, 1984-1990 (CURRENT PRICES)

SCHEME	1984 (M$)	1985 (M$)	1986 (M$)	1987 (M$)	1988 (M$)	1989 (M$)	1990 (M$)
FELDA:							
RUBBER	506	421	406	530	721	589	483
OIL PALM	1225	697	376	522	871	669	439
FELCRA:							
RUBBER	350	284	348	501	553	318	466
OIL PALM	715	395	380	402	484	269	478
PADDY	277	342	403	432	435	655	726

Note: The income data of FELDA & FELCRA is net of the monthly deductions from costs of house, land and/or land developments

Source: Malaysia, Ministry of Agriculture (1993)

An extension of this problem concerns the choice of settlers. The government claims that the settlers chosen for the new development schemes are from the rural poor and that greater weight is given to the landless poor and those with uneconomic holdings (Malaysia 1976: 299). However Shari (1990) and Mehmet (1986: 65) claim that although a strong preference is given to rural Malay paddy farmers, rubber tappers and fishermen, the selection of settlers is quite likely to be politically rather than economically motivated. This is due to the fact that FELDA settlers are selected by politicians and high-ranking officials. In 1986, 50 percent of new settlers came from Johor and Pahang (Lucas and Verry 1990). In 1984, with an incidence of poverty of 12.2 percent, Johor had the third lowest incidence in Malaysia[4]. For the same year eight other states had higher incidences of poverty than Pahang (Malaysia 1989: 45). This suggests that the criteria for settler selection has not necessarily been one of poverty[5].

ii) In-Situ Development Programmes

The objective of the in-situ programmes is to improve the productivity of farmers in existing agricultural areas and increase the incomes of the identified poverty groups. These took two basic forms, the Integrated Agriculture Development Projects (IADP) approach and normal departmental programmes.

a) IADPs

The IADP approach was to provide an integrated package of infrastructural and support facilities to poor traditional peasant farmers. This involved the implementation of necessary technologies, the development of drainage and irrigation systems, flood control as well as the provision of agricultural infrastructure and support services required to raise productivity and income levels. Support services include

fertiliser subsidies, providing extension services in marketing and processing and farm credit. The completed projects under the Fifth Malaysia Plan (1986-1990) encompassed 3.5 million hectares and benefitted 273,900 farm families (Malaysia 1991a: 98).

The intensification of land use was emphasised via in-situ development programmes. This includes increasing cultivated area through double cropping, the intercropping of cocoa and coconuts, cultivation of higher value-added crops such as flowers, fruits and vegetables and livestock rearing in estates and smallholdings. Various measures were taken to achieve increased land productivity levels. Drainage and irrigation facilities were developed; improved plant and seed varieties were used; wider use of fertilisers and agro-chemicals in both plantations and smallholdings was promoted: and new improved technologies and farm practices were implemented.

Increased land productivity has been experienced during the 1980s in all crops with the exception of vegetables. The first half of the decade saw increased land productivity in palm oil, cocoa, paddy and coconut cultivation, the most significant being coconut. During the second half of the decade, the average annual growth rate in land productivity surpassed that of the first half of the 1980s, with the exception of coconut cultivation (Table VIII-14). Pepper, paddy, cocoa and rubber cultivation proved to be important contributors to increased overall productivity between 1986 and 1990.

Replanting and rehabilitation are two of the other most important in-situ programmes. Collective replanting through the mini-estate concept is emphasized, so as to realise economies of scale in terms of production, maintenance and marketing. The rehabilitation and

TABLE VIII-14
LAND PRODUCTIVITY (M$/HECTARE)
(M$ 1980 PRICES)

CROP	YEAR			GROWTH RATE	
	1980	1985	1990	81-85	86-90
RUBBER	1,306	1,291	1,730	-0.3%	6.0%
PALM OIL	2,402	2,687	3,055	2.3%	2.6%
COCOA	1,642	1,983	3,012	3.8%	8.7%
PEPPER	8,429	6,300	12,889	-5.7%	15.4%
PADDY	962	1,069	1,734	2.1%	10.2%
COCONUT	326	742	676	17.9%	-1.8%
VEGETABLES	42,744	32,671	28,587	-5.2%	-2.6%

Source: Malaysia, Ministry of Agriculture (1993)

consolidation of abandoned and poorly managed lands are carried out by FELCRA. Once again the aim is to increase productivity through the adoption of modern technology and improved infrastructural facilities.

Though not restricted to a single crop, the majority of replanting schemes are targeted towards rubber smallholders. As part of a strong effort to reduce poverty among rubber smallholders, the Rubber Industry Smallholders Development Authority (RISDA) was established and oversees the replanting programmes. The replacement of new high-yielding varieties and improved modern production technology has resulted in higher average yields. In 1988, the average yield in a participating smallholding sector was 900 kg/ha compared to 400-500 kg/ha in a non-participating smallholder (Shari 1990). Between 1983 and 1987, the increase in average yield for rubber varied depending on the various land schemes. The yield under FELDA rubber schemes declined between 1985 and 1987; however at 1462 kg/ha in 1987, it still had the highest yield compared to other schemes and was only marginally below the yield on estates (Table VIII-15). Although the FELCRA average rubber yield declined after 1986, the 1987 value of 852 kg/ha was still almost 40 percent higher than in 1983.

Table VIII-16 shows that the average net monthly income of rubber households varies considerably, depending on the development scheme. The highest incomes are earned by those on FELDA development schemes. However, despite the increase in average yields, the average level of income of rubber households continues to be low. Apart from FELDA settlers, income levels tend to be close to or below the poverty line income, with the exception of FELCRA settlers in 1987, 1988 and 1990 and RISDA settlers in 1987 and 1988.

TABLE VIII-15
RUBBER INDUSTRY STATISTICS, 1983-1987

YIELD (kg/ha)	1983	1984	1985	1986	1987
ESTATE	1,418	1,385	1,414	1,492	1,497
SMALLHOLDER *	984	974	933	1,072	1,107
LAND SCHEMES:					
FELDA	1,228	1,680	1,945	1,686	1,462
FELCRA	610	792	767	986	852
RISDA	na	715	850	962	1,059

Note: * = smallholders participating and not-participating in land schemes
na = not available
Source: Shari (1990); "Yearbook of Statistics" (various years)
"Rubber Statistics" (various years)

TABLE VIII-16
AVERAGE MONTHLY NET INCOME OF RUBBER HOUSEHOLDS OF SELECTED DEVELOPMENT SCHEMES & RUBBER PRICES, 1984-1990

SCHEME	1984 (M$)	1985 (M$)	1986 (M$)	1987 (M$)	1988 (M$)	1989 (M$)	1990 (M$)
FELDA	506	421	406	530	721	589	483
FELCRA	350	284	348	501	553	318	466
RISDA	353	333	359	375	400	331	324
POVERTY LINE INCOME	352	351	353	355	365	375	388
PRICE (M$/kg	2.31	1.89	2.08	2.49	3.10	2.62	2.33

Note: The income data of FELDA & FELCRA is net of the monthly deductions from costs of house, land and/or land developments
Source: Malaysia, Ministry of Agriculture (1993)
Malaysia, Ministry of Finance "Economic Report" (various years)
Poverty Line Income as calculated in Chapter VII: Section II

The trend of declining rubber prices experienced during the 1980s has also affected the incomes of rubber producers (Table VIII-17). Low income levels can be attributed to the fact that as the price of rubber is exogenously determined, settler incomes depend on price fluctuations in world commodity markets. This is illustrated in Table VIII-16. When the price of rubber peaked at a value of M$ 3.10 per kg in 1988, the average income of the settlers on each of the three land schemes was higher than the poverty line. When the price was at its lowest, during the recession of 1985 and 1986, the average incomes of FELCRA and RISDA settlers fell below the poverty line. While the income of FELDA settlers was above the poverty line, they were the lowest in 1985 and 1986, for the period between 1984 and 1990. After the price of rubber fell again in 1989, the incomes of FELCRA and RISDA farmers fell below the poverty line, while that of FELDA farmers declined from M$721 in 1988 to M$589 in 1989.

Low income levels can also be due to the taxes imposed on the rubber industry. Three types of taxes are levied: a rubber export tax; a rubber replanting tax; and a research tax. The export tax is paid at the point of export by the exporters, but as the price paid by the exporter to the supplier is net of the export tax, the burden of the tax falls onto the producer (Jenkins and Lai 1991). Similarly, a research tax is administered by the Malaysian Rubber Research and Development Board to finance research and technological advancement in the rubber industry. These findings are then freely available to the entire industry.

A replanting cess of M$ 99.20/ton is levied on all rubber exports and is the primary source of funds for replanting (60 percent of funds required (Shari 1990)). To assist in replanting, grants are given to rubber

TABLE VIII-17
MALAYSIA: PRICE INDICES OF RUBBER, 1980-1989

YEAR	RUBBER (1980=100)	TYPE OF PRODUCER (1970=100)	
		SMALL-HOLDER	ESTATE
1980	100.0	253.8	260.7
1981	78.8	209.0	213.9
1982	60.2	162.4	165.1
1983	74.7	197.0	201.3
1984	67.2	194.1	198.3
1985	53.3	161.7	164.4
1986	56.6	177.1	180.5
1987	69.1	na	na
1988	86.0	na	na
1989	67.6	na	na

Source: Abdul Rahman (1991); IMF (1988; 1990)

smallholders. This gives rise to two separate issues. The first effect is that smallholders who do not replant subsidise those who do. As those not replanting are most likely to be among the poorest smallholders, in effect the poorest are subsidising the less poor. The second is the net effect of the combination of the replanting grant and cess. Shari (1990) found that for yields of above 500 kg/ha, a net tax is implied. Table VIII-15 shows that the average yield is higher than 500 kg/ha for all groups. Therefore, rubber producers are in effect paying a tax they can ill afford.

The direct nominal rate of protection provides a measure of the impact of taxation on the rubber industry. Nominal protection rates are calculated by comparing the "border"[6] price of rubber relative to the nonagricultural price index with the actual price of rubber relative to the same nonagricultural index. Table VIII-18 shows that between 1980 and 1988, the direct nominal protection rate was negative for each year and averaged -12.9 percent for estate rubber and -13.6 percent for smallholder rubber per year. The negative nominal rates of protection suggest that Malaysia's taxation policies have effectively discriminated against the rubber industry throughout the 1980s and therefore have also reduced the income of rubber producers.

Programs have also been implemented to increase the income of paddy farmers as this is another predominant source of rural poverty. In 1987 the incidence of poverty among paddy farmers was 57.8 percent (World Bank 1991: 91). The Malaysian government's policies and programs to alleviate poverty in the rice sector has emphasized input interventions. This includes low cost credit, fertiliser subsidies and irrigation and drainage works for double cropping. Development expenditure on irrigation and drainage reached M$ 928 million during

TABLE VIII-18
MALAYSIA: NOMINAL PROTECTION RATES ARISING FROM TAXATION POLICIES IN THE RUBBER INDUSTRY, 1980-1988

YEAR	TYPE OF PRODUCER	
	ESTATE	SMALL-HOLDER
1980	-0.29	-0.30
1981	-0.21	-0.22
1982	-0.12	-0.13
1983	-0.14	-0.15
1984	-0.07	-0.08
1985	-0.08	-0.08
1986	-0.07	-0.06
1987	-0.07	-0.08
1988	-0.11	-0.12

Source: Abdul Rahman (1991)

the 1981-85 period. This has increased the proportion of wet padi land available for double cropping from two percent in 1960 to 57 percent in 1975 (Shari 1990). More than 40 percent of the double cropped area is in the Muda irrigation project.

A comparison of the mean paddy yields (kg/hectare) of the Muda scheme and that of the rice industry average, show that productivity levels are higher under the Muda scheme in both main and off-season harvests. The difference in the off-season mean paddy yield is much smaller than in the main season (Table VIII-19). However, the 1980s has not seen a consistent increase in productivity. In fact the 1989/90 mean paddy yield is lower than in 1980/81. As paddy farmers regard the irrigation schemes as belonging to the government, they have little incentive to invest the labour necessary to maintain the facilities. In addition, they are unwilling to partake in off-season planting as more remunerative off-farm employment is available.

The other main method to combat poverty in the paddy sector is the price subsidy scheme, where the government pledged to buy the paddy at a guaranteed minimum price. The National Paddy and Rice Marketing Board (Lembaga Padi Negara, LPN) was set up in the early 1970s to implement and enforce the scheme. It presently controls the strategic rice stockpile and regulates the number of importers, wholesalers, buyers and millers in addition to the price of rice and paddy.

A study of the impact of the subsidies policy on farmers' earnings (Mohd. Arshad 1990) revealed that the fertiliser subsidy led to increased fertiliser use which in turn increased output and profits. She claimed that subsidies resulted in a 40.1 percent increase in profits (fertiliser subsidy - 11.9 percent, price subsidy - 28.2

TABLE VIII-19
COMPARISON OF MEAN PADDY YIELDS (KG/ HECTARE) IN THE MUDA AREA TO THAT OF THE RICE INDUSTRY AVERAGE, 1980 - 1990

YEAR	MAIN SEASON		OFF SEASON	
	MUDA	AVERAGE	MUDA	AVERAGE
1980/81	4,702	2,994	4,401	3,547
1981/82	4,250	3,008	3,267	3,219
1982/83	3,156	2,874	3,123	3,062
1983/84	4,282	2,631	3,255	3,089
1984/85	4,197	3,048	4,046	3,285
1985/86	3,995	3,078	3,506	3,285
1986/87	4,203	3,129	2,483	2,734
1987/88	4,195	3,061	3,035	2,932
1988/89	3,999	2,989	3,490	3,271
1989/90	4,039	3,214	3,593	3517

Source: Paddy Statistics (various years), MADA, Shari (1990)

percent). Shari (1990) claims that the numerous irrigation schemes and rehabilitation projects have failed to increase production in the paddy sector. The large decrease in allocation for irrigation and drainage expenditure, to M$ 337 million under the Fifth Malaysia Plan, indicates the government's realization of its limited effect on production.

Although all these programmes do benefit poor households, it has been claimed that they favour those with more land and the rural rich (Shari & Mat Zin 1990). Muhammad Said (1988) states that these costly programs have not been effective in reducing the incidence of poverty among paddy farmers because the distribution of subsidies is proportionately related to farm size. As poverty is inversely related to farm size, the distribution of both fertiliser and price subsidies are biased towards large farms. An assessment of the price subsidy, conducted by LPN in 1982, showed that its benefits were not equitably distributed. The skewed distribution of the price subsidy is demonstrated in Table VIII-20. Under the price subsidy scheme, 12.1 percent of the total price subsidy ($21.039 million) went to 59.3 percent of the paddy farmers who each received less than $500. In contrast, 21.8 percent of total subsidies ($53.737 million) went to 3.1 percent of farmers, who each received more than $4,000. Therefore, despite the fact that income levels are raised and poverty is reduced (Table VIII-1), subsidies may in fact perpetuate rural inequalities.

De Koninck (1981) claims that a capitalistic entrepreneurial class has emerged from government development programmes such as the Muda Development Scheme. The diffusion of double cropping, chemical fertilisers and mechanised harvesting has increased agricultural output. However, the increase in yields are

TABLE VIII-20
MALAYSIA: DISTRIBUTION OF PRICE SUBSIDY, 1982

CATEGORIES OF VALUES OF PRICE SUBSIDY	FARMERS (%)	SUBSIDY (%)
< $500	59.3	12.1
$500-2,000	29.0	36.8
$2,000-4,000	8.6	29.3
$4,000-6,000	2.2	12.7
$6,000-8,000	0.6	5.0
$8,000-10,000	0.2	1.9
> $10,000	0.2	2.2
TOTAL	100.0	100.0

Source: Mohd. Arshad (1990)

proportionately related to the size of land cultivated; thus the larger plot, the greater the increase. Those with larger hectarage will employ workers, who may be household members of smaller farmers. Families belonging to this entrepreneurial class are characterised by their capacity to accumulate, due to the productivity of wage labour on their land. The social position of its family members can be improved by further education or obtaining better employment in the non-agricultural sector.

These farmer-entrepreneurs also often own farm equipment, such as tractors, which are rented to the smaller farmers (Wong 1980). This suggests that development schemes, such as that in the Muda region, leads to increased polarization in the position of social classes. This in turn results in increased income inequality in that area.

In addition, as in the case of settler criteria, the provision of subsidies can be influenced by politics. As applications for subsidies have to be examined by village leaders, who are usually members of the national party, paddy farmers belonging to the opposition party often have their applications delayed or misplaced (Jenkins and Lai 1991). They claim that certain villages, particularly those in Kelantan where the incidence of poverty is one of the highest for the nation, are at times excluded from the subsidy scheme.

Despite differences in the projects, average household income in twelve out of the fifteen IADPs exceed the national poverty line income for the given year (Table VIII-21). However, the increase in total income arises mainly from non-farm employment. Table VIII-21 also shows that with the exception of MADA II, Samarahan, Barat Laut and Johor Barat, current non-farm

TABLE VIII-21
INTERGRATED AGRICULTURAL DEVELOPMENT PROJECTS HOUSEHOLD INCOME, 1987-1990

IADP	HSEHOLD INCOME		FARM INCOME		% OF NON FARM INCOME TO TOTAL INCOME
	BEFORE PROJECT (M$)	CURRENT (M$)	BEFORE PROJECT (M$)	CURRENT (M$)	
1987: (M$ 4,274)					
BESUT	1,030	5,700	na	2,364	58.9
1988: (M$ 4,392)					
KIRIAN/SG. MANIK	2,487	4,098	1,699	1,912	53.3
SAMARAHAN	4,130	5,442	1,303	3,364	38.2
1989: (M$ 4,512)					
MELAKA	3,229	7,716	na	1,797	76.7
PERLIS	4,395	6,780	na	1,938	71.4
1990: (M$ 4,673)					
MADA II	4,001	4,392	3,523	4,323	1.6
KADA	647	4,649	361	1,913	58.9
BARAT LAUT	2,862	6,556	na	3,966	39.5
N. SEMBILAN	1,750	5,460	na	1,464	73.2
KEMASIN SEMARAK	2,058	5,436	775	1,123	79.3
LEMBAH KEDAH	3,200	6,840	1,288	2,856	58.2
PAHANG BARAT	2,370-3,792	5,388	2,185	1,668	69.0
PENANG	na	7,127	1,500	2,694	62.2
JOHOR BARAT - I	1,400	7,995	na	6,825	14.4
- II	4,276		na		
KALAKA SARIBAS	2,800	3,246	na	na	na

Note: Poverty line income for the given year is in brackets
Source: Malaysia, Ministry of Agriculture (1993)

income is more than half of total current income. This indicates that although the in-situ development strategy of the IADPs has facilitated crop and activity diversification in agriculture, it has had a limited impact from the point of view of farm income increases. The fairly high rate of growth of the economy, increased urbanization and the consequent opportunities for off-farm employment, combined with the substantial release of labour hours due to expanded mechanisation, have widened the potential for income increases.

In 1987 although 64 percent of the population lived in rural areas, the average rural household derived only 25.7 percent of its income from the agricultural sector (paid employment - 11.8 percent, self-employment - 13.9 percent) (Table VIII-22). This suggests that as rural households are diversifying into non-agricultural activities, policies should not only emphasise earnings purely from agriculture, but also from other sources. As 13.7 percent of rural household income is derived from the manufacturing sector, greater importance should be placed on regional policies to speed up the diffusion of regional concentration and locate more industries in the poorer and less developed areas of Malaysia[7]. In addition training programmes in non-agricultural skills and credit facilities can be provided to facilitate the movement of rural households out of the target groups and into occupations with lower incidences of poverty.

b) Departmental Programmes

To increase the income of poor fishermen in the east coast states of Peninsular Malaysia, the government implemented two programs: the cooperative marketing scheme; and the subsidy scheme. Both schemes were designed to eliminate the dependence of fishermen on middlemen. The government believed that fishermen were being exploited by middlemen in two ways. Firstly,

TABLE VIII-22
PENINSULAR MALAYSIA: SOURCES OF RURAL HOUSEHOLD INCOME 1987 (%)

SOURCE	% OF TOTAL INCOME
PAID EMPLOYMENT:	
AGRICULTURE	11.8
MANUFACTURING	11.1
CONSTRUCTION	2.9
TRADE	4.8
FINANCIAL SERVICES	3.7
TRANSPORT	2.9
SOCIAL SERVICES	21.1
OTHER	2.0
SELF EMPLOYMENT:	
AGRICULTURE	13.9
MANUFACTURING	2.6
TRADE	8.4
FINANCIAL SERVICES	0.7
SOCIAL SERVICES	3.1
OTHER	3.3
PROPERTY	0.9
TRANSFERS	6.8
TOTAL	100.0

Source: Calculated using HIS 1987 and Lucas & Verry (1990: III-98)

middlemen would market the fish bought from fishermen (at low prices), at higher prices for a profit. Secondly, the lack of funds cause fishermen to be dependent on middlemen as a source for loans, to buy fishing boats and the necessary equipment to fish. This dependence on middlemen would then lock the fishermen in "exploitive" marketing arrangements (Shari 1990).

The Fisheries Division of the Ministry of Agriculture and LKIM (Malaysian Fisheries Development Authority) are responsible for implementation of these two programmes. They includes the acquisition and operation of fishing fleets; the development of infrastructure and development; the supervision and promotion of fishermen's organisations; the marketing of fish; regulating the industry; conducting marine research and training. Various subsidy schemes have been implemented under the NEP. These included subsidies to improve existing vessels; to purchase fishing nets and ice boxes; and the provision of fishing boats to those not possessing boats.

Mehmet (1986; 51-53) claimed that the fishery subsidies had failed and attributed the loss of vast amounts of public funds to ineffective and inexperienced supervision. However in a assessment of the fisheries sector, the World Bank (1991) claimed that the failure of subsidy schemes is restricted to the government's inability to manage the schemes properly and efficiently. The report said that the government's development programs, although inefficient, did contribute to the rapid technological changes in the industry, which led to increased productivity in the fishery sector. They also stated that without these subsidies for modern boats and equipment, higher incomes could not have been attained.

The substantial reduction of poverty observed in the fishery sector, 45.3 percent in 1980 to 24.5 percent in 1987 (Table VIII-1), can be attributed to the government development programmes directed at the fisheries sector. Unlike the other target groups, there has not been a movement out of this sector. In fact since 1980, the number of fishermen households increased by 900 to 43,700 households in 1987 (Table VIII-3). This implies that the decrease in poverty is due solely to a rise in the level of income of fishermen. The rise in income level is attributed to increased productivity. Although the number of fishing boats declined between 1980 and 1990, productivity levels increased from 20.4 to 35.4 metric tonnes per boat (Table VIII-23). This translated to an increase in yield per fisherman, from 7 metric tonnes in 1980 to 13.7 metric tonnes in 1990. These findings tend to corroborate the views expressed by the World Bank.

II. HUMAN RESOURCE DEVELOPMENT

The importance of education in raising earnings and income levels has long been recognised (Harbison 1974; Tumin & Feldman 1961: 44; Snodgrass 1980: 252). Education is regarded as a powerful tool that can help in the reduction of economic inequality between the upper and lower social strata. Its main economic functions are to develop the skills, knowledge and capacities of people for participation in the labour force. It has been argued that vertical social mobility is highly dependent on the level of education attained and educational opportunities should be expanded and made more accessible if a more egalitarian society is to be achieved (Thurow 1972). Thus, the NEP emphasises education as an efficient weapon to eradicate poverty and eliminate the identification of race with economic function (Malaysia 1971: 222). Education policies are

TABLE VIII-23
PENINSULAR MALAYSIA: AVERAGE YIELDS OF THE FISHERY SECTOR, 1980-1990

YEAR	NO. OF BOATS	% OF ENGINED BOATS	NO. OF FISHERMEN (licensed)	YIELD PER BOAT (metric ton)	YIELD PER FISHERMAN (metric ton)
1980	30,520	82.0	88,972	20.4	7.0
1981	30,390	85.5	86,926	21.4	7.5
1982	27,741	90.6	80,237	20.5	7.1
1983	25,695	91.4	75,590	22.2	7.5
1984	25,673	93.4	76,092	18.8	6.3
1985	23,371	94.4	69,530	19.8	6.7
1986	22,627	95.6	63,051	19.9	7.5
1987	22,138	96.0	60,569	33.4	12.2
1988	21,341	96.5	58,283	32.5	11.9
1989	23,459	96.6	62,580	31.8	11.9
1990	23,134	96.6	59,801	35.4	13.7

Notes:
1. Data is obtained from the Fisheries Department and not from the Household Income Surveys (HIS). The Fisheries Department defines "fishermen" as individuals involved in fishing activities who are registeredwith the Department i.e. licensed fishermen.
2. Table VIII-3 states that the number of fishermen households increased between 1984 and 1987. However this table states that the number of fishermen declined between 1984 and 1987. An explanation for this discrepancy is that Table VIII-3 is based on the HIS. The unit of enumeration used is "household" and not individuals. A second explanation lies in the definition of "fishermen". The HIS defines a "fishermen household" as one whose head of household is involved in fishing activities. A household will be classified as a "fishermen household" if the household head is engaged in fishing activities regardless of whether he is registered with the Fisheries Department. In addition under this definition, even if members of a household are licensed fishermen, the household will not be classified as a "fishermen household" unless the head of household is engaged in fishing activities. Another possible explanation is that the number of fishermen per household has decreased. However, the relevant authority cannot confirm or reject this supposition.
Source: Shari (1994c: 124); Malaysia, Department of Statistics
"Yearbook of Statistics" (various years)

developed not only to impart skill and knowledge, but also to instil values in line with the principles of "Rukunegara" (National Ideology) (Malaysia 1981: 343).

The National Education Policy stressed the importance of access to education; the creation of a common curriculum; the implementation of Bahasa Malaysia as the medium of instruction; and the integration of the Sabah and Sarawak educational systems into the national system. It also emphasized vocational and technical education in order to meet manpower requirements effectively as well as to upgrade the productive capacity of the workforce (Malaysia 1976: 391; 1986: 483).

Various programmes were implemented to achieve these objectives. Among these was the free provision of primary and secondary education and assistance to the poor, which ranged from loans for text books, and meals during school hours, to scholarships. Educational services were introduced on television in 1972, and schools were provided with television and radio to aid the teaching and learning process. 'In-service' courses were conducted for qualified teachers to upgrade teaching standards (Malaysia 1986: 483-496). The access for students from rural areas was increased by the establishment of two types of elite secondary institutions, the residential science and secondary schools and the MARA Junior Science Colleges (MRSM). The aim of these high quality institutions was to train its students (almost entirely Bumiputera from rural areas) in the science and technical subjects to facilitate Bumiputera participation in the modern sector. Affirmative action policies (ethnic quota policy) at the tertiary level have been implemented with the same intention.

As the manufacturing and services sectors are the main engines of growth, the quality of the labour force will need to be further enhanced, in terms of ingenuity, innovativeness and capacity to absorb and adapt technology. To produce the necessary skilled manpower in the various fields of industrial activities, the public sector established industrial training institutes, vocational and youth training centres. The planning and development of training are monitored by the National Institute Training and Trade Certification Board, to ensure that curricula and trade standards complement industry requirements.

Table VIII-24 does not indicate any relative lack of commitment to education in terms of the overall allocation of resources. In 1990, at 6.9 percent of GNP, Malaysia spent a greater proportion of its GNP on education than its Asian neighbours. The government's commitment to education is reflected in the proportion of federal government development expenditure allocated to this item (Table VIII-25). There has been a steady increase in the proportion of federal government development expenditure allotted to education until 1987, when it peaked at 17.1 percent. Since then, although education expenditure has declined as a percentage of development expenditure, in real 1980 terms, the amount spent per year has tripled between 1980 and 1989, from M$558 million to M$1678 million in 1989.

Table VIII-26 shows the large variation in real expenditures per student (unit costs) between the three different levels of education. As the difference in unit costs reflect the different objectives and underlying costs structures, they are not directly comparable (Lucas and Verry 1990: IV-11 to 14). However, real per capita expenditure in all three levels of education has

TABLE VIII-24
EXPENDITURE ON EDUCATION AS A PERCENT OF
OF TOTAL PUBLIC EXPENDITURE AND GNP, 1990
- SELECTED COUNTRIES.

COUNTRY	PUBLIC EXPENDITURE (%)	GNP (%)
MALAYSIA	18.8	6.9
JAPAN	na	5.0
HONG KONG	17.4	3.0
KOREA	22.4	3.6
SINGAPORE	na	3.4
THAILAND	20.0	3.8
PHILIPPINES	10.1	2.9

Source: UNDP (1994: 158, 192)

TABLE VIII-25
MALAYSIA: DEVELOPMENT EXPENDITURE
ON EDUCATION, 1970-1990

YEAR	EXPENDITURE ON EDUCATION		
	(M$ million)		% of TOTAL
	NOMINAL	REAL (M$ 1980)	EXPENITURE
1980	558	558	7.5
1981	791	868	7.0
1982	1,082	1,256	9.4
1983	988	1,190	10.2
1984	1,009	1,262	12.0
1985	872	1,094	12.2
1986	1,064	1,345	14.1
1987	810	1,035	17.1
1988	865	1,136	16.5
1989	1,242	1,678	16.1

Source: Malaysia, Ministry of Finance
"Economic Report" (various years)

TABLE VIII-26
AVERAGE EDUCATION EXPENDITURE PER STUDENT
BY LEVEL OF EDUCATION, 1980-1990.

YEAR	PRIMARY (M$ 1980)	SECONDARY (M$ 1980)	TERTIARY (M$ 1980)
1980	52	144	4,405
1981	68	223	na
1982	97	321	na
1983	90	285	na
1984	94	289	na
1985	80	247	6,805
1986	80	265	na
1987	61	209	na
1988	65	229	4,206
1989	94	336	na
1990	124	451	7,101

Notes:
1. The average education expenditure is defined as the amount spent on level of education (i) divided by number of students in level (i)
2. 1980: primary education received 18.8% of expenditure; secondary education received 28.0% of expenditure and tertiary education received 29.1% of expenditure (Malaysia 1981:358)
2. 1981-1985: primary education received 16% of expenditure; secondary education received 29.1% of expenditure and tertiary education received 43.4% of expenditure (Malaysia 1986: 504)
3. 1986-1990: primary education received 13.3% of expenditure; secondary education received 27.1% of expenditure and tertiary education received 30.3% of expenditure (Malaysia 1991: 183)
Source: Calculated using Tables VIII-25 & 27

increased since 1980. Following the 1985-86 recession real expenditure per student declined, but by 1990 it was at its highest level since 1980, in primary, secondary and tertiary levels of education.

The increased education expenditure has resulted in increased educational opportunity at all levels of education. By 1990 enrolment at the primary level was almost universal, with 99.8 percent of all children between the ages 6 and 11 (inclusive), attending schools (Table VIII-27). Secondary and tertiary education levels have also been steadily rising, with the enrolment rate at the tertiary level more than doubling between 1980 and 1990.

Participation among the ethnic groups at the various levels of education in local institutions improved between 1980 and 1989[8]. The "participation of Bumiputera"[9] at the primary level increased from 58.4 to 62.2 percent, while at the tertiary level it only increased by 0.1 percentage points from 72.4 to 72.5 percent (Table VIII-28). Though the increase in Bumiputera tertiary share was only 0.1 percentage points, in absolute terms enrolment almost doubled. This was due to the large increase in the total number of students at the tertiary level between 1980 and 1988. Tertiary enrolment increased from 36,809 in 1980 to 81,807 in 1988 (Table VIII-27). Although the participation rate[10] at the secondary level decreased from 61.7 to 58.6 percent, in absolute terms Bumiputera enrolment increased from 668,447 in 1980 to 787,435 in 1988 (a 17.8 percent increase) (Table VIII-18). This was again due to the increased number of students attending secondary schools between 1980 and 1988 (Table VIII-27). A decrease was experienced in Chinese share of total enrolments at both primary and tertiary levels. However, enrolment in absolute terms increased by 80 percent at

TABLE VIII-27
MALAYSIA: STUDENT ENROLMENT BY LEVEL OF EDUCATION, 1980-1990

YEAR	PRIMARY		SECONDARY	TERTIARY
	('000)	(%) *a	('000)	
1980	2,009	93.6	1,084	36,809
1981	2,034	93.3	1,135	na
1982	2,072	93.4	1,141	na
1983	2,120	94.1	1,217	na
1984	2,146	94.4	1,271	na
1985	2,193	95.4	1,293	69,762
1986	2,232	97.0	1,374	na
1987	2,270	97.1	1,339	na
1988	2,332	99.0	1,345	81,807
1989	2,390	98.8	1,353	na
1990	2,447	99.8	1,366	97,190

Note: *a - Primary school enrolment as a percentage of primary school-age population, that is children aged 6-11 years

Source: Malaysia, Ministry of Finance "Economic Report" (various years) and
Malaysia (1986: 493; 1989: 274; 1991:160)

TABLE VIII-28
MALAYSIA: PARTICIPATION BY ETHNIC GROUP AT VARIOUS LEVELS OF EDUCATION (LOCAL INSTITUTIONS), 1980 & 1988.

LEVEL OF EDUCATION	1980	1988
PRIMARY EDUCATION:		
1. ENROLMENT *a		
BUMIPUTERA	1,173,015	1,450,610
CHINESE	646,765	655,340
INDIAN	154,661	179,577
2. ENROLMENT *b		
BUMIPUTERA	58.4%	62.2%
CHINESE	32.2%	28.1%
INDIAN	7.7%	7.7%
TOTAL *c	98.3%	98.0%
SECONDARY EDUCATION:		
1. ENROLMENT *a		
BUMIPUTERA	668,447	787,435
CHINESE	318,411	442,641
INDIAN	84,892	100,283
2. ENROLMENT *b		
BUMIPUTERA	61.7%	58.6%
CHINESE	29.4%	32.9%
INDIAN	7.8%	7.4%
TOTAL *c	98.9%	98.9%
TERTIARY EDUCATION		
1. ENROLMENT *a		
BUMIPUTERA	26,692	59,278
CHINESE	8,442	18,556
INDIAN	1,448	3,595
2. ENROLMENT *b		
BUMIPUTERA	72.4%	72.5%
CHINESE	22.9%	22.7%
INDIAN	3.9%	4.4%
TOTAL *c	99.2%	99.6%

Note: *a - number of students enrolled
*b - percentage breakdown of education level, by ethnic group
*c - does not add up to 100% as "Other" races are omitted
Source: Calculated from Malaysia (1986: 493; 1989: 274)

the tertiary level, and by 1.3 percent at the primary level. For the Indians, enrolment increased in absolute terms for each level of education while their share of total enrolment remained relatively stable.

Since the launch of the NEP, the Bumiputeras have gained the dominant position in terms of ethnic representation in the local tertiary institutions (Table VIII-28). In 1970, Bumiputera participation rate at the tertiary level was under-represented. At 41 per cent, this was below its proportion of the total population (Snodgrass 1980: 249). The high Bumiputera representation at the tertiary level of education in the 1980s was a result of the state's interventionist approach. Under the NEP, the state emphasised inter-ethnic equity rather than efficiency as the criterion in university admissions (Toh 1982: 402-410). A "quota system" was implemented to ensure that the racial composition of an institutions's student population reflected the racial composition of the country (Malaysia 1971: 128).

This also applied to the institution's different faculties, as it was observed that Bumiputeras tended to be enroled in courses such as Arts and Language, Humanities and Islamic Studies. Bumiputera enrolment in the sciences and technical disciplines continued to lag behind the non-Bumiputeras. In 1975 Bumiputeras comprised only 25.8 percent of those in the Science Faculties, 31.8 percent of the engineering enrolments and 39 percent of those studying medicine (Toh 1982: 406)[11]. Students from rural areas[12], where facilities for science-based studies are limited, were given special assistance and tuition. Pre-Medical, pre-Sciences and pre-Engineering courses were also offered in hope of achieving greater Bumiputera representation in these disciplines so as to create a Bumiputera industrial

community.

Despite the rapid expansion in the number and size of higher learning institutions[13], the increased demand for places could not be filled. In 1986 only 20 percent of tertiary level applicants were granted admission (Selvaratnam 1987: 20). To meet the increasing demand for higher education, the government sent large numbers of students to overseas tertiary institutions, financed by scholarships, grants, fellowships and low or zero interest loans (Malaysia 1971: 406; Selvaratnam 1987: 21). However, preference continues to be given to Bumiputera applicants[14].

While improving Bumiputera participation at the tertiary level, the state's education policy has been met with feelings of resentment from the non-Bumiputera middle classes (Toh 1982: 408; Snodgrass 1980: 251; Jomo and Shari 1986: 94). Children of the non-Bumiputera middle classes felt that the opportunity to enter institutions of higher learning was being curtailed. This policy certainly resulted in a smaller quota for non-Bumiputeras in Malaysia's higher learning institutions. This in turn led to increased competition and higher admission standards.

As a result, those who could afford to send their children abroad did so. The large increase in the number of Chinese students studying in overseas tertiary institutions, 18,447 in 1980 and 34,181 in 1988, could have contributed to the slight decline in Chinese participation rate at the tertiary level in local institutions (Table VIII-29)[15]. It is interesting to note that, when enrolment in tertiary education at overseas institutions are included, a more ethnically balanced student population is observed. In 1988 the ethnic breakdown of students enrolled at both local and

TABLE VIII-29
MALAYSIA: ENROLMENT IN TERTIARY EDUCATION BY ETHNIC GROUP IN OVERSEAS INSTITUTIONS, 1980 & 1988

	1980	1988
1. ENROLMENT *a		
BUMIPUTERA	7199	18055
CHINESE	18447	34181
INDIAN	3845	7703
2. ENROLMENT *b		
BUMIPUTERA	24.2%	29.8%
CHINESE	62.1%	56.5%
INDIAN	12.9%	12.7%
TOTAL *c	99.2%	99.0%

Source: Malaysia (1986: 490-491; 1989: 276-278)

TABLE VIII-30
MALAYSIA: ENROLMENT IN TERTIARY EDUCATION BY ETHNIC GROUP IN LOCAL AND OVERSEAS INSTITUTIONS, 1980 & 1988

	1980	1988
1. ENROLMENT *a		
BUMIPUTERA	34,951	78,200
CHINESE	34,304	60,541
INDIAN	6,696	12,781
2. ENROLMENT *b		
BUMIPUTERA	45.6%	51.2%
CHINESE	44.8%	39.7%
INDIAN	8.7%	8.4%
TOTAL *c	99.2%	99.2%

Source: Malaysia (1986: 491; 1989: 278)

Note Tables VIII-29 & 30: *a - number of students enrolled
*b - percentage breakdown of education level, by ethnic group
*c - does not add up to 100% as "Other" races are omitted

overseas tertiary institutions was 51.2 percent Bumiputera, 39.6 percent Chinese and 8.4 percent Indians (Table VIII-30).

Public sector programmes have expanded educational opportunities and attainment among children from rural areas. The conversion to a unified system of education based on Bahasa Malaysia as the medium of instruction, gave the growing number of Bumiputera students, from rural Malay medium schools, access to various post-secondary schools and tertiary level institutions within the country. This then widens the spectrum of job opportunities which would otherwise be closed to them. Therefore, this has enhanced the role of rural education as a vehicle for the rural population to make the transition from agriculture. Lucas and Verry (1990: III-25) claimed that a strong positive relationship existed between the level of education and internal migration. They found that the migrants were significantly more educated than non-migrants. In addition, the proportion of migrants with tertiary and secondary education was higher than for non-migrants, while the proportions of migrants with primary or little education was lower. As discussed earlier in this chapter, a significant contribution to the reduction of poverty was the move of households out of low paying agricultural occupations. Education has enabled the rural poor to participate in the expanding modern sector and widened the range of job opportunities available to them, thus facilitating their movement out of poverty.

Lucas and Verry (1990: III-59-64) estimated Malaysian earnings in 1988, using individual data. Their results show that earnings are dependent on education (Table VIII-31). The greater the length of education, the greater the increase in earnings. In urban areas for those engaged in paid employment, each additional year

TABLE VIII-31
REGRESSION ANALYSIS OF INDIVIDUALS' WAGE EARNINGS, 1988
(DEPENDENT VARIABLE: LOG OF MONTHLY EARNINGS)

INDEPENDENT VARIABLE	URBAN	RURAL
INTERCEPT	3.257 (47.1)	3.545 (13.65)
AGE (years)	0.102 (25.96)	0.092 (6.24)
AGE SQUARED	-0.001 (19.13)	-0.001 (5.07)
SCHOOLING (years)	0.089 (41.5)	0.068 (7.86)
TRAINING (dummy)	0.131 (3.19)	0.122 (.63)
FEMALE (dummy)	-0.260 (17.85)	-0.379 (7.18)
UNION PLANT (dummy)	0.128 (7.26)	0.118 (1.96)
PUBLIC SECTOR (dummy)	0.065 (3.31)	0.254 (3.71)
TINY PLANT (dummy)	-0.259 (13.47)	-0.266 (3.61)
PART-TIME (dummy)	-0.265 (8.20)	-0.373 (4.22)

Source: Lucas & Verry 1990 (III-61 & 62)

of schooling raises earnings by about nine percent. In rural areas, the increase is about seven percent. Similarly, the return to employment training is a 13 percent increase in earned income in urban areas and 12 percent in rural areas. As shown in Chapter VII, a strong negative relationship exists between education and poverty. The effect of an additional year of schooling is an eight percent decline in the incidence of poverty [16]. This suggests that Malaysia's educational policy has been an effective tool in raising incomes and reducing poverty.

The shift to labour-intensive, export-oriented industrialization has led to the expansion of employment opportunities in the secondary and tertiary sectors (with the exception of the mining and quarrying sector). A contraction was observed in the agricultural (primary) sector with the total number employed in the sector falling by 9 percent, from 1,910,900 in 1980 to 1,738,000 in 1990 (Table VIII-32). This expansion of employment opportunities[17] has also brought about favourable structural changes in the ethnic composition of employment. Although the number of workers increased for each ethnic group in every sector, (except agriculture and mining & quarrying) (Table VIII-33), Bumiputera participation rates[18] have greatly improved (Table VIII-34). In 1980, 40.9 percent of those engaged in the manufacturing sector were Bumiputeras. By 1990, this figure had increased to 50.3 percent. Increased Bumiputera participation rates were seen in every sector. Although the share of Bumiputeras involved in agriculture had increased, this was not due to an increase in the number of Bumiputera employed in the sector. In absolute terms, the number of Bumiputeras employed in the agricultural sector had fallen from 1,396,900 in 1980 to 1,338,300 in 1990 (Table VIII-33). However, the move out of agriculture was faster among

TABLE VIII-32
MALAYSIA: EMPLOYMENT BY SECTOR, 1980 & 1990

SECTOR	NO. EMPLOYED ('000)		CHANGE IN EMPLOYMENT 80-90	
	1980	1990	('000)	(%)
AGRICULTURE *a	1,910.9	1,738.0	-172.9	-9.0
MINING & QUARRYING	80.1	37.0	-43.1	-53.8
MANUFACTURING	755.1	1,333.0	577.9	76.5
CONSTRUCTION	270.2	424.0	153.8	56.9
UTILITIES	31.0	47.0	16.0	51.6
TRANSPORT & COMM.	209.5	302.0	92.5	44.2
WHOLESALE *b	676.2	1,218.0	541.8	80.1
FINANCE, REAL ESTATE *c	78.3	258.0	179.7	229.5
GOVERNMENT SERVICES	658.2	850.2	192.0	29.2
OTHER SERVICES	147.4	375.0	227.6	154.4

Notes: *a - also includes forestry and fishing
*b - also includes retail, hotels and restaurants
*c - also includes business services
Source: Calculated from Malaysia (1986: 102; 1991a: 36; 1993: 64)

TABLE VIII-33
MALAYSIA: NUMBER OF PEOPLE EMPLOYED BY SECTOR AND ETHNIC GROUP, 1980 & 1990

SECTOR	1980 ('000)	1990 ('000)	CHANGE FROM 1980 &199 ('000)	('%)
1. AGRIC, FORESTRY & FISHING				
BUMIPUTERA	1,396.9	1,338.3	-58.6	-4.2
CHINESE	313.4	253.7	-59.7	-19.0
INDIAN	185.3	137.3	-48.0	-25.9
TOTAL	1,895.6	1,729.3		
2. MINING & QUARRYING				
BUMIPUTERA	27.2	20.6	-6.6	-24.3
CHINESE	43.8	12.1	-31.7	-72.4
INDIAN	8.5	3.4	-5.1	-60.0
TOTAL	79.5	36.1		
3. MANUFACTURING				
BUMIPUTERA	308.8	670.5	361.7	117.1
CHINESE	380.8	507.9	127.1	33.4
INDIAN	60.7	148.0	87.3	143.8
TOTAL	750.3	1,326.4		
4. CONSTRUCTION				
BUMIPUTERA	105.6	177.2	71.6	51.4
CHINESE	144.3	218.4	74.1	42.2
INDIAN	17.3	24.6	7.3	42.2
TOTAL	267.2	420.2		
5. UTILITIES				
BUMIPUTERA	20.8	34.0	13.2	56.7
CHINESE	3.0	4.7	1.7	14.3
INDIAN	7.0	8.0	1.0	14.3
TOTAL	30.8	46.7		

Note: The total for each sector is not equal to that of Table VIII-32 because "Other" races are omitted

(Continued ...)

TABLE VIII-33 (Continued)
MALAYSIA: NUMBER OF PEOPLE EMPLOYED BY SECTOR AND ETHNIC GROUP, 1980 & 1990

SECTOR	1980 ('000)	1990 ('000)	CHANGE FROM 1980 &1 ('000)	('%)
6. TRANSPORT & COMMUNICATION				
BUMIPUTERA	110.2	162.2	52.0	47.2
CHINESE	73.3	93.0	19.7	26.9
INDIAN	24.9	45.6	20.7	83.1
TOTAL*a	208.4	300.8		
7. WHOLESALE *b				
BUMIPUTERA	249.5	461.6	212.1	85.0
CHINESE	373.9	655.3	281.4	75.3
INDIAN	50.1	91.4	41.3	82.4
TOTAL*a	673.5	1208.3		
8. FINANCE, REAL ESTATE *c				
BUMIPUTERA	28.9	108.9	80.0	276.8
CHINESE	43.3	120.7	77.4	178.8
INDIAN	5.8	25.5	19.7	339.7
TOTAL*a	78.0	255.1		
9. GOVERNMENT SERVICES				
BUMIPUTERA	389.2	560.3	171.1	9.7
CHINESE	195.8	214.8	19.0	7.9
INDIAN	64.2	69.3	5.1	7.9
TOTAl*a	649.2	844.4		
10. OTHER SERVICES				
BUMIPUTERA	87.9	251.1	163.2	116.8
CHINESE	42.3	91.7	49.4	95.4
INDIAN	15.3	29.9	14.6	95.4
TOTAL*a	145.5	372.7		

Note: *a - The total number employed in each sector is not equal to the figures in Table VIII-32 becasue "Other" races have been omitted
*b - also includes retail, hotels and restaurants
*c - also includes business services
Source: Malaysia (1986: 102; 1991: 36; 1993: 64)

TABLE VIII-34
MALAYSIA: PERCENTAGE BREAKDOWN OF EMPLOYMENT BY SECTOR AND ETHNIC GROUP, 1980 & 1990

SECTOR	1980 (%)	1990 (%)	CHANGE 80-90 (%)
1. AGRIC, FORESTRY & FISHING			
BUMIPUTERA	73.1	77.0	5.3
CHINESE	16.4	14.6	-11.0
INDIAN	9.7	7.9	-18.6
TOTAL *a	99.2	99.5	
2. MINING & QUARRYING			
BUMIPUTERA	33.9	55.7	64.3
CHINESE	54.7	32.7	-40.2
INDIAN	10.6	9.2	-13.2
TOTAL *a	99.2	97.6	
3. MANUFACTURING			
BUMIPUTERA	40.9	50.3	23.0
CHINESE	50.4	38.1	-24.4
INDIAN	8.0	11.1	38.7
TOTAL *a	99.3	99.5	
4. CONSTRUCTION			
BUMIPUTERA	39.1	41.8	-3.6
CHINESE	53.4	51.5	-9.4
INDIAN	6.4	5.8	-9.4
TOTAL *a	98.9	99.1	
5. UTILITIES			
BUMIPUTERA	67.1	71.2	3.1
CHINESE	9.7	10.0	-24.8
INDIAN	22.6	17.0	-24.8
TOTAL *a	99.4	98.2	

Note: *a - does not add up to 100% as "Other" races are omitted

(Continued ...)

TABLE VIII-34 (Continued)
MALAYSIA: PERCENTAGE BREAKDOWN OF EMPLOYMENT BY SECTOR AND ETHNIC GROUP, 1980 & 1990

SECTOR	1980 (%)	1990 (%)	CHANGE 80-90 (%)
6. TRANSPORT & COMMUNICATION			
BUMIPUTERA	52.6	53.7	2.1
CHINESE	35.0	30.8	-12.0
INDIAN	11.9	15.1	26.9
TOTAL *a	99.5	99.6	
7. WHOLESALE, RETAIL, HOTELS & REST.			
BUMIPUTERA	36.9	37.9	2.7
CHINESE	55.3	53.8	-2.7
INDIAN	7.4	7.5	1.4
TOTAL *a	99.6	99.2	
8. FINANCE, REAL ESTATE, BUSINESS SERV.			
BUMIPUTERA	36.9	42.2	14.4
CHINESE	55.3	46.8	-15.4
INDIAN	7.4	9.9	33.8
TOTAL *a	99.6	98.9	
9. GOVERNMENT SERVICES			
BUMIPUTERA	59.1	65.9	-14.8
CHINESE	29.7	25.3	-16.3
INDIAN	9.8	8.2	-16.3
TOTAL *a	98.6	99.4	
10. OTHER SERVICES			
BUMIPUTERA	59.6	66.9	-14.6
CHINESE	28.7	24.5	-23.1
INDIAN	10.4	8.0	-23.1
TOTAL *a	98.7	99.4	

Note: *a - does not add up to 100% as "Other" races are omitted
Source: Malaysia (1986: 102; 1991: 36; 1993: 64)

the Chinese and Indian ethnic groups, 19 per cent and 25.9 percent respectively compared to the 4.2 per cent decline in Malays. Despite a fall in Chinese representation in every sector except the utilities sector, in absolute terms employment figures rose (with the exception of agriculture and mining) (Table VIII-33).

These results show positive trends towards the restructuring of society. A comparison with the ethnic breakdown of the country (61.8 percent Bumiputera, 29.6 percent Chinese and 8.1 percent Indians) show that the Bumiputera races continue to be under-represented in the modern sectors, especially in the construction, wholesale, retail and financial and business services sectors. Nevertheless, between 1980 and 1990, improvements towards a more equitable representation in the various sectors can be observed. Bumiputera representation has increased from 36.9 to 42.2 percent in financial and business services; from 33.9 to 55.7 percent in mining and quarrying; and from 39.1 to 41.8 percent in construction (Table VIII-34). This suggests positive movements towards achieving a labour force which is fairly represented. As a result of education and training programmes, the increased supply of educated and skilled Bumiputera manpower has lead to definite progress towards reducing the identification of race with economic function[19]. The 1990 ethnic employment proportion in the different sectors is considerably closer to the overall ethnic distribution than it was in 1980.

III. **CONCLUSION**

This review of poverty alleviation programmes suggest that substantial poverty reduction has been achieved in the target occupations. However the analysis

also shows that during the 1980s, with the exception of fishermen and estate workers, this has largely been accomplished by a movement out of the target occupations rather than by increasing incomes within these occupations. Evidence shows that in real terms the average monthly income of rubber smallholders has not increased significantly between 1984 and 1990 (Table VIII-35A). As stated earlier, smallholder rubber producers' incomes continue to depend on world rubber prices. Paddy farmers' incomes in the MUDA region declined in real terms throughout the decade increasing only in 1991. However, the income of FELCRA paddy farmers has more than doubled between 1984 and 1990, although the largest increases were achieved after 1987. As such, its effect on the incidence of poverty would have occurred after the period of analysis (1980-1987) (Table VIII-35B).

Section I.B (Table VIII-13) also shows that the large income increases experienced by households under IADP projects were mainly due to increased non-farm income. In certain projects such as 'Pahang Barat', farm income in nominal current terms actually fell from M$2,185, before the project started in 1983, to M$1,668 in 1990. In real terms farm incomes on this project fell by 34.1 percent. Despite the fall in farm income, total household income increased from M$2,370-3,792 to M$5,388 in 1990 (M$4,654 in constant 1983 prices), due to rises in non-farm income. Table VIII-13 shows that households from only four of the fifteen IADP projects derived more than 60 percent of total income from farm sources. Therefore from the point of view of farm earnings, the IADP projects have had limited impact. In fact poverty continues to persist in the IADP projects where off-farm employment is limited (Malaysia, Ministry of Agriculture 1993: 11).

TABLE VIII-35
REAL AVERAGE NET INCOMES OF SELECTED DEVELOPMENT SCHEMES (M$ 1984 PRICES)

TABLE VIII-35A: RUBBER

YEAR	FELDA (M$1984)	FELCRA (M$1984)	RISDA (M$1984)
1984	506	350	353
1985	420	283	332
1986	402	344	355
1987	519	490	367
1988	687	527	381
1989	545	294	306
1990	433	418	291

TABLE VIII-35B: PADI

YEAR	FELCRA (M$ 1984)
1984	277
1985	341
1986	399
1987	423
1988	414
1989	607
1990	652

YEAR	MUDA (M$1980)
1980	342
1981	294
1982	221
1983	179
1984	207
1985	237
1989	267
1990	360

Source: Calculated from Table VIII-13
and Shari (1994c: 107)

These findings thus confirm the earlier suggestion that the move of households out of the target occupations has had a greater effect on the reduction of poverty than the reduction of poverty incidence within the target groups. The move of households to occupations with lower poverty incidence has been in part due to the development of rural industries, such as the production of handicraft items. These rural industries provide off-farm employment opportunities thereby supplementing the incomes of rural households. Technical assistance, support systems and training programmes are provided to ensure that rural households are able to participate in such industries. Between 1981 and 1985 government agencies assisted 289 craft entrepreneurs and 35 craft villages. In addition during the same period almost 1,000 people were given various types of craft skill training (Malaysia 1986: 343).

The experience of rural industries show that the move of households out of the target occupations has, in part, been made possible by training. In Chapter VII, regression analysis demonstrated that the single most important factor determining poverty by state, was education (or rather the lack of education). As discussed earlier in this chapter, the Malaysian government has acknowledged education and training as being one of the most crucial social investments. Although the results may not be immediate, in the long run the production of knowledgeable, trained and skilled individuals will be able to meet the manpower requirements of a fast growing economy. Although critics have indicated that Malaysia's education policies have not been efficient (Tzannatos 1991)[20], it has provided Bumiputeras with a much increased opportunity to participate in the country's industrialisation.

As previously mentioned, Table VIII-34 showed that

substantial advancements were made by 1990, in Bumiputera representation in the manufacturing, mining and quarrying and finance sectors. Chapter IV showed that the average income of all ethnic groups in Peninsular Malaysia had increased in real terms between 1979 and 1989, with Bumiputera incomes rising faster than non-Bumiputera incomes, thereby narrowing income imbalances. Greater Bumiputera representation in sector's with higher productivity and higher returns, has contributed to this. Therefore although the educational policy may not have been "efficient", it may have been necessary to correct racial imbalances. The growth of the non-agricultural sector, especially manufacturing, has played a crucial part in reducing the incidence of poverty and improving income inequality. The high growth[21] has led to the expansion of better employment opportunities and the improved[22] Bumiputera workforce has resulted in the decline in poverty. However the crucial point is that the Bumiputera labour force would not have been able to benefit without education.

A discussion of the effectiveness of government programmes in reducing poverty and income inequality would be incomplete without discussing their effects in East Malaysia. The MTR6MP (Malaysia 1993: 58) states that in 1990, the incidence of poverty was 34.4 percent in Sabah and 21 percent in Sarawak. This shows that there has been a decline in the incidence of poverty in Sabah and Sarawak between 1979 and 1990. However a closer examination of the data shows that the incidence of poverty in Sabah actually increased between 1984 and 1987 (Table II-3A).

As mentioned in Chapter I, the NEP was designed to address the problems found in Peninsular Malaysia. Thus Sabah and Sarawak did not formally participate in its

formulation. Therefore the implementation of the NEP was directed towards social and economic problems prevalent in Peninsular Malaysia. However, many of these problems may be quite foreign to East Malaysia. For example, the problems in the Peninsular have been discussed in terms of Chinese, Malays and Indians. Collectively, in 1987 these three ethnic groups accounted for only 23.7 and 50.4 percent of Sabah's and Sarawak's total population respectively[23]. The poverty redressal strategy for the poor in Sabah and Sarawak was only outlined five years later in the Third Malaysia Plan (3MP)(Malaysia 1976: 48-49). It stated that these two States were to increase productivity among the indigenous races engaged in traditional forms of agriculture. This was to be achieved by land development programmes, modern methods of cultivation, improved marketing and credit facilities and the provision of social services in health and education. In essence, the poverty redressal strategy for Sabah and Sarawak was a replica of that in the Peninsular.

The persistent poverty apparent in Sabah suggests that the programmes and policies have not been effective during the 1980s. This is partially due to the implementation of the NEP in Sabah. Although adjustments had to be made when applying the NEP to Sabah to accommodate differences such as the ethnicity, the nature of these adjustments were not specified. For example, as in Peninsular Malaysia, poverty is predominantly a rural phenomenon and Bumiputeras comprise the majority of the rural population (Chapter VII). However unlike in the Peninsular there is more than one ethnic indigenous group and the incidence of poverty differs between these groups. In addition, although as in the case of Peninsular Malaysia, target group occupations were identified, there is no indication that the poorest groups have been given more

attention than the less poor[24]. Changes in the different poverty groups are hard to monitor due to the lack of detailed statistical information.

Rural development programmes in Sabah have mirrored those in the Peninsular. Major resettlement schemes were implemented under the Sabah Land Development Board to raise productivity and incomes of the landless, shifting cultivators and smallholders. The policy also emphasised improving infrastructure, irrigation, teaching modern and more productive farming techniques and production practices[25]. Between 1976 and 1984 large improvements were experienced in the yield of major crops. Rubber, accounting for almost 17 percent of the value of agricultural exports and 1.3 percent of total exports in 1981, increased its output from 5,532 to 8,065 tonnes and its yield from 993 to 1,314 kg/ha, between 1976 and 1984 (Table VIII-36). Similarly, the oil palm yields rose from 16.6 to 18.8 tonnes of fresh fruit bunches per hectare between 1976 and 1982, before falling to 17.5 tonnes in 1984 (Table VIII-37). During the early 1980s palm oil and palm kernels accounted for more than 50 percent of the value of agricultural exports. Coconut yields increased steadily from 2,031 in 1976 to 2,495 nuts per hectare in 1984 (Table VIII-38).

During this period, rubber prices increased from M$1.99/kg in 1976 to M$3.12/kg in 1980 before falling M$2.31/kg in 1984, while palm oil prices increased from M$882/tonne in 1976 to M$1583/tonnes in 1984. Increased yields combined with favourable prices, suggests higher incomes for the respective farmers. This has therefore contributed to the large decline in poverty observed between 1976 and 1984, 51.2 to 33.1 percent respectively (Table II-3).

However since 1984, poverty has continued to be

TABLE VIII-36
SABAH: RUBBER ESTATES :- PLANTED HECTARAGE, PRODUCTION AND YIELD PER HECTARE, 1976-1989

YEAR	TOTAL PLANTED HECTARAGE	AVERAGE HECTARAGE TAPPED	OUTPUT (TONNE)	YIELD PER HECTARE (KG)
1976	17,113	5,572	5,532	993
1980	12,129	3,982	4,191	1,052
1984	9,222	6,138	8,065	1,314
1987	6,944	4,023	5,225	1,040
1989	6,060	4,879	5,340	1,094

TABLE VIII-37
SABAH: OIL PALM ESTATES :- PLANTED HECTARAGE, PRODUCTION AND YIELD PER HECTARE, 1976-1989

YEAR	TOTAL PLANTED HECTARAGE	AVERAGE LAND IN PRODUCTION (HECTARES)	FRESH FRUIT BUNCHES (TONNE)	YIELD PER HECTARE (TONNE)
1976	34,147	27,461	456,961	16.6
1980	46,119	32,049	597,703	18.6
1982	55,107	37,170	700,098	18.8
1984	72,214	45,490	797,938	17.5
1987	103,210	66,359	1,143,568	17.2
1989	123,883	101,669	1,697,109	16.7

TABLE VIII-38
SABAH: COCONUT ESTATES :- PLANTED HECTARAGE, PRODUCTION AND YIELD PER HECTARE, 1976-1989

YEAR	TOTAL PLANTED HECTARAGE	AVERAGE LAND IN PRODUCTION (HECTARES)	NUTS HARVESTED ('000)	YIELD PER HECTARE (# OF NUTS)
1976	3,403	1,513	3,073	2,031
1980	2,805	1,359	3,726	2,742
1983	4,642	1,127	3,138	2,784
1984	4,107	1,211	3,022	2,495
1987	3,565	1,334	4,509	3,380
1989	3,014	1,357	6,374	4,697

Source Tables VIII-36 to 38: "Annual Bulletin of Statistics, Sabah" (Various years)

problem in Sabah with the incidence of poverty rising to 35.3 percent in 1987 (Table VIII-39). The number of poor households rose from 76,000 to 89,000 households, of which 95.4 percent (12,400 households) are from rural areas (Table VIII-40). The Malaysian government claims that the slight increase in incidence of poverty was partly due to the inclusion of the large number of foreign immigrants (Malaysia 1991a: 12; 1993: 60).

Table VIII-39 shows that the incidence of poverty of every target group occupation in Sabah increased between 1984 and 1987. The factors responsible for the change differ between the target group occupations. Although the incidence of poverty among paddy farmers increased from 78.0 to 79.4 percent between 1984 and 1987, this only accounted for 4 percent of the rise in number of poor paddy households. The remaining 96 percent (11,800 households) increase in the number of poor paddy households was a result of movement into paddy farming (Table VIII-42). The number of rubber smallholders increased by 2,100 households due to both an increase in the incidence of poverty and movement into this occupation (Table VIII-43).

In the case of coconut farmers and estate workers, the move of households out of these occupations compensated the increase in incidence of poverty. Although the incidence of poverty among coconut farmers increased from 60 to 73.3 percent, the number of poor households remained unchanged (Table VIII-44). Similarly despite the rise in incidence of poverty among estate workers, the number of poor households fell by 3,200 Table VIII-45). Similar calculations showed that the small increase of 500 poor fishermen households was due to a change of occupation. If certain households had not left this form of livelihood, the number of poor fishermen households would have increased by 2,700

TABLE VIII-39
SABAH: INCIDENCE OF POVERTY 1979-1989

GROUP	1979 (%)	1984 (%)	1987 (%)	1989 (%)
SABAH	41.1	33.1	35.3	34.3
URBAN	21.3	14.3	16.4	14.7
RURAL	50.1	38.6	39.9	39.1
PADDY	na	78.0	79.4	na
RUBBER	na	57.6	68.3	na
COCONUT	na	60.0	73.3	na
FISHERMEN	na	37.5	44.2	na
ESTATE	na	51.8	53.4	na
OTHER RURAL	na	30.1	27.5	na

Note: na = not available
Source: Malaysia (1984: 87; 1989: 52; 1991a: 32)

TABLE VIII-40
SABAH: POOR HOUSEHOLDS BY SELECTED GROUPS, 1984-1989

TABLE VIII-40A: NUMBER OF POOR HOUSEHOLDS

GROUP	1984 ('000)	1987 ('000)	1989 ('000)
SABAH	76.0	89.0	99.6
URBAN	7.5	8.1	8.5
RURAL	68.5	80.9	91.1
PADDY	16.4	28.7	na
RUBBER	2.0	4.2	na
COCONUT	1.4	1.4	na
FISHERMEN	3.5	4.0	na
ESTATE	6.3	3.1	na
OTHER RURAL	38.9	39.5	na

TABLE VIII-40B: PERCENT OF POOR HOUSEHOLDS

GROUP	1984 (%)	1987 (%)	1989 (%)
SABAH	100.0	100.0	100.0
URBAN	9.9	9.1	8.5
RURAL	90.1	90.9	91.5
PADDY	21.6	32.2	na
RUBBER	2.6	4.7	na
COCONUT	1.8	1.6	na
FISHERMEN	4.6	4.5	na
ESTATE	8.3	3.5	na
OTHER RURAL	51.2	44.4	na

Note: na = not available
Source: Malaysia (1989: 52; 1991a: 32)

TABLE VIII-41
SABAH: TOTAL NUMBER OF HOUSEHOLDS BY SELECTED GROUPS, 1984-1989

TABLE VIII-41A: NUMBER OF HOUSEHOLDS

GROUP	1984 ('000)	1987 ('000)	1989 ('000)
SABAH	229.9	252.1	290.8
URBAN	52.4	49.4	57.8
RURAL	177.5	202.8	233.0
PADDY	21.0	36.1	na
RUBBER	3.5	6.1	na
COCONUT	2.3	1.9	na
FISHERMEN	9.3	9.0	na
ESTATE	12.2	5.8	na
OTHER RURAL	129.1	143.7	na

TABLE VIII-41B: PERCENT OF TOTAL HOUSEHOLDS

GROUP	1984 (%)	1987 (%)	1989 (%)
SABAH	100.0	100.0	100.0
URBAN	22.8	19.6	19.9
RURAL	77.2	80.4	80.1
PADDY	9.1	14.3	na
RUBBER	1.5	2.4	na
COCONUT	1.0	0.8	na
FISHERMEN	4.1	3.6	na
ESTATE	5.3	2.3	na
OTHER RURAL	56.2	57.0	na

Note: na = not available
Source: Calculated from Tables VIII-39 and 40

TABLE VIII-42
SABAH: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS, 1984-1987 - FOR PADDY FARMERS

YEAR	POVERTY INCIDENCE (%)	NUMBER OF HOUSEHOLDS TOTAL ('000)	POOR ('000)	*a POOR (CONSTANT 1984 POV INCIDENCE) ('000)
1984	78.0	21.0	16.4	16.4
1987	79.4	36.1	28.7	28.2
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1984 AND 1987				12.3
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				0.5
2. CHANGE OF OCCUPATION				11.8

TABLE VIII-43
SABAH: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS, 1984-1987 - RUBBER SMALLHOLDERS

YEAR	POVERTY INCIDENCE (%)	NUMBER OF HOUSEHOLDS TOTAL ('000)	POOR ('000)	*a POOR (CONSTANT 1984 POV INCIDENCE) ('000)
1984	57.6	3.5	2.6	2.0
1987	68.3	6.1	4.7	3.5
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1984 AND 1987				2.1
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				1.2
2. CHANGE OF OCCUPATION				0.9

Note: *a - the number of poor households if the incidence of poverty is equal to the 1984 incidence of poverty
Source Tables VIII-42 & 43: Calculated from Tables VIII-39 to 41

TABLE VIII-44
SABAH: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS,1984-1987 - COCONUT SMALLHOLDERS

YEAR	POVERTY INCIDENCE (%)	NUMBER OF HOUSEHOLDS TOTAL ('000)	POOR ('000)	*a POOR (CONSTANT 1984 POV INCIDENCE) ('000)
1984	60.0	2.3	1.4	1.4
1987	73.3	1.9	1.4	1.1
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1984 AND 1987				0.0
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				0.3
2. CHANGE OF OCCUPATION				-0.3

TABLE VIII-45
SABAH: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS, 1984-1987 - ESTATE WORKERS ('000 HOUSEHOLDS)

YEAR	POVERTY INCIDENCE (%)	NUMBER OF HOUSEHOLDS TOTAL ('000)	POOR ('000)	*a POOR (CONSTANT 1984 POV INCIDENCE) ('000)
1984	51.8	5.3	6.3	2.7
1987	53.4	2.3	3.1	1.2
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1984 AND 1987				-3.2
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				1.9
2. CHANGE OF OCCUPATION				-5.1

Note: *a - the number of poor households if the incidence of poverty is equal to the 1984 incidence of poverty
Source Tables VIII-44 & 45: Calculated from Tables VIII-39 to 41

households (Table VIII-46).

These findings suggest that the continued poverty observed in Sabah is due to low income among target group occupations and the continued move of people into these low paying occupations. 12,300 of the 13,000 increase in poor households is due to paddy farming. Eventhough it had the highest incidence of poverty, 78 percent in 1984 and 79.4 percent in 1987, households continued to move into this occupation.

Pang (1989a, 1989b) claims that the persistence of poverty in Sabah since 1984 has been mainly due to the way in which the NEP was implemented. Although the reduction of poverty was one of the NEP's objectives, quantitative targets were only set for Peninsular Malaysia: the incidence of poverty was to be reduced from 49.5 percent in 1970 to 16.7 percent by 1990. Poverty data on Sabah did not appear until the 4MP which published the incidence of poverty in Sabah as 51.2 percent in 1976 (Malaysia 1981: 44). However by how much the incidence of poverty in Sabah was to be reduced by 1990 has never been stated.

In Peninsular Malaysia a major component of its rural development schemes is the IADPs, which was designed to provide and integrated package of infrastructural and support facilities to existing farms. A striking point is that none of the 15 IADP projects (Table VIII-21) are found in Sabah. FELDA is also the only large federal agency directly involved in poverty eradication in Sabah. Therefore Sabah has had to rely on state government-linked agencies and corporations (GLACs) to develop its agricultural sector. However the evidence shows that the GLACs have been performing poorly and are actually draining the State of its funds with little prospect of a favourable

TABLE VIII-46
SABAH: DECOMPOSITION OF THE CHANGE IN NUMBER OF POOR HOUSEHOLDS, 1984-1987 - FISHERMEN

YEAR	POVERTY INCIDENCE (%)	NUMBER OF HOUSEHOLDS		
		TOTAL ('000)	POOR ('000)	*a POOR (CONSTANT 1984 POV INCIDENCE) ('000)
1984	37.5	4.1	3.5	1.5
1987	44.2	3.6	4.0	1.4
CHANGE IN NO. OF POOR HOUSEHOLDS BETWEEN 1984 AND 1987				0.5
REASON FOR CHANGE:				
1. CHANGE IN INCIDENCE				2.7
2. CHANGE OF OCCUPATION				-2.2

Note: *a - the number of poor households if the incidence of poverty is equal to the 1984 incidence of poverty
Source: Calculated from Tables VIII-39 to 41

turnaround in the near future (Pang undated).

The experience of Peninsular Malaysia suggests that the contribution of specific rural development programmes to the reduction of poverty was low in the target group occupations with the exception of estates and fishing. The World Bank (1991: 111-2) states that the achievements of land development programmes are principally one shot reductions in poverty; where after a single substantial increase in income, the income of land development settlers tend to remain unchanged. The Peninsular Malaysia evidence also indicates that income increases were largely due to expanded non-agricultural employment opportunities.

These factors seem to imply that the persistent high poverty prevalent in Sabah after 1984 is not only due to deficiencies in the implementation of rural programmes but also due to the slower economic growth in the industrial sector which has limited non-agricultural employment opportunities. Table V-3 showed that between 1980 and 1989 the percentage contribution of agriculture to GDP increased from 35.1 to 37.6 percent. Although the manufacturing sector's share of GDP increased since 1980, it still only accounted for 7.1 percent of GDP in 1989. It is also important to note that the increased employment demand in the industrial sector was not met by the local labour force but by migrant labour (Malaysia 1986: 181). This indicates that opportunities to participate in the expansion of the industrial sector, which could reduce poverty, are not available to the local population. The GDP data show that the structure of Sabah's economy has remained relatively unchanged between 1980 and 1989.

The idea that continued poverty in Sabah is due more to the lack of industrialisation than to

inefficiently run rural development programmes[26] is supported by the evidence of continued reduction in poverty observed in Sarawak. Many of the implementation problems concerning rural development programmes experienced in Sabah have occurred in Sarawak. In addition, land development programmes there have the additional problem of unclear tenure. About 20 percent of land in Sarawak is under native customary tenure[27]. As precise land boundaries are non-existent and more than one indigenous group may have the legal right to the land, consolidating and developing the land has not been without problems (King 1991: 163-183). Despite this Sarawak has seen a continued reduction in poverty since 1976. Although the incidence of poverty at 21 percent in 1990 is still higher than that in Peninsular Malaysia (15 percent), it is considerably lower than that in Sabah.

While the primary sector in Sarawak plays an important role in providing employment to the labour force, it should be noted that the manufacturing sector has become increasingly important during the 1980s. The manufacturing sector's contribution to GDP increased from 7.6 percent in 1980 to 13.4 percent in 1989, while that of the agriculture decreased from 27.6 to 25.3 percent (Table V-9). Similarly, its share in total employment increased from 6.1 percent in 1980 to 9.1 percent in 1990. It is important to note also that education and training have been important aspects of human resource development in Sarawak (Shari 1994d), and this has enabled the poor to benefit from modern sector employment opportunities. Thus the growth of the manufacturing sector, and the expanding employment opportunities which have resulted from it, have contributed to the decline in poverty observed in Sarawak.

Based on the experiences of Peninsular Malaysia, Sabah and Sarawak, this study suggests that the growth of the industrial sector, combined with the enhanced ability of the poor to participate in non-agricultural employment, have played an important role in reducing poverty and income inequality. Education has been crucial in alleviating poverty, as this has been the vehicle which has allowed the poor to participate in the non-agricultural labour force. Although specific agricultural programmes have also contributed to the reduction of poverty, during the 1980s their contribution has been modest. These factors together account for the continued decline in poverty incidence in Sarawak and Peninsular Malaysia and the persisting high poverty incidence in Sabah.

Notes:

1. The discussion of poverty by target group, is restricted to Peninsular Malaysia as for Sabah and Sarawak the disaggregated data is not available.

2. The discussion of changes in poverty within the target groups will be confined to the period 1980 and 1987 due to the lack of data for 1989.

3. Shari 1990 claims that there are still 553,900 poor households to be resettled.

4. 1984 incidence of poverty figure are used as the value for 1986 is not available.

5. Although settlers could still be selected from among the poor in Johor, data to support this is not available.

6. "Border" price is the f.o.b. price less marketing and transport costs.

7. Regional policies have been discussed in Chapter VI.

8. The discussion of ethnic composition at various levels of education in local institutions is confined to the years 1980 and 1988 due to the lack of ethnically disaggregated data for the year 1990.

9. "Participation of Bumiputera" is defined as the percentage of students in a particular level of education who are Bumiputeras. i.e. 58.4 percent Bumiputera participation at the primary level means that 58.4 percent of total students enroled at the primary level are Bumiputera.

10. "Participation rate" is defined as the percentage contribution to a particular level of education.

11. A comparison cannot be made as the ethnic breakdown of students at tertiary level institutions is not available. However the representation of ethnic groups in the different sectors of employment is used as a proxy and is discussed later in this chapter.

12. Students from rural areas are predominantly Bumiputera

13. During the Fourth and Fifth Malaysia Plan period (1981-1990), the Northern University of Malaysia, the International Islamic University and five polytechnics were established. In addition several branch campuses were also created (Malaysia 1986: 488; 1991a: 163).

14. In 1982, 80 percent of total State and Federal scholarships were given to Bumiputera students (The Star, September 10, 1982 - referred to by Selvaratnam 1987: 23). A survey carried out by the University of Malaysia found that 33 percent of students at Malaysian universities were on scholarships and that four of every five scholarships were awarded to Malays (Mehmet 1988:118-119)

15. Enrolment figures for primary and secondary students at overseas institutions are not available. Therefore for students studying oversees only changes in tertiary education can be observed.

16. This has been discussed in detail in Chapter VII, Section IV.D.

17. The country's structural transformation from primary commodity production to industrialisation has been discussed in Chapter I.

18. As in footnote 8, however it refers to a particular sector instead of level of education.

19. The use of education as a means to restructure the Malaysian society was clearly stated in the Second Malaysia Plan (1971: 236-237).

20. Tzannatos (1991) claims that the educational policies are inefficient as the quality of the student population and thus its graduates are not maximised, due to the bias in enrolment towards Malays. He claims that in the absence of quotas, in terms of ethnic enrolments, the quality and academic level of persons from institutions such as the MRSM science schools and universities would be much higher due to increased competition to enter these institutions. He also claims that reverse discrimination in higher education is inefficient as it is expensive and the funds required could be alternatively spent to provide improved basic education to the masses.

21. Between 1970 and 1990 the manufacturing sector's contribution to GDP increased by 919 percent, from M$ 2,095 million to M$ 21,340 (constant 1978 prices). This was highest growth achieved of any sector. GDP increased by 346 percent during the same period (Table I-13)

22. Improved in terms of training, skill and education.

23. Refer to Table I-1.

24. Unlike Peninsular Malaysia, poverty incidences by target group occupations are not available. They are collectively grouped under "rural". Therefore changes in poverty among target groups cannot be analyzed.

25. They programmes have been similar to Peninsular Malaysia which has been discussed in Section I.

26. I am not making the statement that any improvements in rural development programmes will not reduce increase incomes of the agricultural poor. However I am saying that the persistently high incidence is also due to the lack of employment opportunities in higher productivity sectors such as the manufacturing sector.

27. "Native customary tenure" means that the land is held and operated without registered titles.

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