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W.P. OBJECTIVES, POLICY ISSUES AND APPRAISAL METHODS

WORKING PAPER

JOHOR TENGAH AND TANJONG PENGGERANG REGIONAL MASTER PLAN

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OBJECTIVES, POLICY ISSUES AND APPRAISAL METHODS

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Chapter 1 Introduction

The Scope of Work divided the Master Planning process into 3 parts namely:-

(a) an outline of the broad development of the regions to 1990;

(b) a detailed identification of projects to be implemented during the period 1971-1975;

(c) identification of the guidelines for the revision of the Master Plan (for the period 1976-1990) in the light of changing circumstances;

(a) and (b) require recommendations on projects to be developed and strategies to be adopted. These are described in the Master Plan and the feasibility reports. (c) requires recommendations on the methods to be used in revising the Plan and the information and organisations needed for such a revision. These recommendations are also contained in the Master Plan.

This volume explainsthe methods and assumptions which have been made to guide the preparation of the Master Plan.

The Scope of Work and sets out the objectives of the socio-economic stufies includes the following requirements.

'The optimum pattern of land use for the region and the regional Master Plan will be drawn up so as to maximise the net present value of the benefits to the Malaysian economy, subject to policy constraints set by both Central and State Governments'.

There are no absolute solutions to the various policy constraints and problems nor are the problems applicable only to the South East Johor Project. These issues are discussed in Chapter 2 in the light of the objectives of the Government, the aspirations of the people as derived from sociological studies carried out by the South East Johor Project and others, and the economic situation as it appears in West Malaysia. It is possible to quantify some of the objectives and aspirations and to relate projects in terms of these quantifiable factors. Chapter 3 discusses the reasoning behind these comparisons.

Thus chapters 2 and 3 are based on the objectives of the Government, the aspirations of the people and the economic background to these objectives and aspirations. The objectives of the Government are discussed briefly at the beginning of

chapter 2, whereas the implications of the sociological studies carried out recently in West Malaysia have been set out in Supporting Volume 4.

The appendices to this Volume discuss the data available on population composition and growth, employment, unemployment and underemployment and income distribution in West Malaysia. The data contained in Appendices A, B and C are not all that are required. Further and better statistics would in many cases be helpful to the planning process; and continued sociological research is also essential if an adequate understanding of Malaysian society is to be obtained. Recommendations for continuing sociological research are contained in Supporting Volume 4; some gaps and contradictions in the statistics are identified in this paper; and the Master Plan identifies some of the information and action required if the development of the project regions is to be monitored meaningfully. The Master Plan emphasises that there should be a continual reapprasial of the Plan in the light of further information and the changing economic circumstances. The 'answers' are not immortal; neither are the methods of appraisal adopted. But the methods will be of use in monitoring the Plan and may assist in the analysis of changed circumstances. They are therefore described in some detail.

Chapter 2 The objectives of the Government, the economic background and the policy issues

2.1 The issues outlined

The objectives of the New Economic Policy were discussed in relation to the development of the Project Areas in Chapter 4 of the Draft Project report (Supporting Volume 1). The general interpretation of the first NEP objective - the reduction of the disparity in incomes between rich and poor - requires measures to adjust income distribution and to increase the share of the poorest groups in total income. The second and third objectives of employment creation and growth require general stimulation of demand as well as projects for the development of production.

The Second Malaysia Plan (SMP) may well introduce measures to redistribute income substantially and to stimulate economic growth further. But at the time of writing this paper the SMP was not available in a finished form. Detailed guidance on the implementation of the New Economic Policy was not therefore available.

But in order to establish the extent to which the NEP objectives need to be amplified as far as South East Johor is concerned, it is necessary to outline some of the policy issues which are (or may be in the near future) relevant to the South East Johor Project. Some of the questions that need to be answered are;

(i) Which crops should be recommended for which areas? How are such recommendations to be used to guide the private sector? And for schemes which are initially under the direct control of the public sector, what are the implications of these recommendations for wage levels on estates and income levels and acreages per household on settlement schemes?

(ii) For which crops and activities does South East Johor have a comparative advantage over other regions and States in Malaysia? Is the full realization of these advantages compatible with other regional and rational policy objectives?

(iii) Are these crops (and the other agricultural activities recommended) likely to be sufficiently attractive to the private sector under existing pricing, credit and

fiscal policies? What sort of private sector is likely to be attracted and what are the implications for the development of the regions and organisations serving the regions?

(iv) If the activities are socially worthwhile but not sufficiently attractive in commercial terms, what are the implications for fiscal and credit policies and the government's objectives?

(v) How severe are disparities in incomes in the regions and how do these disparities compare with those for West Malaysia as a whole? Should such disparities be overcome, how could they be overcome, and what are the implications for the design and implementation of projects in the regions?

(vi) How fast should the development of the regions be implemented and to what extent should the Master Plan attempt to avoid the emergence of unemployment and underemployment in the regions in the future?

(vii) Is there a strong case for deliberately encouraging industry to locate in the regions?

A discussion of these questions requires information on the demographic and economic background and specifically on;

(i) the present and likely future distribution, growth and composition of the population in Johor State and Johor Tenggara;

(ii) present and future employment and unemployment in West Malaysia and, more specifically in Johor State; and (iii) present and future income distribution in West Malaysia and Johor State.

2.2 Population

Recent estimates of population in West Malaysia vary. The population figures for West Malaysia and Johor State as given in the Department of Statistics' 1967 Estimates are 10 to 15 percent above those given in the Socio-Economic Survey and the Preliminary Count of the 1970 census.

In general it has not been necessary to use very detailed population figures in this report, since the population of the Johor Tenggara Area is small. Where population

figures have been used (for example, to forecast water consumption in various supply areas) primary reliance has been put on the 1967 Estimates, since at the time that the forecast of water consumption were being made, these were the data available.

There is some evidence that the population of Johor State has been expanding at a somewhat slower rate than the population of West Malaysia. If so this may have been due to substantial 'emigration' to Singapore from the State. There are no firm figures for this but the total over the past 5 years could be as high as 100,000.

Otherwise in all other aspects of population, Johor State has very similar characteristics to West Malaysia. The density of population is about 170 to the square mile, Johor State containing about 15 percent of the total land area and the same proportion of the population in West Malaysia. The population is concentrated on the west coast of Johor but there has been a steady eastward shift of the population. Between 30 and 35 percent of the total population live in urban areas, and the population in these areas has been increasing at a very much faster rate than the total. The ethnic composition of the population is similar to that of West Malaysia as a whole and, as in other states, the Malays seem to be over-represented in the rural areas. Finally, as in West Malaysia as a whole, more than 60 percent of the population is under 25 years of age which has important implications for the employment situation.

2.3 Employment, unemployment and underemployment

There are at least three aspects to be employment and income distribution problems (Appendix B). The first is unemployment; the second is underemployment; and the third is the remuneration. When considering various policy alternatives there is considerable overlap between these aspects.

There is very little information available on regional unemployment and underemployment. From the information that is available it is estimated that active unemployment is now (mid-1971) between 8 and 10 percent of the labour force in both West Malaysia and Johor State. The number of unemployed is about 250,000 in West Malaysia and between 40,000 and 50,000 in Johor State.

No information is available on the extent of under-employment in Johor State but in West Malaysia it seems to be considerable. For example, more than 10 percent of the people employed in West Malayia work less than 25 hours a week; 30 percent of the employed are reported to be willing to work longer hours each week; and 15 percent of the employed are 'family workers without pay'.

The level of unemployment is similar for the three major ethnic groups but unemployment seems to be growing more quickly among the non-Malays. But it should be emphasised that unemployment is only one aspect of the employment situation. Although unemployment is higher in the urban than in the rural areas, this does not mean that the labour surplus is greater in the urban compared with the rural areas, since underemployment has also been rising and this is likely to affect the rural areas more seriously than the urban areas. The prospects were summed up in a recent EPU paper (1967) as follows;

"West Malaysia is faced with a chronic problem of unemployment (at a rate of 8-9 percent) and underemployment during the foreseeable future. The indicated magnitude of the problem is such that the attendant dangers of social and political instability need not be allowed to get out of hand, but there are <u>no</u> grounds for believing the problem will solve itself without a continuing, forceful push by the Federal government in its development effort. An unimaginative approach to the maintenance of rapid economic growth runs a substantial rist that unemployment problems can in fact get out of hand, at almost any point during the Perspective Plan period".

Present trends indicate that very substantial increases in growth would have to take place if unemployment is to be held at present absolute levels, but there afe three reasons why the problem may be less acute in Johor State in the 1970's. These are:-

(i) the rate of land development is likely to be relatively rapid with the implementation of the South East Johor Master Plan;

(ii) an increase in manufacturing employment is likely to be faster due to an industrial spillover from Singapore;

the 300,000 acres planted by FLDA to the end of 1970 were yielding and the effects are likely to be small, since at the end of 1970, less than 3 percent of the total agricultural labour force were on FLDA schemes.

2.5 The policy issues re-examined

2.5.1 Is land development in Johor Tenggara worthwhile?

The social rate of return from the land development programme in Johor Tenggara is between 15 and 20 percent per annum. A precise figure is difficult to calculate because of the uncertainty as to which of the costs can be said to be incremental and which would in any case be needed to cater for population increases. There is very little information available in West Malaysia on social rates of return which are obtainable on investments in other sectors although it is believed that the EPU is currently doing research into rates of return in various sectors of the econom which will be available in the future.

Thus no detailed comparison is available. However it is thought that this range of rate of return is probably higher than the rate of return obtainable from most other types of investment in West Malaysia. Thus land development and investment in the rural areas almost certainly give comparable rates of return relative to other sectors of the economy. Land development is labour intensive, export orientated, and is likely to aid the poorest section of the community.

2.5.2 Which crops or activities in which areas?

The crops and activities have been compared in terms of profitability (chapter 3) and these comparisons together with the constraints imposed by the FLDA requirements and by other constraints have determined which crops should be recommended for which areas.

Generally speaking for those soils which are equally suitable for both oil palms and rubber, oil palm is in social terms likely to be more profitable despite the fact that the world price of palm oil is likely to fall more rapidly than that of rubber. In addition oil palms in S.E. Johor have a greater advantage compared to other parts of West Malaysia

than rubber because of the more favourable environment in the southern States of West Malaysia and because palm oil is, relative to rubber, a transport-intensive product. The forecast oil price (fob, Singapore) of just over $400 per ton transported in 1975 compares with the forecast rubber price in the same year of over $1,000 per ton transported.

However it needs to be emphasised that expectations of future yields and prices will change, and the relative and absolute profitability, both in financial and social terms, of the various activities should be continuously re-appraised along the lines set out in Chapter 3.

2.5.3 What rate of development?

In any case, since rubber and oil palms are, relative to investments in other sectors of the economy, profitable in social terms, the important aspect of development is not which of these two crops should be developed but how fast they should be developed. In planning the Johor Tenggara area, as fast a rate of development as possible has been aimed at consistent with the likely implementation capacity that could be made available in each sector. In every sector there is of course a trade-off between the efficiency of development and losses through slowing up development to attain greater efficiency. An attempt has been made in planning the Regions to achieve the optimum trade-off between these factors. If development is slowed up, unemployment will be greater than it would be with a faster rate of development. If accelerated too much, there are dangers of losses through, for example, not processing the timber from the Regions to as great an extent as well as losses from reduced output arising from the lack of managerial resources.

The rate of development in the Regions is fast and the schedule of implementation tight. But given the right sense of urgency, the State and Federal Governments can achieve this rate of development with Malaysia's resources and without drawing too many resources away from other areas of the country and detracting too seriously from the development of the rest of the country.

2.5.4 What role for the private sector?

It is apparent from the evaluation of rubber and oil palms, that neither of these two crops are likely to be

particularly attractive to the large scale private sector given the present tax and duty structure for them and given the rates of return that are being and can be earned in other sectors of the economy. But the social rate of return from taxes is high and therefore the Government should consider redirecting more of its own investment into these sectors or better still encouraging further investment by smallholders and private companies in this sector by removing restrictions and delays on land alienation and by reducing the burden of taxes and duties. This tax restructuring is particularly desirable for the rubber smallholding sector (Chapter 4 of Supporting Volume 4).

2.5.5 How can disparities be reduced?

There are at least two aspects to the problem of disparities or inequalities in income; firstly the disparity in average incomes between the ethnic groups and secondly the disparity in incomes between individuals within the same ethnic group. These disparities can be viewed in absolute terms (the difference between the incomes) or in relative terms (the relationship between the incomes). It is probably the relative disparity on which attention should be concentrated.

There is almost certainly considerable overlap in the disparity between ethnic groups and disparity within ethnic groups, since many Malays are very much richer than many of the non-Malays. Comprehensive statistics on income distribution in Malaysia are lacking; but as has been pointed out from those that are available there is some evidence of a severe disparity between the urban and rural sector; and this disparity has almost certainly worsened in the past decade.

A rapid rate of development will reduce the problems of unemployment and underemployment especially if the major effort comes from sectors or parts of sectors which are labour-intensive. The rapid development of Johor Tenggara will be of assistance here, but there is little that Johor Tenggara can do in isolation from the rest of the country. The Regions represent only 14 percent of the land area of Johor State and are likely to contain less than a quarter of the population of Johor State in 1990. Similarly the effect of the development of Johor Tenggara on income distribution can only be small.

However where possible, in planning Johor Tenggara, preference has been given to those types of 'organisation' (including smallholders) which are likely to help the 'have-nots'. Where there seems to be some conflict between the objective of income redistribution and the size of net output or 'efficiency', some attempt at arriving at an optimum trade-off has been made. This is however very difficult, parlty because of the uncertainities as to the effects of other measures which are being taken or are likely to be taken and partly because of the difficulty of quantifying the trade-off. In some sectors (e.g. forestry) there is so little experience of the likely advantages and disadvantages of different types of organisation that quantification is impossible. Even the direction of the advantages is difficult to predict.

Some of the disparities can be affected by the phasing of income from particular schemes. Additional work in oil palm or rubber production may be measured as contributing to the reduction of disparities; but if, for a time, the additional workers are paid little more than they were being paid before, during that time this does not contribute to the first N.E.P. objective. Recommendations on means of phasing income (for example improving credit) have therefore been made (Chapter 4, Supporting Volume 4).

2.5.6 What role for the different ethnic groups?

The relationship between the various ethnic groups in the rural areas, and the way in which they view and 'characterise' each other's role, have been exampled (Supporting Volume 4). This relationship is very difficult to analyse, but in view of the national objectives and the national situation, the probable role of the various ethnic groups in Johor Tenggara have been assessed.

The rural population consists of about 60 percent Malays, about 25-30 percent Chinese, and about 10-15 percent Indians and others. There is a grave and worsening diaparity in incomes between the urban and rural sectors. It has been suggested that consideration might be given to restructuring taxes and duties so that the rural sector (or parts of it) bears less of a burden. On the other hand there seems little point in deliberately encouraging industry to move into Johor Tenggara.

Further to these suggestions and in regard to the objective of the reduction of the economic disparities between Malays and other ethnic groups (and specifically the Chinese) the assumptions in preparing the Master Plan are set out below.

One of the prominent national policy objectives is to increase Malay participation in the "modern" sectors of the economy, and especially in the "urban" sectors of commerce and industry. In a full employment situation this would have the corollary that the non-Malay share in agriculture should be increased or at least maintained. In a situation of general unemployment, however, there is some conflict between this aim of reduction of imbalances in participation in the long run and the aim of reduction of disparities in per capita incomes between Malays and non-Malays: the latter suggests short run emphasis on additional paid employment (of any kind) for Malays, while the former suggests emphasis on employment of non-Malays in agriculture.

Up to now, non-Malays have been a small minority of settlers on FLDA public settlement schemes; but the Chinese in particular have been successful on GSA scheme in Johor. Many non-Malays in New Villages and other rural areas are now finding it difficult to obtain new land: if it cannot be obtained, youths from these areas are likely to drift to the towns, to compete with Malay youths for available jobs. Given the success of past GSA schemes, opportunities to acquire smallholdings should attract many to stay in rural areas in agricultural work. It is therefore proposed that encouragement should be given to the establishment of smallholdings.

The national development programme comprises many projects, in some of which Malay participation is intentionally high, while in others it is low, with some total combined result. The development of South East Johor is sufficiently large and diverse to be treated in similar way. Thus some specific production units - for example some individual settlement schemes - may be almost entirely Malay; but in none of the leading sectors as a whole is it assumed that the Federal or State Governments will decide to aim at a proportion of Malays much higher than the 60 percent or so Malay proportion of the rural population in Johor. In some economic

sectors the proportion of Malay participants will be much lower than this.

In the new agricultural activities it is assumed that a target may be adopted of 70-75 percent Malay participation. A higher target does not seem desirable, partly on general grounds that new opportunities should be open to all ethnic groups, partly for specific reasons related to particular activities. For example, in the main new activity of dairy farming, participation of Indian cattle-owners will be desirable if the rate of growth of cattle numbers is to be reasonably high.

In the new activity of tourism, similar considerations apply. Given the heavy dependence of tourism development on the Singapore market and connections, a strong Chinese element is essential. If the development grows large enough to justify a local training centre, a target intake of 50 percent Malays, 50 percent non-Malay youths might be adopted: this could provide the basis for essential cooperation in the future.

In forestry and the timber industry, a small participation by existing interests implies a share for non-Malays.

Thus in the short or medium term, a very high proportion of the additional employment for otherwise unemployed Malays would improve their relative economic position; but in the longer run, correction of imbalances between ethnic groups requires the maintenance and perhaps an increase of the non-Malay population engaged in agriculture in rural areas.

Chapter 3 Appraisal methods

3.1 Introduction

The Development of Johor Tenggara was conceived as a project to develop land in order to reduce unemployment (or to prevent it from increasing), to improve incomes and to redress to some extent imbalances in income distribution. The Government is therefore aware of these problems and is preparing and implementing policies to cope with them. The policy instruments open to the Government in the future are manyfold; assumptions have been made in respect of the application of some of taxes (as well some limited recommendations where they are relevant).

They include assumptions about future Government policy on public expenditure, employment provision, exchange rates and so on, in order to be able to evaluate alternative cropping patterns, organisational structure, communications, - in short, alternative mixesand methods of development.

There have been two espects to the appraisal of alternative methods of development. One has been the assessment of different patterns of development in the light of those policy considerations which are almost impossible to quantify. Such policy considerations as the roles of the ethnic groups in the development, the rate of development of Johor Tenggara, the role of the private sector and the different types of organisation involved in land development, and the role of industry in the Area have already been discussed in Chapter 2. Many of these aspects overlap with the second aspect of appraisal - namely the detailed evaluation of alternative crops, methods of providing water supply, alternative communication routes and types, and so on. Common to both these aspects of appraisal are the objectives of the Government. Guiding the assessment of different types of land development are the sociological studies, (Supporting Volume 4).

The rest of this chapter deals with the detailed methods of evaluation used. It is strongly recommended that the Development Authority use these methods as part of the process of updating and revising the Master Plan. Since this Authority will be one of the first bodies having a specific responsibility for constant reappraisal of the activities and forms of development comprising the plan it is implementing,

the actual process of reappraisal will provide Federal and State government with valuable feedback information on policies and programmes. It is for this reason that the Authority should be throughly familiar with the appraisal of activities in the Project Area in social as well as financial terms.

The three standpoints from which activities and projects should be evaluated are:-

a) The Company (3.2). This evaluation is intended to cover the standpoint of the private sector corporate body.

b) Public sector and Social evaluation (3.3).

c) The individual farmer - the smallholder (3.4)

It is recommended that in all these evaluations the discounted cash flow method of weighing income and expenditures should be used (section 3.3.6).

3.2 Project Evaluation - the Company

The first step in appraising the crops or types of major activity has been an evaluation from the point of view of a company. This does not necessarily imply that the organisation is a limited company controlled by private shareholders, or that this particular type of organisation is preferred. This is the first analysis because it is currently the commonly accepted starting point in Malaysia for evaluating the economic viability of individual activities.

Thus step one in the appraisal is the evaluation of the activity from the point of view of an organisation is assumed to be a 'profit-maximiser'. The evaluation is made after including all costs that it is thought would have to be paid in the Johor Tenggara region to attract the necessary resources. The costs of men, materials and land are therefore included at market prices including all taxes and duties (except company taxes) to which companies are currently subjected in Malaysia. Company income taxes are excluded because these will vary according to the status and size of the company (e.g. depending on whether the company is awarded 'pioneer' status). The rates of return are therefore calculated on a pre-Corporation-tax basis. After estimating the revenue and costs which would be received and incurred by the Company, the year by year net cash flows are calculated over a 20

year period. From these net cash flows the internal rate of return and the Net Present Value of the activity are calculated. In calculating these, a factor of 1 has been applied to the year of first expenditure. The second year of net cash flow therefore bears a factor lower than 1.0 depending on the interest (or discount) rate used. In comparing crop or activity types the terminal year has been taken as the 20th year with no allowance for terminal values since only at low rates of discount do the terminal values make any difference and if the rate of discount is low, the project is, in any case, unattractive.

No allowance is made for general rises in prices. The only price changes which are of interest are differential changes, since if all costs are rising or falling at the same rate, there is no difference in the ralationship between the costs and revenues. In any case prices in West Malaysia seem to have been rising only slowly over the past decade, and there seems to be little likelihood that they will rise very much faster in the near future[1]. But differential price changes are of course important for some crops and in particular for oil palm and rubber, and differential or 'real' price changes of this type have always been taken into account.

To calculate the net present value, a discount (or interest) rate has to be specified. This interest rate is presumably, for a company, the next best return on the capital invested. If this rate of return is used as a discount rate, the net present value then gives the prodit provided or loss incurred through undertaking this activity compared with the next best alternative. If there is no alternative investment and the money is borrowed then the relevant rate of interest

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(1) Prices have been rising slowly if judged from the 'All Races' retail price index. With 1959 as base 100, this index had risen to 108.6 by 1970 (see Table 3.1, Monthly Bulletin of Statistics, March 1971).

is the rate payable on the loan. The next best rate of return for company investment in Malaysia does however seem to be quite high. Little information has been collected on rates on investment in the private sector but the discounted rates of return in the manufacturing sector seem, for the majority of companies, to be above 15 percent per annum before profits and income tax. This then is the lowest rate of discount that has been used as a guide. Most of the activities in the agricultural sector either give a rate of return which is below this or carry a high degree of risk because they are relatively new and untried activities.

Oil palm and rubber estates have for example given very good rates of return on past investments, but at likely future prices and, with the present tax and duty structure, they are unlikely to give returns sufficiently attractive for substantial company investment. The returns from some of the 'newer' activities are higher but these carry a higher risk element and may be unattractive depending on whether the returns from activities in the rest of the economy continue at the present levelm and whether the companies themselves work on the same assumptions as used by this project. On the other hand the returns from forestry operations are very high indeed and there are strong grounds (Supporting Volume 5) for a change in the tax (royalty, premium and duty) structure to increase the revenue of the State Governments and at the same time encourage greater utilisation of the forest resource.

Thus there seems to be evidence that investment in agricultural activities may be unattractive to private companies under the present tax structure. These activities do however give social rates of return which are probably higher than, or at least as high as, those obtainable from investments in other sectors of the economy. Thus serious consideration should be given to providing incentives for large-scale private investment which will generate increased employment in the agricultural sector. Consideration also reads to be given to providing increased incentives to the smallholder relative to the company (Chapter 4, Supporting Volume 4)

3.3 Project Evaluation - the public sector and social evaluation

3.3.1 Social prices and policy

The public sector may be concerned with agricultural

activities in a number of different ways and the objectives of the organisation will determine the way in which it operates and the way in which it evaluates investments. Although the appraisal and social prices and the policy conclusions to be drawn from such appraisals are essentialy a matter for government, the special nature of the Development Authority could enable it to provide government with valuable feedback information it it reappraises components of the Master Plan in social as well as financial terms.

It the investment is being appraised by FLDA, the main consideration will be whether the activity is likely to give a reasonable or "target" income to the settler and his family. The investment in this case is evaluated from the point of view of a smallholder. This form of evaluation is discussed in the next section of this chapter. If a public sector estate is being developed (for example by a State Economic Development Corporation), it may be run in a number of different ways. The organisation may be a 'profit-maximiser' or its objectives may be defined in come other way.

However in deciding where to invest, and where to encourage investment the Government will be interested in comparing projects in 'social' terms. This means not only that the projects should be compared in the light of the Government's objectives but also that the objectives thamselves should be changed in the light of the projects likely to be implemented. In other words there should be a feedback between the project appraisal, the objectives, back to the project appraisal and so on.

There may however be two objections to this type of evaluation. This first is that if the market price does not reflect the scarcity of the resource, then would it no be sensible for the Government to change taxes and duties to bring market prices and social values closer together? One recent tax change in Malaysia which is clearly of this type is the abolition of the payroll tax from the beginning of 1971. There is almost certainly considerably greater scope for changes of this type, but the scope for action of this type is not limitless, because the changes may not be comptible, sufficiently selective, or they may even be politically unacceptable.

The second objection is that if a public sector organisation invests in accordance with social costs and revenues it may make losses in financial terms. In this case, the Government should be prepared to give specific 'subsidies' to the organisation to encourage it to invest in accordance with the Government's objectives.

Both these objections are of practical importance, and compared to them the theoretical problems inherent in a social evaluation of projects are probably over-emphasized. This is not to say that there are not many problems in arriving at a social evaluation but even if one cannot be too precise about the social rate of return an approximation will be of considerable use in guiding Government policy.

3.3.2 The valuation of output

The social rate of return and net present value are calculated by discounting the net cash flows expressed in social terms. The adjustments that need to be made in Malaysia to the financial cash flows in order to calculate the social net cash flows are on the whole few. All resources are valued where possible at world prices. Those prices are converted at the current rate of exchange because Malaysia's currency is strong and is likely to continue to be for the near future under the policies presently followed by the Government. Thus all goods which are or can be traded directly on the world market are valued at their c.i.f. prices for imports and f.o.b. prices for exports. Taxes and duties imposed by the Malaysian Government are therefore added back or subtracted to arrive at these world prices. This is of course particularly important where there are heavy duties or taxes. For example, when valuing the output of palm oil, the export duty which is currently 7½ percent of the f.o.b. price is not deducted from the proceeds, or, since it is already deducted from sales to arrive at the financial cash flow it should be added back to convert the financial into social cash flows. Similarly where products are imported or where import substitution is under consideration the social cost or benefit should be based on the c.i.f. price and not inflated by the duties or taxes 'pariable'.

In evaluating activities forecasts have of course been made of the prices of all outputs. There is however one particular problem which is encountered when attempting to

Where it is more expensive to supply the same facility, the difference in cost is charged to the activity.

3.4 Project evaluation - from the point of view of the smallholder

Although some of the activities are not likely to be attractive to large scale private investment at present tax and duty rates, they may still be attractive to smallholder households who supply their own labour. The major problems encountered by smallholders in clearing and developing land in Malaysia are those of marketing and credit.

At present, production credit is difficult and expensive to obtain in the rural areas especially for those households who lack capital and who are therefore unable to provide the necessary security for a loan from the commercial banks. Money is available from the Cooperative banking and credit system but the interest rates are generally above 8 percent per annum.

In evaluating crops from the point of view of the smallholder, an interest rate of 7 percent per annum has been used to discount the net cash flows which would be received by the smallholder. The net present value at this interest rate represent the surplus obtainable by the smallholder after paying interest on loans at 7 percent per annum.

Whether this surplus is attractive compared with opportunities available elsewhere will depend on its size on how it is phased over the life of the crop or activity, and the valuation the smallholder puts on his own and his family's labour. How it is phased will depend to a great extent on the credit opportunities available to the smallholder. Given an improvement in credit and marketing (but especially credit) arrangements, many of the activities evaluated are likely to be attractive to the smallholder, and therefore this report makes recommendations for making it easier for the smallholder to obtain land[1] and credit. As has already been matured consideration should be given to increasing incentives through - reduction in the tax

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[1] In particular, land alienation should be simplified and speeded up by removing the express conditions relating to the land and by making land rents uniform.

levels on output or crediting the former with interest on the enforced saving arising from the replanting cess.

3.5 Project evaluation - a summary

Table 1 summarises the methods of project evaluation used in this report. The cultivation of rubber is used as an example. The table shows the profitability of rubber cultivation to a private company and the national economy, as well the income to a smallholder who, with his family, looks after 8 acres.

The first step is to calculate the cash flows to a private company which clears 10,000 acres but, because of river valleys and other unsuitable land, only plants 8,500 acres. The sales revenue is calculated on the basis of the forecast fob price for rubber and the yield which it is estimated that a company should be able to achieve given reasonable soils and management. (The sensitivity of the profitability to various yields and prices has however been tested-see the Working Paper on Rubber - R1). This sales revenue therefore gives the output from the activity valued at world prices.

The costs are then deducted to arrive at the net cash flows which the company would probably incur or receive over a 20 year period. The net present value at any discount rate can then be calculated by multiplying the net cash flows by the discount factors. The discount factors for a rate of interest of 15 percent per annum are shown in the second column of the table. The rows at the bottom of the table also show the present values for the revenue and each of the major cost groups at 5, 15 and 25 percent per annum.

These calculations then give the net present values for the private company at interest rates of 5, 15 and 25 percent per annum and from these the financial rate of return to the company before Corporation tax can be interpolated. Clearly since the net present value is positive at 5 percent per annum but negative at 15 percent per annum the rate of return to the company must be between 5 and 15 percent per annum. By interpolation it can be found to be about 8 percent per annum.

This is the financial rate of return to a private company. But the rate of return to the country should be

TABLE 1. PROJECT EVALUATION - RUBBER - BASIC YIELD[1]

CASH FLOWS ($ PER PLANTED ACRE) TO A COMPANY

YEAR		Discount Factor At 15% Per Annum	Sales Revenue: Yield Per Acre (lb)	Sales Revenue: FOB Price (Cents/lb)	Sales Revenue: Sales Revenue ($ Per Acre)	Costs: Clearance Planting Roads	Costs: Fertiliser Chemicals	Costs: Housing Buildings and Machinery	Costs: Factory Cost (Inc. Labour)	Costs: Rents Premia Duties Cess	Costs: Transport and Other	Costs: Field Labour and Mgt.	Costs: Total Costs	Net Cash Flow	Present Value of Net Cash Flow at 15% p.a.
(1972)	0	1.00	-	-	-	415	26	108	-	59	3	125	736	(736)	(736)
	1	0.87	-	-	-	22	48	11	-	12	3	125	221	(221)	(192)
	2	0.76	-	-	-	20	49	7	-	12	3	125	216	(216)	(163)
	3	0.66	-	-	-	3	48	7	-	12	3	125	198	(198)	(130)
	4	0.57	-	-	-	3	40	7	-	12	3	96	161	(161)	(92)
	5	0.50	-	-	-	3	44	104	108	12	3	93	367	(367)	(182)
	6	0.43	620	50	310	3	27	36	22	30	10	242	370	(60)	(26)
	7	0.38	1010	50	505	3	27	14	70	42	14	281	451	54	20
(1980)	8	0.33	1260	50	630	3	27	14	42	50	17	281	434	196	63
	9	0.28	1420	50	710	3	27	14	45	54	19	281	443	267	76
	10	0.25	1500	50	750	3	22	14	46	57	20	281	443	307	76
	11	0.21	1600	50	800	3	22	14	48	60	21	281	449	351	75
	12	0.19	1700	50	850	3	22	14	50	63	22	281	455	395	74
	13	0.16	1800	50	900	3	22	14	52	65	23	281	460	440	310
	14	0.14	1800	50	900	3	22	14	52	65	23	281	460	440	310
	15	0.12	1800	50	900	3	22	14	52	65	23	281	460	440	310
	16	0.11	1800	50	900	3	22	14	52	65	23	281	460	440	310
	17	0.09	1800	50	900	3	22	14	52	65	23	281	460	440	310
	18	0.08	1800	50	900	3	22	14	52	65	23	281	460	440	310
	19	0.07	2000	50	1000	3	22	14	56	69	25	281	470	530	37
Totals			21910		10955	508	583	462	799	934	304	4583	8174	2781	(790)
Present Values At:-															
5 percent p.a.			11632	-	5816	484	408	342	461	547	168	2768	5178	638	
15 percent p.a.			3908	-	1954	464	250	233	188	249	64	1296	2744	(790)	
25 percent p.a.			1580	-	790	455	183	185	93	153	34	779	1882	(1092)	

(1) See the working paper on rubber.

(2) Present value of yield at 7 percent per annum multiplied by 4.5 cents per lb.

Profitability/Income

To the Private Company:-

Net Present Value	($ Per Acre)
At 5 percent p.a.	638
At 15 percent p.a.	(790)
At 25 percent p.a.	(1092)

Rate of Return = 8 percent p.a.

To the National Economy:-

Approximate Net Present Values after adding back rents, duties, cesses, housing and charging unskilled labour at $40 per month:-

At:-	($ per acre)
5 percent p.a.	2,760
15 percent p.a.	240
25 percent p.a.	(460)

Rate of return = 17-18% p.a.

To the Smallholder

Net Present Value (to the private company) at 7 percent per annum is $150 per acre.

Add back field labour and management at 7 percent per annum = $2,300 per acre. Deduct replanting cess at 4.5 cents/lb = $(400)[2] per acre.

Give net present values to the Smallholder & $2,050 per acre.

From 8 acres, the smallholder's surplus is $16,400 which is equivalent to [1] a constant annual income in years 0-19 of $1440; or [2] An income in the 1st year of $1140 rising at 3 percent per annum to $2000 in year 19.

higher than this because this is a highly labour-intensive crop and because the taxes on rubber cultivation are large. To calculate the social rate of return each cost should be carefully analysed into its expenditure components so as to arrive at the incremental effect on the employment of unskilled and semi-skilled people and in order to deduct from the costs all taxes and other transfer payments (or add back subsidies, if necessary). As stated previously, however, because there have been so many projects and activities to analyse in this report, only the major adjustments have been made to arrive at the social rate of return.

In table 1 the major adjustments made, have been the inclusion of the cost of unskilled labour at a 'shadow wage' of $40 a month and the deduction of the major taxes, duties and rents from the costs. The major taxes, duties and rents are land rents, the export duty on rubber and the research cess. The research cess of 1 cent per lb. could be considered as a payment for a specific service but here it has been assumed to be a transfer payment and therefore deducted from the financial cost at arrive at the cost to the company.

After these adjustments are made, the net present values at 5, 15 and 25 percent per annum are calculated, and is estimated to be between 17 and 18 percent per annum. Thus although the financial rate of return is only 8 percent per annum the net present value at 15 percent per annum using "social values" is positive ($240 per acre), which means that if 15 percent per annum is estimated to be the cut-off rate or next best return for investments by the Government, the cultivation of rubber is profitable and should be expanded either by the Government investing directly or by the Government giving direct encouragement to investments by companies and/or smallholders.

The approximate income to the smallholder can be calculated from the financial cash flows. It may be thought that the yield obtained by the smallholder would be lower than that assumed in the table and that the factory costs would be higher. If this is the case these adjustments can easily be made.

Other adjustments may also need to be made as follows:-

(i) the net cash flows need to be discounted at the

rate of interest that it is thought the smallholder will have to pay (here assumed to be 7 percent per annum);

(ii) the cost of the field labour and management need to be added back in order to arrive at the surplus which would accrue to the smallholder and his household;

(iii) other adjustments may need to be made if the smallholder pays any taxes or other transfer payments which are not borne by a private company; in the case of rubber, the replanting cess is a example. This is currently 4.5 cents per lb. The smallholder is assumed to be planting new land and it is assumed that he receives no grant from the Government for the purpose.

After these adjustments, the present value in year 2 of the income to the smallholder at the interest rate of 7 percent per annum is estimated as $2,050 per acre. This assumes that the land is cleared and planted not by the smallholder but on contract. This $2,050 per acre can be expressed in terms of an income for the smallholder each month at the same interest rate of 7 percent per annum. If the smallholder and his family are assumed to be able to maintain and tap 8 acres of rubber, the "surplus" in year 1 at 7 percent per annum is eight times $2,050 or $16,400.

To express this in terms of a constant income per annum over 20 years, the $16.400 needs to be divided by the cumulative present value factor over years 0-19 for 7 percent per annum. This can be found from present value tables to be 11.336. The constant income that could be received by the smallholder (if sufficient credit were available at 7 percent per annum to enable him to spread his income in this way) is therefore $16,400 divided by 11.336, or $1,440 per annum or $120 each month. By further calculations, this can be shown to be equivalent (again at the same interest rate of 7 percent per annum) to about $1140 in the first year rising by 3 percent per annum to about $2,000 in year 19.

The approach summarised in Table 1 not only enabled comparisons to be made between the profitability of different crops, activities and methods of implementing projects but also enables the effects of Government taxes and duties to be identified by comparing the financial rate of return

including taxes and duties with the rate of return when taxes and duties are deducted from the costs. The calculation of a rate of return using a 'shadow wage' for that labour which is presently in surplus also helps to identify those projects which are relatively labour-intensive, which give high rates of return to the national economy and which the Government should be encouraging.

APPENDIX A

POPULATION

As stated in Chapter 1 of this volume, information on the growth, distribution and composition of the population in Johor State was needed to forecast:

(i) the transport flows between the South East Johor project areas and the rest of Johor State in order to plan transport links;

(ii) the consumption of water in various parts of Johor State in order to plan the future water supply network;

(iii) the likely consumption of various types of foodstuffs in Johor State with a view to assessing the size and nature of markets for possible food production in Johor Tenggara;

and, (iv) the likely and desirable pattern of migration into Johor Tenggara and the nature of the demand for employment in Johor State and Johor Tenggara. (See also Appendix B).

A.1 Sources

The published sources for recent population data in Malaysia are the estimates for 1967 made by the Department of Statistics (Department of Statistics, 1969), the Socio-Economic Sample Survey of Households carried out in West Malaysia in 1967/68 (Department of Statistics, 1970 and referred to in the remainder of this volume as the MSSH), and the Field Count Summary of the 1970 Population and Housing Census of Malaysia (Department of Statistics, 1971).

The population estimates for West Malaysia and Johor State given by the various sources are compared in Table A-1. The differences between the 1967 Estimates on the one hand and the MSSH and the Census Count on the other are shown to be very large. It is impossible to say which of the sets of figures are the more reliable. The 1967 Estimates were based on vital statistics and identity cards. The MSSH was based on a sample of 2.4 percent of the estimated population (see page 26 of the MSSH) but the difference between the mid-1967 estimates and the MSSH is unlikely to be accounted for by sampling variations. The standard error for the West Malaysian population is given on page 168 of the MSSH as 2.6 percent. Thus the difference between the mid-1967 estimates and the MSSH could only be due to the sampling variation once

in 100 times. The MSSH itself states that the difference is mainly due to:

(i) non-inclusion of the institutional households in the MSSH;

(ii) sampling errors;

(iii) inherent errors in the inter censal estimates (see page 52 of MSSH).

Table A.1 Population in West Malaysia and Johor State 1957-70

	West Malaysia (millions)	% of Estimates	Johor State (millions)	Johor and Malacca States (millions)	% of Estimates
1957 - Census	6.28		0.93		
1967 - Estimates	8.79		1.33	1.76	
- MSSH	7.89		n.a	1.55	
- Differences	0.90	(10)		0.21	(12)
1970 - Projected Estimates(1)	9.76		1.47		
- Preliminary Census Count	8.80		1.27		
- Differences	0.96	(10)	0.20		(14)

(1) The 1970 Projected Estimates are based on the estimates for mid-1967 plus a growth rate of 3½ percent per annum. The 1970 estimates are for August 1970 which was the month in which the 1970 census was carried out. The growth rate is derived from that given in "Some implications of past population growth and likely future trends in Malaya" - by J.C. Caldwell, Population Review, Volume 7, No. 2, July, 1963.

Sources:

1957 Census - 1957 Population Census, Department of Statistics, 1959.

1967 Estimates - Tables 1, 4, and 7 of Research Paper No. 1.

1967/68 MSSH - Table 1.0.0 of West Malaysian tables - Table 1.1.0 of South Zone tables.

1970 Preliminary Census Count - Table 1.

The first and second reasons suggest that the 1967 estimates are likely to be closer to the actual West Malaysian population than the figures given in the MSSH. This would imply that the population in August 1970 was closer to that

given by projecting the estimates than that given by the Census Counts. This would in turn imply that the census understated the population. There does in fact, from the preliminary investigations of the Department of Statistics, seem to have been some under-enumeration of the population. It is believed that the enumeration of the households was fairly accurate but that there was under-enumeration of the population within households of the order of 3 percent or more. The full census data was not available at the time of writing this report.

But this under-enumeration does not account for the whole of the difference, and it is likely that a projection of the mid-1967 estimates overstates the population because such a projection, based on the natural rate of increase in the population, takes no account of migration. There has probably been net emigration from West Malaysia in recent years, although it is difficult to tell from the official statistics, since these do not cover the movements between West Malaysia and Singapore. But something like 53,000 Malaysians currently have work permits to work in Singapore and many more thousands are believed to be working there without work permits[1]. Whether these Malaysians are included in the Malaysian census count is not yet known. However it is likely that the majority of Malaysians working in Singapore were in Singapore on census night, since it is likely that a substantial number stay in Singapore during the Singapore working week, and Census night was a Monday/Tuesday.

It is also reasonable to suppose that a large proportion of these migrant workers were from Johor, and that immigration into Johor would not offset this emigration, at least not without some time-lag. One would therefore expect the difference between the projected estimates and the census count to be somewhat larger (in percentage terms) for Johor State than for West Malaysia as a whole. This is in fact the case (see Table A-1). Thus the actual population in Johor and West Malaysia in August 1970 was probably somewhere between the 1970 projected estimates and the Census count: for Johor State, the population was probably between 1.3 and 1.4 millions and for West Malaysia it was almost certainly between 9.0 and 9.5 millions.

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1 See the report of a speech by Lee Kuan Yew reported in the Straits Times in July 1971.

Detailed population figures have not been extensively used in this report but where they have been used primary reliance has been placed on the 1967 estimates. This is mainly because at the time that the estimates were used - for example, to estimate water consumption - the only recently published data available were the 1967 Estimates and the preliminary results from the MSSH seemed to indicate that the latter was less reliable than the Estimates. In some cases the published information has been supplemented by project surveys and investigations but a comprehensive population count of Johor State would have been of little use and was in any case beyond the resources of the project.

A.2 Density and distribution

At present (July 1971) the population of the 1,000 square miles of the S.E. Johor Project regions is small. Even when the towns on the fringes of the regions such as Kluang and Kota Tinggi are included, the resident population is probably less than 135,000. If the fringe towns are excluded, the population of the region is almost certainly less than 60,000. (See volume 1 - Draft Project Report - Chapter 3).

In terms of the density of population as in so many other characteristics, Johor State seems to be fairly typical of West Malaysia. The State contains about 15 percent of West Malaysia's land area and about 15 percent of the population. (See Table A-2). The density of population in Johor is therefore similar to that of West Malaysia - namely about 170 people to the square mile.

The proportion of the total population living in urban areas (defined here as concentrations of people of 10,000 or more) was also similar in Johor State and West Malaysia. In West Malaysia, the urban population as defined grew from 15 percent of the total in 1931, to 16 percent in 1947, to 27 percent in 1957, to about 32 percent in 1967 (see page 66 of the MSSH). The urban proportion in Johor State in 1967 was probably also between 30 and 35 percent.

Table A-3 shows that the density of population within Johor State is greatest in the West Coast Districts but that the increase in the population in these Districts has been slower than in the Central and Eastern Districts. There

Table A-2 Population Density in the States of West Malaysia - 1967

State State	Estimated 1970 Population (millions)	Land Area (Thousand square miles)	Population Density (People per square mile - rounded)
Johor	1.27	7.3	170
Kedah	0.96	3.7	260
Kelantan	0.68	5.8	120
Malacca	0.40	0.6	670
Negri Sembilan	0.48	2.6	180
Pahang	0.50	13.9	40
Penang	0.78	0.4	1,950
Perak	1.56	8.0	200
Perlis	0.12	0.3	400
Selangor	1.63	3.2	510
Trengganu	0.41	5.0	80
All - West Malaysia	8.80(1)	50.7(1)	170

(1) Does not sume due to rounding.

Sources: Population:- Table 1, "Field Count Summary", 1970 Population and Housing Census of Malaysia.

Land Areas:- From Table 1 of "Some basic Agricultural Statistics for Extension Workers", Department of Agriculture, K.L. 1967.

seems to have been a marked eastward drift in the State's population. This is likely to continue with the development of the South East Johor Project, the development of a seaport at Johor Baharu and with the improvement of the East Coast roads.

A.3 Ethnic Composition and Distribution

In ethnic composition Johor State is again representative of West Malaysia. About half the population of Johor State are Malays, a little over 40 percent are Chinese and about 10 percent are Indians and others. Compared to West Malaysia the Chinese are slightly 'over-represented' while the Indians and others are 'under-represented'.

The South East Johor Project areas are not (or at least in 1957 were not) exceptional in this respect. The proportion of Chinese is higher if the fringe towns are included (see Table A.4) and about the same as the State average if the

fringe towns are excluded - as is evidenced by the proportions in Tanjong Penggerang. No recent information is available on the urban/rural split in the ethnic populations in Johor State. In West Malaysia in 1967 more than 50 percent of the Chinese lived in urban areas, compared with 35 percent of Indians, 18 percent of Malays and about 32 percent for the population as a whole (see page 67 of the MSSH). The picture in Johor State is probably similar to the national picture. This means that in 1967 more than 60 percent of the rural population were Malays.

A.4 Age Composition and Growth

In 1982 the West Malaysian population is likely to be about 2½ times what it was in 1957. The growth rate for the 25 year period from 1957 is likely to be almost twice as fast as the growth rate for the 25 years to 1957. There are two major factors responsible for this very rapid increase:

(i) the equalising of sex ratios

and (ii) the marked decline in mortality, which has been especially rapid since the war.

This rapid growth rate in population has striking significance for the growth in the demand for jobs (see the next chapter) and does of course mean that the population of West Malaysia is an extremely young one. In 1967 more than 60 percent of the population were under 25 years of age and only about 14 percent were over 45. (See page 70 of the MSSH). By 1990 the population of Johor State is likely to have grown to something like 2 to 2½ millions in the absence of substantial migration and by the end of the century it will have more than doubled from its present level.

Table A.3 Population Distribution in Johor State - 1947/57/70

Administrative District - Johor State	Land Area (000 sq. miles)	Population in 1970 Total (thousand)	Population in 1970 Density (people/ sq. mile)	Percentage of Johor State Population 1947	1957	1970
East						
Kota Tinggi	1.35	61				
Mersing	1.10	35				
	2.45	96	40	8	7	8
West						
Pontian	0.36	118				
Muar	0.91	279				
Batu Pahat	0.72	250				
	1.99	647	320	58	56	51
North and Central						
Johor Baharu	0.70	272				
Kluang	1.10	133				
Segamat	1.10	126				
	2.90	531	180	35	37	42
All - Johor State	7.33[1]	1274	170	100[1]	100	100[1]

[1] Does not sum due to rounding.

Sources:

From Table 1, 1957 Population Census, Johor State; and Table 16, "Field Count Summary", 1970 Census.

Table A.4 Population in West Malaysia and Johor State - by ethnic group[1] - 1947-1967

	Percentage of total population:			
	Malays	Chinese	Indians/ Others	Total
1967				
- West Malaysia	50	37	13	100
- Johor State	49	42	9	100
Johor State				
- 1947	44	48	8	100
- 1957	48	43	9	100
- 1967	49	42	9	100
1957 - S.E. Johor[2]				
- Johor Tengah[3] (61,000)	28	51	21	100
- Tanjong Penggerang (20,000)	50	41	9	100
- Kota Tinggi Town (8,000)	26	67	8	100
- S.E. Johor (including Kota Tinggi Town) (89,000)	32	50	18	100

Sources:

Table 1 and others; 1957 Population Census, Report on Johor State.

Tables 3A and 4 of Research Paper No. 1 (1967 Estimates)

Notes:

(1) As defined in the various sources.

(2) The population in the area in 1957 is given in brackets rounded to the nearest thousand.

APPENDIX B

EMPLOYMENT, UNEMPLOYMENT AND UNDEREMPLOYMENT

B.1 Introduction, sources and definitions

One objective of the Government is the reduction of the dis parity in incomes between the rich and poor. This implies that, other things being equal, there should be a bias when selecting projects or types of organisation towards selecting those which redistribute income towards the poor. One method of doing this will be by providing further employment opportunities for those previously unemployed or 'underemployed' (in the sense that they would like to work a greater number of hours each week).

The object of this appendix is to project unemployment and underemployment in West Malaysia and Johor State on the basis of past trends and therefore past policy in order to identify the need for policy changes and to give a guide as to the weights that should be attached to labour intensive projects in the Johor Tenggara area.

As pointed out in an earlier section there are three distinct but related dimensions to the employment problem;

(i) there are those people who are out of work but actively looking for a job (the 'actively unemployed') and those who though not actively looking for a job would accept one if offered (the 'passively unemployed'). These together are the unemployed;

(ii) there are those who have jobs but who involuntarily work part time or for shorter than normal periods of work. This is known as visible underemployment[1];

(iii) there are those who are working, but lack a source of income which is both sufficiently reliable and adequate for the basic needs of themselves and their dependents.

Raising the incomes of the poor involves many of the same issues as providing work opportunities when they are

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[1] Another form of underemployment is that referred to as invisible underemployment which exists when a person's working time is not abnormally low but who would and could work "more intensively". For a more complete description see p.11 of the MSSH or 'Measurement of Underemployment', Part IV ILO, 1966 - The International Approach. This type of underemployment is not analysed in the MSSH and is not discussed in this Chapter.

regarded as objectives of policy. But raising the incomes of the poor may not reduce disparities if the incomes of the rich are rising at the same rate. To reduce disparities it will be necessary to ensure that the incomes of the poor rise at a faster rate than the incomes of those who are relatively rich.

The nature of income distribution is considered briefly in Appendix C while the remainder of this appendix examines the problems of unemployment and underemployment in West Malaysia and Johor. But it needs to be emphasised that these problems are linked.[1]

Data on unemployment and underemployment are available for West Malaysia as a whole, but there is little information on unemployment and underemployment at the regional level. The principal primary data sources are the 1962 Federation report (Department of Statistics, 1963) and the 1967 MSSH (Department of Statistics, 1970), but in recent years very many analyses of the employment situation in West Malaysia have been made. The major ones are listed in Appendix D; most of the figures in this appendix are derived from the 'Survey' paper prepared in 1970 (EPU, November 1970).

B.2 The Employment situation in West Malaysia

The employment, unemployment and underemployment situation in West Malaysia between 1957 and 1970 is shown in Table B.1. Of the total employed in 1970, 49 percent were employed in agriculture, 12 percent in mining and manufacturing and 39 percent in commerce, transport, public administration and services.

Between 1962 and 1970, the labour force grew at an average of 83,000 per annum, whereas the number of jobs provided increased at an annual average of 71,000. Unemployment therefore increased by an average of 12,000 per annum. Agriculture, forestry and fishing provided less than 17,000 additional jobs each year compared to the

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[1] A recent OECD report entitled "The Employment Problem in less Developed Countries; A Review" (document No. CD/R/69.2 Second Revision, December 1969, p.7) treated "the ability to earn an adequate living as the crucial feature of the employment problem rather than unemployment or underemployment as such". For a similar emphasis see "Towards Full Employment" ILO, Geneva 1970.

total of 71,000. The expansion in agricultural jobs due to new land being opened up is being offset to a considerable extent by the rapid reduction in the labour force on rubber estates which in recent years has been about 5,000 to 6,000 a year. (Table D-2 EPU November 1970).

Thus unemployment in West Malaysia has increased from about 6 percent in 1962 to almost 8 percent in 1970; and the latter figure may have been an understatement since, in his 1971 Budget address, the Finance Minister stated that unemployment is now estimated at 9 percent of the labour force. However the important aspect of this problem for this analysis is the trend in unemployment and underemployment.

Unfortunately it is not possible to estimate the trend in underemployment. In 1967 there was considerable visible underemployment, especially in agriculture. The MSSH revealed that more than 30 percent of the people employed wanted to work longer hours (Statement 7, p.152, MSSH), and that about 15 percent of people employed were "family workers without pay" (Statement 8, p.90, MSSH) and an analysis by the EPU in August 1967 suggested that underemployment had been growing steadily in West Malaysia up to 1967 (EPU, August 1967).

The latter suggested that this 'surplus labout' situation has resulted to some extent from an interruption in the pace of land development between 1931 and 1956 and in the very rapid growth in the labour force in recent years. Between 1905 and 1930 something like 100,000 acres of land were opened each year, but with the fall in the prices of primary products in the 30's and with the onset of the Emergency in the late 40's, the amount of land developed annually between 1931 and 1956 dropped to less than 35,000 acres. In the years since Independence the amount of newly-developed land has increased to about 80,000 acres or more each year, but in recent years there has been a rapid increase in the labour force as well as rises in labour productivity on the rubber estates, and a replanting of rubber with the less labour-intensive oil palm.

All these factors suggest that underemployment has been increasing, and that this increase together with the rising unemployment implies a growing labour surplus in West

TABLE b.1 EMPLOYMENT AND UNEMPLOYMENT IN WEST MALAYSIA: 1957 - 1970

Employment, Unemployment (ages 15 -65)	1957	1962	1967	1970
		Thousands		
Labour Force	2,206	2,536	2,921	3,200
Employed	2,010	2,383	2,727	2,949
'Actively'(1) unemployed	n.a.(2)	153	194	251
		Percentage		
Unemployed as a percentage of the labour force	n.a.(2)	6.0	6.6	7.8
		Thousands		
Employment (all ages)				
Agriculture, forestry and fishing	1,222	1,321	1,389	1,454
Mining and manufacturing	220	257	325	366
Others	707	824	1,049	1,149
Total employment (all ages)	2,149	2,402	2,763	2,969

(1) "Active" unemployment consists of those people who are out of work but actively looking for a job. This is the conventional definition of unemployment.

(2) "There is no reliable estimate of unemployment in 1957; the implied figure of 196,000 should not be taken seriously" - (Table 1, EPU November 1970 paper).

Sources: Tables 1, B.1, D.3 and p. 42 of the EPU, November 1970 paper.

Malaysia. The available data suggests that unemployment has been rising more rapidly among the non-Malays than the Malays;[1] among Indians in particular unemployment is not only rising more rapidly but is also at a higher level. This ethnic group has probably suffered more than any from the declining employment on the rubber estates and the slow growth in employment in utilities. Unemployment also seems to have been growing rapidly in the 'other urban' areas than in the 'metropolitan' and 'rural' areas[2] but it needs to be emphasised that unemployment is only one dimension of the employment situation. When considering the size and nature of the labour surplus, underemployment should also be taken into account.

It is clear then that there has been a large and probably growing labour surplus in West Malaysia. But what is of particular interest to the South East Johor Project is the likely future trend in this labour surplus.

The labour force in West Malaysia is likely to grow by at least 3 percent per annum during the next decade. The EPU November 1970 paper estimated a likely growth in the labour force for 1970-75 of 3.1 percent per annum and this

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[1] For data on unemployment by ethnic group for 1962 and 1967, see table A-12 of the EPU, November, 1970 paper.

[2] See table 13 of the EPU, November 1970 paper.

figure is likely to be an under-rather than over-estimate since the paper assumed a slow rate of growth (2.6 percent per annum[1]) in total population and a declining labour participation rate.

The labour force is likely to grow at a considerably faster rate over the next ten years than total population[2] and the EPU November 1970 paper projected "sharply rising

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[1] Slow, that is, in the context of the Projections made by the Department of Statistics in 1969. (Department of Statistics, November 1969).

[2] The Caldwell 1963 paper gave a growth rate in the labour force between 1972 and 1982 of more than 3.5 percent per annum compared to less than 3 percent per annum between 1962 and 1972 and less than 2 percent per annum between 1957 and 1962 (Table 4, Caldwell, 1963).

unemployment despite output growth of nearly 7 percent a year", and stated that if unemployment were to be held at the 1970 level the growth in the economy would have to be more than 8 percent per annum (p.57, EPU November 1970).

Therefore since the assumptions made in the EPU November 1970 paper are if anything optimistic, the employment situation in West Malaysia is likely to become an increasingly serious problem unless fairly major changes in policy are made such that the growth rate is increased sharply or the composition of output becomes more labour-intensive. The number of additional jobs thought by the EPU paper to be needed between 1970 and 1975 averaged 106,000 a year, whereas if a growth rate in the labour force of 3.5 percent is assumed (as in the Caldwell, 1963 paper) the number of additional jobs required is likely to be more than 120,000 a year. Thus on past and present trends, unemployment is likely to be at least as high as the 9 percent projected for 1975 by the EPU, November 1970 paper.

B.3 The employment situation in Johor State

There is little information available on employment and unemployment in Johor State. No reliance can be placed on registration figures because less than 70 percent of the unemployed in West Malaysia are registered at Employment Offices. (Table D-1 EPU, November 1970).

The information that is available[3] suggests that about 30 percent of the population is in the labour force, and about 92 percent of these are employed, although 12 percent of the employed are classified as 'family workers without pay'. Active unemployment is therefore about 8 percent of the labour force. As for West Malaysia as a whole, the unemployment rate is higher among Indians; for the latter the rate is 10 percent compared with about 8 and 6.5 percent for the Malays and Chinese respectively.

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[3] The only information that is available is that for Malacca and Johor States together given in the South Zone tables of the 1967/68 Socio-Economic Survey. Since unemployment in Malacca State is thought to be above that in Johor, the unemployment figure of 8 percent is likely to be an over rather than under-estimate for Johor State.

APPENDIX C

INCOME DISTRIBUTION

One of the objectives of the Government is the reduction of the disparity in incomes between the rich and poor, but it is probably fair to say that, at least until recently, the primary emphasis of Government policy was on the expansion of employment opportunities through a rapid rate of economic growth rather than on income distribution. But data on income distribution in Malaysia is scarce. It was stated in an EPU paper of May 4th. 1970 that "data on income distribution by any of the categories by which it can be measured are scarce in West Malaysia. We know little about the distribution at any single point in time and still less about trends over time", and there is probably a link between this lack of information and the past lack of emphasis by the Government on this aspect of policy.

The purpose of this appendix is to collect together what little information there is and to draw out the implications of the analysis for the South East Johor Project.

The only information for West Malaysia that is currently available in published form is that contained in the Family Survey of 1966/67 and in the Household Budget Survey of 1957/58, but in both these Surveys, the samples from which the information was drawn were small. The Socio-Economic Survey was intended to provide data for West Malaysia on "broad cash income ranges of the households and also the frequency distribution of income of all earners" (p.3, MSSH), but at the time of writing this appendix, no information had been made available from the MSSH.

Thus the only information available to this study was that contained in the Family and Household Budget Surveys. Table C - 1 summarises the information from these two surveys.

In 1967 the average income per household in West Malaysia was between $450 and $500 per month[1]. If the family Survey information is representatives of West Malaysia, it implies that in 1966/67 about 5 percent of the

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[1] The average income per caput in West Malaysia in 1967 was about $1000 and the average number of people in each household was probably about 5.5 for all households (both urban and rural). For income see table 2.8, IBRD, Vol. II and for population see MSSH. The average household size given by the Family Survey was 5.6 (p.23).

households were receiving more than two-thirds of the natioa-al income, and that the proportion of households receiving an income of less than $100 a month had almost doubled between 1957 and 1966. Put another way, half the households were probably receiving less than 10 percent of income in West Malaysia.

Information collected by the EPU and the Department of Agriculture suggests that the data for the rural sector given in the Family Survey is about right[1]. Small surveys done by the South East Johor Project indicate different patterns. The results of these surveys are shown in Table C-2, but it needs to be emphasised that the main purpose of these surveys was not to collect data on income distribution and that the results should therefore be treated as indicative only.

The information from these limited surveys suggest that either incomes in Johor State are more evenly distributed than in West Malaysia or that the income distribution shown in the Family Survey is inaccurate or out-of-date.

Even if the Family Survey figures overstate the maldistribution of income, it is likely that half the households in West Malaysia receive less than 15 percent of total income, whereas the richest 10 percent almost certainly receive more than two-thirds of the national income; but as far as the South East Johor Project is concerned the most important disparity shown by the figures is that between the urban and rural areas. The rural sector seems to be poorer now than in 1957 not only in absolute but also in relative terms.

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[1]The EPU paper of August 1967 suggested that the average income of families in padi cultivation was about $35 per month, the average income of families in smallholder rubber was about $60 per month and the average income of families in the estate sector was about $80 per month. Various studies by the Department of Agriculture which are listed in Table A2 of the EPU paper of 30th May 1970 suggest incomes per household of between $50 and $200 per month in padi, coconut and pineapple cultivation with the majority of households receiving less than $100 per month.

[2]The 1971 Budget Speech of the Finance Minister also casts doubt on the information in the Family Survey. In his budget speech, the Finance Minister defined the have-nots as those earning less than $100 per month and stated that there were 1.2 millions of them. If it is assumed that there was an average of 2 paid workers per household (about 3.2 million paid workers and 1.6 million households in West Malaysia) the proportion of total households with a total income of less than $100 per month is probably less than one-third.

TABLE C-1

INCOME DISTRIBUTION IN WEST MALAYSIA

1966/67 (Family Survey)

Household Income ($ per month)	Percentage of Households in Income Group: Metropolitan	Non-metropolitan Urban	Rural	All-West Malaysia[1]
Less than $100	6	15	64	49
$100 - 199	33	33	25	27
$200 - 499	42	38	10	18
$500 and above	19	14	1	5
	100	100	100	100
Number of households in the sample	3,217	840	1,187	5,326

[1]This is an average obtained not by weighting the figures in the preceding three columns by the number of households sampled, but by weighting the household types by their representation in West Malaysia.

Source:
Tables C2, C9, C16 and C23 of the Family Survey, 1966/67".

1957/58 (Household Budget Survey)

Household Income ($ per month)	Percentage of Households in Income Group: Urban Malay	Urban Chinese	Urban Indian	Rural Malay	Rural Chinese	Rural Indian	All
Less than $100	10	8	18	44	7	7	25
Over $100 but less than $200	43	34	43	43	36	47	40
Over $200 but less than $500	40	46	31	12	49	43	30
Over $500 but less than $1,000	7	12	8	1	8	3	5
	100	100	100	100	100	100	100
Average number of people per household	5.7	6.1	5.1	5.0	6.6	5.3	n.a.

Source and note:

Derived from pages 39 and 64 of the "Household Budget Survey, 1957/58". The Survey table continued the following footnote: "In publishing this table attention is invited to the fact that like all other data collected in this survey it is based on a ¼ percent sample. This sample gives sufficiently accurate results for the determination of weights to be used in the construction of retail price indices, but is subject to an appreciable significant margin of error as a source of information relating to income distribution. It does however give a rough broad indication of income distribution pattern and is therefore published as a matter of public interest".

TABLE C-2 INCOME OF HOUSEHOLDS IN JOHOR IN 1970

1. Incomes of 2993 households in 'urban' Johor

Area	Number of households surveyed	Percentage of Households with a household Income of ($ Per Month)				
		Less than 100	between 100 and 300	between 300 and 500	more than 500	Total
Johor Baharu	317	19	26	23	32	100
Masai	164	23	42	25	10	100
Layang-Layang	409	19	43	26	12	100
Kukup	111	36	45	14	5	100
Rengam	435	31	41	19	9	100
Kota Tinggi	1274	24	39	23	14	100
Sedili Besar	287	71	26	2	1	100
Total	2993	28	38	20	14	100

Source: From the 'Planning Survey' carried out by the South East Project in 1970.

2. Incomes of 924 households in 'rural' South Johor

	Number of households surveyed	Percentage of families with an income of ($ per month)			
		Less than 100	Between 100 and 200	More than 200	Total
Malay	712	45	41	14	100
Chinese	212	10	23	67	100
Total	924	27	37	26	100

Source: from the 'Agricultural Survey' carried out by the South East Johor Project in 1970.

This increasing poverty is due to a combination of falling prices, an increase in the size of the average household and a structure of taxes and duties which bears proportionately more heavily at low commodity prices. Table C-3 shows that the value added per worker in agriculture has remained more or less constant at $100 per month per worker between 1957 and 1967. This value added does of course include returns to capital and is higher than the average income received by each worker. The average value added per worker in the smallholding agriculture sector seems to have decreased. This is certainly true of rubber smallholdings where, although yields have increased, the average number of acres per worker has remained constant while the rubber price has declined from about 89 cents per lb. in 1957 to 54 cents per lb. in 1967[1]. It is doubtful whether yields have risen sufficiently to offset this decline although over the 7 years from 1960-67 the acreage increased by 600,000 acres so that a substantial proportion of the rubber acreage was not yielding by 1967, whereas the rate of expansion in the years prior to 1957 was slower.

Thus, as a generalisation, it is probably true to say that incomes in the rural sector probably remained more or less static over the decade from 1957-67 and they have probably not increased very rapidly if at all, since 1967, since both rubber and rice prices have continued to decline. The only people in the rural sector whose incomes have probably not declined and may have risen over the past decade are those who have continued to be employed by the rubber estates and those who have settled on FLDA schemes. But these workers and settlers total only about 250,000 - 300,000 or about one-quarter of the agricultural labour force and most of the FLDA schemes have yet to yield.

Furthermore not only have incomes per worker not increased by very much if at all over the past decade but the number of dependents per worker has probably increased. The MSSH 1967 (page 66) suggests that the rural population increased by about 15 percent between 1957 and 1967 whereas the EPU November 1970 paper suggests that the 'rural labour force (assumed to be represented by "agriculture, forestry and fishing") increased by only 13 percent over the same years.

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1 See Table 9.3, IBRD, February 1970.

TABLE C-3 LAND USE, EMPLOYMENT, AND VALUE ADDED PER WORKER IN AGRICULTURE - WEST MALAYSIA : 1957-67

	1957			1967			Value added per worker[3] ($ per annum)	
	Area under[1] cultivation (000 acres)	Employ-[2] ment (000)	Acres per employee	Acres under[1] cultivation (000 acres)	Employ-[2] ment (000)	Acres per employee	1957	1967
Rubber Estates	2,011	264	7.6	1,746	222	7.9	2,037	2,310
Rubber Smallholdings	1,710	332	5.2	2,552	473	5.4	1,172	819
Rice or mainly rice	748	398	1.9	1,087	370	2.9		
Oil Palm	116	13	8.9	402	36	11.2	945	1,239
Coconut	518	37	14.0	504	31	16.3		
Other crops	445	97	4.6	351	162	2.2		
Total	5,548	1,141	-	6,642	1,294	-	1,264	1,269

Source and Notes:

(1) Acreages from Table 1.2 of the Monthly Statistical Bulletins of August '69 and March '71.

(2) Employment from Table B.1 of EPU, November 1970.

(3) Value added is in current prices - from Table 6 of EPU, November 1970.

There is further evidence of a reduction in the standard of living in the rural areas of West Malaysia. 'Consumption Survey' carried out by the South East Johor Project in 1970 seemed to suggest when compared with the Household Budget Survey 1957-58 that meat consumption per consumer unit[1] declined (taking comparable income groups) between 1957 and 1970. This is probably because of the increase in the average household size without a commenurate increase in income. As pointed out above, the average income in current prices has probably remained static (in real terms it has probably fallen), but, in the meantime, there has been an increase in the average household size in the rural areas from about 5.5 in 1957 to about 6.5 in 1970.

There is little that the South East Johor Project can do to offset this increasing poverty in the rural areas. It will of course go some way towards alleviating unemployment and the build-up of underemployment, but if the disparity between the urban and rural sectors is to be reduced in either relative or absolute terms, a restructuring of taxes and duties will be necessary.

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[1] The consumer unit was derived by Graham Lusk and used by Rosemary Firth in 'Housekeeping among Malay Peasants' in 1966. When comparing the incomes of various groups it is a useful concept since it attempts to take into account differences in household size. This is particularly imprtant when the incomes of ethnic groups are being compared since the Chinese household is larger on average than the Malay household. (See Chapter 4 of Volume 4 and Table 14 of this volume). The Lusk scale is as follows:

	Weight ('consumer units')
Man aged 14 and over	1.00
Woman aged 14 abd over	0.83
Child aged 10 - 13	0.83
Child aged 6 - 9	0.6
Child aged 0 - 5	0.5

APPENDIX D

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