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**JOHOR TENGAH AND TANJONG PENGGERANG
REGIONAL MASTER PLAN**

SUPPORTING VOLUME 4

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CHAPTER I
INTRODUCTION

1.1 In the preparation for the master planning of the development of Johor Tenggara, greater emphasis has been placed on sociological aspects than in previous large regional development studies in Malaysia. This greater emphasis stems from the growing recognition among those concerned with economic development planning that, in general, economic needs to be allied with other social science disciplines in order to prescribe for economic and social development; and also, in the specific context of new land development which is intended to benefit the old and new population, that plans should be prepared with as much understanding as possible of the problems, aspirations and needs of the people planned for. These are the concern of the first two chapters of this volume, on sociology and the project (Chapter 2), and youth (Chapter 3).

Chapter 4, on household formation, employment and incomes on settlement schemes, and Appendix A, on education and health, present supporting material on some of the recommendations made in the Draft Project Report (S.V.1) and assumptions used in preparation of the Master Plan.

The sociological studies were conducted by a consultant social anthropologist in the first year of the Project, working in the second half of that year with a Malaysian sociologist and an additional consultant concerned mainly with social services.

The sociologists' studies were concentrated almost entirely in the first 12 months in order to ensure that other members of the team who were to be responsible for preparation of alternative development strategies should be made aware, as early as possible, of the emerging sociological considerations. This was the main period of formulation of ideas on various forms of organisation for land development and on settlement design. Frequent discussions of the sociologists' findings on current problems, needs and aspirations and on long term social implications of possible development strategies made indispensable contributions to the formation of ideas of specialists in other disciplines. The main studies were completed before the preparation of the Draft Project Report, presented in January 1971, and therefore in advance of the policy decisions, for the SMP period at least, on rate of development, selection of development agencies and other matters, which were made on the basis of that report.

Chapters 2 and 3 in particular should therefore be seen as part of the material prepared in 1970, which contributed to the proposals in the Draft Project Report and which has been used, within the framework of later decisions, in the preparation of the Master Plan. Chapter 4 was completely revised in June 1971.

Summaries of contents and conclusions are given in sections 2.1, 2.6, 3.1, 3.4 and 4.1.

1.2 Comments of Review Group and Steering Committee

Conclusions and recommendations were summarised briefly in Supporting Report 8 attached to the Draft Project Report in January 1971, which was considered by Review Group IV (Employment, sociology, objectives and strategies). The Review Group commented: "With the exception of a few minor issues, the Review Group was in general agreement with the proposals and views put forward by the Consultants."

The Group also commented that "the proposal that the village organisation should, as far as possible, be separate from any specific economic activity is considered not practicable at present though it might develop in that direction sometime in the future."

It also emphasised that the Consultants "should exercise a certain amount of caution in recommending any form of administrative participation by settlers in FLDA schemes, bearing in mind that the FLDA is already introducing new practices in this area, and that extreme caution is necessary in settling the pace for such innovations." These comments were summed up by the Steering Committee: "there should be no premature innovation in respect to settlement patterns and settler participation in management on the various land development schemes." (notes of the 11th meeting of the Steering Committee, South East Johor Project).

The Review Group and Steering Committee also asked that the development needs of the Orang Asli be taken into account in the Master Plan. Recommendations are made in Chapter 6 of the Master Plan.

Additional detailed comments on Supporting Report 8 were received by the Consultants from FLDA. It is believed that the much fuller treatment of evidence and argument in this volume will clarify a number of points which were obscured when compressed in the thirteen pages of Supporting Report 8.

In addition, three points may be noted. First, the Master Plan is intended to provide guidelines for planning and implementation over a long period. New land development and the creation of new villages will continue in the area until 1986 or later, after completion of logging in the Johor Tengah region. Moreover, the planning of earlier developments should take account of possible or probable long term implications. It should also provide for observed and evaluated trials in which the risks can be limited, of modifications to present methods, over a wider range than even FLDA has covered in its innovations during the past decade. But clearly, immediate, strong emphasis is to be placed on getting development moving in the Project Area, using existing, established agencies and methods. For example, the sheer practicability of separating the function of organising the establishment of new villages in new areas from the agency responsible for development production, depends on the establishment of a separate, competent and effective agency to undertake that function.

Secondly, while the SMP programme which the Consultants have been asked to prepare for FLDA is a large one, other agencies will also develop substantial acreages, if the overall SMP programme is to be achieved. The guiding considerations proposed in Chapter 2 are not only concerned with public settlement schemes under FLDA.

Thirdly, the recommendations and proposals largely arise from evaluation of the series of Project field studies, briefly described in the following section.

1.3 Sociological Field Studies

Chapter 2 draws its material from an examination of available literature and from a series of sociological field studies directed towards problems of particular relevance to the development and settlement of the new lands in the Project Area. The field work was carried out in the second quarter of 1970 by students from the University of Malaya, with intensive supervision by Consultants, in kampongs, estates and FLDA schemes in Johor. They are described

in Chapter 2

These studies were complemented by other Project field studies carried out for different purposes:

- (a) A series of interviews with youth provided much of the material for Chapter 3 in this volume.
- (b) An agricultural survey of over 900 farmers in South Johor was made with particular reference to holding size, cropping patterns and contact with extension services.
- (c) A household expenditure survey among 1863 urban and rural households in South Johor with particular reference to expenditures on meats, fish and dairy products.

Results of surveys (b) and (c) have been used principally in preparation of the agricultural development programme (see S.V.6).

- (d) A survey of settlements in and around the Project Area was carried out by Malaysian counterpart staff from the Department of Town and Country Planning in the first half of 1970. Important information was provided for Project planning of communications and settlements, which will also be valuable for future planning outside the Project Area. (R.8).

The sociological field studies were limited in sample size, geographical coverage and time. But, complemented by these other simultaneous studies and surveys in the same area, they are among the most extensive and intensive problem-centred field studies carried out in Malaysia. Many of the findings and proposals which emerge may be familiar; some may be controversial. But they are not based on conjecture.

It is strongly recommended that further studies be made, with similar intensive fieldwork, as development proceeds. Such studies will form the essential process of continuous monitoring and evaluation of development and informed endeavour to define and to achieve objectives.

SOCIOLOGY AND THE PROJECT2.1 Introduction

2.1.1

The final report of the consultant sociologist was prepared in September 1970 after one year of field studies, interviews and examination of published data. It is presented in this chapter with some revisions.

The chapter is divided into the following sections:

- 2.2 Potential migrants, land hunger
- 2.3 Migration - motives and problems
- 2.4 Organisations for land development
- 2.5 Theory and strategy for development of the Project area - guiding considerations for choice of forms of organisation
- 2.6 Summary of contents and conclusions.

The rest of this introductory section contains an explanation of the nature of the sociologists' contribution to a project of this kind, a brief description of the sociological field studies of kampongs, estates and FLDA settlements, and a note on the recommendations.

2.1.2 The sociologists' contribution

The consultants were asked to study ways of achieving various objectives by bringing migrants into newly developed land, for agricultural and other activities. These objectives sometimes conflict: they include employment creation, high incomes, welfare, social and racial equality, satisfying the felt needs of particular groups of people, and contributing to the growth of the national economy. The economic possibilities of various alternatives are discussed elsewhere. What contribution can sociologists make? They cannot provide a detailed, stage-by-stage blueprint for the development of communities, anticipating the interplay of social factors over the twenty years or so it will take to put the Master Plan into effect. This would require a degree of predictive accuracy sociology can never have. Instead, the sociologists have tried to contribute the following:

- a) information from official and published sources supplemented by new field studies of kampongs, estates and settlements schemes in order to assess the situation and objectives of potential migrants, levels of employment, incomes, education, skills, land tenure, and population structure (the field studies are presented separately; relevant findings are summarised especially in sections 2.2 and 2.3; official and published material is listed in the bibliography);
- b) an examination of the objectives of the Government and of the kinds of people who may settle in the Project Area; of possible conflicts between these objectives; and of the situation in which demands are expressed and how these may be expected to change (mainly in sections 2.2 and 2.3);
- c) alternative types of organisation for land settlement and for production and comparison between these alternatives to assess their individual advantages and disadvantages (section 2.4);
- d) the criteria for choosing between alternatives and the formulation of a general sociological strategy to meet some of the objectives (section 2.5);
- e) recommendations regarding forms of organisation, recruitment, initial stages of settlement, social services and means of con-

tinuing research and evaluation (throughout the chapter; brought together in section 2.6).

2.1.3 Information: the field studies

For information, other than published material, the sociologists had to rely largely on their own field studies. To provide additional information to the already published material, field studies were carried out by the Project. Statistical information on population, employment and incomes is generally scarce and of varying reliability (see discussion in S.V. 10).

Federal and State officials gave valuable information about the economic situation of different groups, about farming practices, organisations, social services and administration. Moreover they gave every facility for the sociologists and their field workers to visit kampongs, land schemes, employment offices and schools to talk to anyone without officials being present, and to make case studies. Special acknowledgements of assistance are due to the Federal Land Development Authority, the staff of Kuala Lumpur District office, and the penghulus in the areas in which fieldwork was done.

To fill out and check the information already obtained, short intensive field studies were organised to study problems confronting the Project. These were carried out in four FLDA schemes in Johor, three rural Malay kampongs, a suburban kampong, a Chinese New Village and two estates. In each case a fieldworker lived for 6 - 8 weeks in one place, conducted a household survey and case studies, returned to the Project Office for discussions and wrote a report. These reports, with statistical appendices and prefaces explaining how the work was done, have been issued separately in four volumes (R1 - 4). They form the background to this chapter, which draws heavily on the information contained in them.

The field reports deal with four main types of problem:

- a) the economic situation and needs of potential migrants to the Project area;
- b) the extent and meaning of land hunger (defined here as the demand for ownership of separate plots of land) and the likely consequences of meeting or not meeting this demand;
- c) forms of organisation for land settlement, production and voluntary effort and their effectiveness in meeting the objectives of participants and of the Project;
- d) migration - the characteristics of potential migrants, the reasons for and results of migration and the effects of the move itself.

In addition, they attempted to provide information on differences and relations between ethnic groups, levels of health and nutrition, family planning practice, the means and frequency of travel and the extent of contact with urban communities.

The sample of communities for the field studies was not random. The criteria for selecting a place was either that it should have an interesting form of economic or social organisation, with lessons for planners, or that it should contain many people falling into a particular category of potential migrants to the project area. In practice each study had both aspects.

Thus the reports on FLDA schemes (R1) were chiefly concerned with FLDA's formal organisation, with the forms of economic and voluntary organisation settlers are involved in, and with the wants and characteristics of the present population of FLDA schemes. Two were rubber schemes and two oil-palm schemes, at different stages of development.

In the field studies of kampongs and estates (R 1) Reports 5 and 6 (estates) and 7 (a Malay kampong with a subsidized GSA land scheme) were chiefly concerned with forms of organisation, though Report 5 also dealt with the special problems of the Tamil estate population. Reports 1 and 2 (Malay kampongs) were mainly concerned with rural poverty, population pressure on land, under-employment and youth unemployment etc, among people likely to migrate in search of opportunities: the places were selected by plotting on a map the geographical distribution of outstanding FLDA applications visiting the areas of densst concentration and the villages which had produced the greatest number of FLDA applications, before making the final choice.

For the one study of an urban community and of rural-urban migration (Report 3, a suburban Malay kampong), an area on the fringe of Johor Baharu was chosen, with a wide social mix (factory workers, clerks, pensioners, casual labourers) and with a large number of unemployed or partly-employed young men. Report 4 (a Chinese New Village is concerned both with the rural Chinese as potential migrants, and with economic organization and smallholding practice among the Chinese.

2.1.4 A note on the recommendations

Some of the recommendations in this chapter are for specific action now. Others are second-order recommendations giving lists of alternatives, their implications, and guidelines for choosing between them when the time comes. The reasons for this distinction are some of the choices involve further political decisions about priorities; other choices can only be made when development of the Project Area has progressed - after the first results of trials of new agricultural activities for example, or after institutions have been established and working for sometime. All recommendations need to be continuously refined, revised and extended by continuing evaluation and research, including intensive field studies similar to those conducted for this Project.

Section 2.5 sets out a general sociological strategy for development of the Project Area and lists guiding considerations for choices between forms of organisations. Section 2.6 summarises the contents and conclusions of the whole chapter.

The problems discussed in this chapter have been considered in relation to existing and possible new forms of organisation, and, in particular, to the present practice of FLDA settlement schemes and the possible effects of alterations in this practice to meet more clearly the needs and aspirations revealed by the field studies. FLDA is one great social experiment in land settlement in Malaysia and has been used throughout as the starting point for comparison.

2.2 Potential Migrants

2.2.1 Policy for migration

Which groups of people are likely to take up opportunities in the Project area? Who should be encouraged to do so? What do these people want, what are they likely to want in a new situation, and are these demands compatible with the other objectives of the Project? These questions involve two elements. Firstly, matters of fact - what is the present situation of different groups, what do they want, what would induce them to move and what would be the likely result? Secondly,

priorities - whose interests should come first; those with greatest need or those able to make the greatest contribution to future growth; youths or large families; one ethnic group or all together; high incomes or maximum employment? The two kinds of questions have to be discussed together but distinguished.

Sociology can make the alternatives clearer, and the likely consequences of choosing one rather than another, but in the end there are political choices to be made: is the Project designed to help those in greatest need in Malaysian society, or to make a contribution to the national economy, or to build up stable, prosperous communities which will be an example to people outside the Project area? The Federal Land Development Authority, in a similar situation, has had difficulty in making up its mind on this point. How much weight is attached to providing high incomes, redistributing wealth, and creating employment?

It is not only necessary to point out where objectives conflict, and to ask which comes first and where a balance should be struck. It is also necessary to ask whether some of the apparent alternatives are not false ones. For example, is it really necessary to choose between giving migrants high incomes, and creating as much employment as possible? If the aim is diversified economic growth, then each of these objectives may be a necessary condition for the other. It should be possible to aim at both, or neither may be achieved.

2.2.2 Groups of potential migrants

This report begins by considering the economic situation, needs and abilities of various groups of potential migrants (rural, urban; poor, relatively prosperous; Malay, Chinese, Indian) and the forms of organization, including small-scale decentralized ones, which now serve them. Whatever other criteria for the selection of settlers are adopted, the Project has been required to give high priority to improving the economic situation of two groups whose need is recognized to be greatest; the rural poor, and youth.

It seems likely that some priority will be given, especially on government-sponsored land schemes in the Project areas, to employing people who already live in Johor. (For this reason, and because of the practical difficulties of supervising field workers, the field studies were confined to the State). The State Government has agreed with FLDA that up to 50 percent of settlers on FLDA schemes in Johor should be recruited outside the State - but only when the present backlog of Johor applicants has been cleared. To the extent that need is the criterion for employment in the Project area, a strong case could be made for taking immigrants from other States, especially Malacca. There is, however, no reason to think the situation of the rural poor in Malacca differs greatly from conditions in the parts of Johor, bordering on Malacca, which were studied. A more open recruitment policy would probably attract young workers from more distant parts of West Malaysia, for example, the depressed east coast States.

As far as the population of Johor is concerned, the field studies give a general picture of the situation and needs of the main groups who (i) can be helped to achieve their own economic or other objectives by resettlement, or (ii) should be brought in because of the contribution they can make to achieving the Project's overall objectives. These human resources include:

- a) Rural Malays in areas of acute population pressure on land, especially in western districts of the States of Johor (Muar, Batu Pahat, Pontian). They show

the classic syndrome of over population, underemployment, debt, malnutrition, and lack of energy to make improvements. In the two kampongs of this kind covered by the field studies (R 1) the median household incomes are \$97 and \$80 a month; the median incomes per consumer are only \$22 and \$19 (A consumer is equivalent to one adult male. A woman counts 0.83 consumer; a child aged 10-13 as 0.83; a child aged 6-9 as 0.6; and a child aged 0-5 as 0.5). What skills they have are largely obsolete or of limited use in modern agriculture. By any standards of need, they deserve priority. Yet it is a mistake to regard them simply as a liability or as human material to be worked on: they show ability to organize, and cooperate where conditions are right and common interests are concerned; and they share the general hunger of Malays for education. The obstacles to taking advantage of existing educational facilities are real and sometimes insuperable for people in their position. All the evidence suggests that the young of both sexes will seize any opportunities for education and specialized training when these obstacles are removed.

b) Chinese smallholders or rural workers throughout the State. Their incomes are apparently higher than those of their Malay counterparts (median household income \$300; consumer income \$44 in the fairly typical New Village studied), but there are cases of acute poverty. Chinese family connections, and a closely organized pattern of long-term financial obligations to relatives and business connections spread over a wide area, appear to make capital more readily available when it is needed, and give better access to markets. Tradition of migration, and experience of re-settlement in New Villages, may also have inclined the Chinese to look for new opportunities. Information is inadequate, and generalizations are hard to make. They have considerable skill in specialized agriculture (especially in combining rubber with other cash crops), also some mechanical skills and business experience. The demand for general education is often surprisingly low, which may increase the gap between the already educated (and therefore adaptable) groups of mainly urban Chinese, and a rural and urban Chinese working class. Almost complete social separation of Chinese and Malay outside narrowly economic contexts, except for a few people of each race who live in communities where the over-whelming majority belong to another race, for example, the Malay policeman or the Chinese midwife. It will be necessary to find a way of bringing Chinese into the area, in a situation not marked by exploitation, or the suspicion of exploitation, if the objective of national unity and a multi-racial community is to be achieved. In Section 2.5 a strategy is suggested for achieving this.

c) Indian estate labourers: in spite of relatively high household incomes, achieved by heavy full-time work by both sexes, their situation is one of acute insecurity. (In the two estates studied the median household incomes for all ethnic groups together were \$200 and \$203; the median consumer incomes \$46 and \$36). Extremely vulnerable to economic fluctuations and changes in estate policy, because they have no connections or experience outside the estate

sector. Prospect of increasing unemployment. The younger generation is if anything, even more frustrated and hopeless than in other ethnic groups. Educational level is uneven but generally low; children sometimes do very well at school, but get discouraged and drop out. Specialized agricultural skills in rubber and oil palm, and experience of estate-type organization, could be valuable in new types of settlement.

d) Urban youth: of all ethnic groups. Relatively well educated; adaptable, but expect high incomes and unwilling to move to remote areas, at any rate without adequate incentives. (See Chapters 3: Youth and Aspects of Land Development and Employment).

e) People now living in the Project area: There are not many of them - approximately 30,000 excluding 'fringe' towns. They are not potential migrants except in the sense that they might move to new centres of population to be established in the area; but clearly the Project will affect them. There are two relatively large towns on the boundary (Kluang and Kota Tinggi): a population of estate labourers (largely of Indian origin) around Rengam; Malay and Chinese villages along the boundaries of Johor Tengah; some FIDA schemes already established in Tanjong Penggerang (with Malay settlers); Malay fishermen along the east coast of the Tanjong; and a mixed population at the southern tip of the Tanjong, largely dependent on mining, in close contact with Singapore, and physically cut off from the rest of West Malaysia until a projected road is built. These people should benefit by the provision of new employment opportunities; and existing centres of population will be obvious growth centres, even if new towns are established in the Project area.

One group has special problems: the small but culturally distinct population of orang asli, numbering less than 400, who occupy settlements in the Project Area, the majority in two Aboriginal Reserves. The best policy would probably be to continue the present programme of educational, medical and economic assistance, leaving the orang asli with the option of integrating themselves into urbanized Malaysian society as and when they choose to do so, taking up economic opportunities on the same terms as other ethnic groups, but without sacrificing the signs of their distinctive culture. There can be no question of preserving them as human exhibits in an ethnographic museum; but a paternalistic policy of forced settlement and assimilation would be equally disastrous, since it would certainly reduce them to the level of a lower class of hangers-on in a sophisticated economy.

2.2.3 Youth and the educated unemployed

The differences between rural and urban populations, and between ethnic groups, have to be taken into account more than the differences between age-groups or generations. It is true that the incidence of underemployment is highest in the under 25 age-group, that the situation is getting worse and that it may have dangerous consequences: yet it could be a mistake to single out youth unemployment as a special problem requiring special treatment, in isolation from the general provision of jobs and establishment of new communities. In 1967 the median age in West Malaysia was between 15 and 19; half

the sample population for the field studies was aged 16 or under, and 69 percent was under 24. In such a situation, anything said about the population of any area or ethnic group applies chiefly to the young, with a fringe of older people who are socially important but statistically not very significant. We are dealing simply with a situation of massive, growing unemployment. In some ways, the fact that the population is overwhelmingly young with more explosive frustrations aggravates the problem. In other ways it makes the solution easier because the population is more mobile, adaptable and energetic.

One practical implication is that the savings achieved by settling new communities entirely with young men may be comparatively small, since there are so few of the older people anyway: while the compensating, but less easily quantifiable, advantages of having some mixture of ages in a new community may be much greater. Seen from this point of view, the few older people are a useful resource for ensuring social continuity and diversity, and avoiding the consequences of bulges in the distribution. This question is discussed again in Chapter 4.

Nor is 'educated unemployment' in itself, a problem. It is necessary to recognize the personal frustration of young men with secondary school or higher qualifications, unable to find the well-paid interesting jobs they expect; but it would be more worrying if a substantial proportion of the unemployed were not qualified by general education for further training and study if and when better opportunities turn up. Education is a resource, whether or not the individual is able to use it at the moment. If the aim is for a sophisticated, high-productivity economy, a high level of popular education is indispensable. So the same amount of unemployment, but in a totally uneducated mass, would be worse: the short-term solution of the problem would be no easier, and its long-term solution impossible.

2.2.4 Diversity

In general, it is suggested that it is a mistake to compartmentalize the problem. Different types of settlement and employment suit different people. Human settlements get vitality, their interest and their capacity for growth and innovation from diversity, not uniformity. The aim should be to bring together people with different functions, interests and backgrounds. If the forms of economic organization require large numbers of people to do similar work, there is all the more reason to separate their economic function from the pattern of settlement they live in. There should be no need to think of a scheme both as a unit of production and as a settlement. A scheme which is designed as a permanent settlement to suit one group only - one ethnic group or one age group - is a static conception: it has a built-up tendency to stagnate, all unsettling or innovating outside influences will tend to be suspect. The advantages of diversity form one of the main themes of this report. Ways of achieving diversity are discussed in more detail in 2.5.

2.2.5 Settler selection and housing

If the unit of production (the enterprise) need not coincide with the unit of settlement (the town or village), then settler selection means recruitment of workers, not planning new communities from the ground up. Workers recruited for jobs in a newly developed region create a demand for housing, and one or two large enterprises in a small area with largely determine the initial pattern of settlement. In practice it may be necessary for the same authority to recruit the workers and provide the houses initially, as FLDA

does, but this need not mean that every house remains tied to a job or a plot of land, or that the same authority continues to administer the settlement, or that only people working in the particular enterprise live there.

As an alternative to the existing system, an authority like FLDA could build the houses (or assist settlers to build them) and then hand them over to settlers on an ordinary mortgage, like a building society. The repayment of the settlers' housing loan would be deductible from his FLDA pay, but would be separate from any other loan account he might have with FLDA. If he left FLDA employment he could continue to live in the house, provided that he kept up his mortgage payments. Alternatively a housing agency or a co-operative housing society, with government money and some official supervision in the early stages, could organize the provision of housing for workers in one or several enterprises, established in the same village area. Either of these solutions would avoid the danger of stagnation and personal loss of freedom which is inseparable from tied houses and company towns. (The suggestions are developed in section 2.4.5 and again in Chapter 3).

2.2.6 Settler selection: FLDA's experience

The previous section redefined settler selection as recruitment of workers. There remains the problem: if job opportunities are provided in the Project area, how to ensure that those for whom they are intended will take them up. FLDA's experience is the best guide. The FLDA caters for a certain public - rural, landless, mainly Malay, with minimum quotas for ex-servicemen and Johor State subjects and a recent emphasis on recruiting younger men. These are the kinds of people who will form a large part of the target population - the population for whose problems the Project must find solutions.

FLDA publicizes its schemes through penghulus speaking in mosques, local branches of UMNO, schools, vans of the State Information Office and etc. Penghulus and branches of UMNO or MIC forward applications to the Authority, which calls for interview those applicants who score the highest number of marks on a scale allowing for skill, age, family size and existing economic position. The scale of marks has been adjusted to reflect changing priorities: more marks for skill, less for age and family size.

On the whole, there has been no shortage of suitable applicants prepared to go wherever FLDA may send them. It is not clear whether the supply of applicants, willing to go to land schemes on the same terms, will continue; but it is best not to assume that even mounting unemployment will keep up the flow. In FLDA's case, reports of low incomes, isolation, and lost opportunities for children's education are coming back to settlers' kampongs of origin, and may deter the very people (young, energetic, ambitious) FLDA is now trying to attract.

The success of FLDA-type selection, in achieving its stated purposes, depends on publicity and communication. Its defects are recruiting applicants who become disillusioned soon after moving, and missing applicants who could benefit more by resettlement or who have more to contribute to the schemes. These defects are attributable not so much to political interference or to faults in the interviewing and marking system, but rather to wrong or inadequate information available to potential applicants. Thus applicants come expecting separate plots of land; more personal independence; jobs for the whole family; or simply higher incomes sooner. The sample of applicants who reach the interviewing boards is already self-selected, and not according to the criteria FLDA would apply. People who should have been selected have been frightened by rumours, or have not thought it worth applying, or have heard little or nothing about the schemes, or have applied and lost interest while waiting. Many of the people who

apply have done so for the wrong reasons, but neither they nor the Authority will find this out until they have moved to the schemes. By the time applicants are called for interview, and those who are too old or otherwise ineligible have been weeded out, it might not make much difference if a random sample of applicants were taken. The process would be less random if it were quicker (with an interval of months rather than years between applying and moving in) and if the official channels of communication and publicity were more effective, and more likely to make an impression on the target groups of potential applicants.

As the Project area is developed, further studies are needed to find out whether better results could be achieved by getting the message about FLDA or alternative settlement schemes to rural people. But it is not just the channels of communication which need attention: the message is more important. At the moment, the picture of FLDA which reaches most rural people who hear of it is either too good or too bad: thus official publicity leads them to expect high incomes, separate plots of land, and a voice in running schemes. Occasional news from relatives or neighbours on schemes gives a gloomy picture of low incomes, isolation, and an unsympathetic management which treats them not as potential landowners with some control over their own working lives and over the running of the scheme, but as estate labourers.

Neither of these pictures is quite true, but the information reaching rural people is so fragmentary that it is impossible for them to check and so to make a rational assessment of the advantages of going to an FLDA schemes, as compared with staying where they are. The task of settler selection would achieve its ends better if the sample of rural people who reach the selectors were self-selected rationally rather than arbitrarily. It would be easier for potential applicants to make a rational assessment of their real chances if FLDA were to encourage sustained contacts between settlers and their kampongs of origin; if its publicity dealt more frankly with the difficulties of living on schemes and spelt out FLDA's long-term aims more clearly; and if this publicity were followed up by recruiting agents, who could discuss doubts and objections and long-term prospects realistically in formal or informal meetings with people in target areas of rural poverty.

It cannot be assumed either that there will be uniform pressure for every job provided in the Project area, or that it will generally be necessary to offer special inducements to attract settlers. In the case of certain special skills that are needed, a market situation must operate. In a few cases, for example officials liable to posting, people can be compelled to move, but compulsion generally is likely to do more harm than good. Moral exhortation ('young men ought to be prepared to go anywhere, and have only themselves to blame if they are "choosy"') is even less useful. Idealism will work sometimes, but works best when combined with financial incentives and good career opportunities: for example teachers might be attracted to newly developed area for idealistic reasons, but to keep up a sustained motivation, it may be necessary to consider extra payments for service in remote areas, and specially favourable opportunities for advancement.

However, it makes sense to talk of a market situation only with regard to a minority of settlers, these with special skills needed for the success of the Project as a whole. The success of the Project will be judged by its effectiveness in meeting human needs, but not only those of the settlers themselves. To the extent that development in the Project area is intended to solve the problems of a particular target population, rather than serving other national objectives like revenue for general development or relieving population pressure in other areas, the authorities responsible for recruiting settlers will

have to take a different point of view from that of a company recruiting labourers to serve its own ends. In most cases, it will have to select settlers because they need the Project rather than because the Project needs them. It would make no sense to recruit as settlers only people who will fit in with the form of organization chosen, if the organization itself is designed to meet the needs of specified groups of people. To put it in another way, the form of organization must be subordinated and adaptable to the purposes it serves.

2.2.7 Land hunger

There are resources of land to develop (approximately 300,000 acres excluding land already alienated and being developed) in the Project's two regions, for purposes which include meeting the felt needs of the population: especially the poorer rural people living in Johor. It appears from the field studies, from FLDA's experience and from the other evidence available, that the clearest expression of these needs is land hunger - the demand for distribution of private plots of land to those who have none, or who have too little to support their families at an acceptable level. Can this demand be met, or should it be met?

Consider the background to land hunger. Johor has over a million acres of smallholdings (mostly rubber), some 487,000 acres of estates, and 60,000 acres already developed by FLDA. (1969) There is no reliable state-wide information about sizes of small-holdings, patterns of tenure or farm employment, or rural incomes. It has been necessary to rely on the Project's sociological field studies, and on the Project's agricultural field studies of South Johor (R1 - 4). The sample of farmers is small, but the general picture is clear enough.

Most rural families own their house site and compound, and own or farm a smallholding which is not sufficient to support their families: i.e. methods and crops used will not give them what they consider a minimum living income, nor do they grow enough food to meet more than a fraction of their families' requirements. In the three rural Malay kampongs studied (R1) the median holdings are 5, 2 and 6 acres per household (the last figure is highest because of the government GSA scheme, which has given 6 acres to the landless and 4 acres to other smallholders). In the Chinese New Village the median was 5 acres. The Project's agricultural field studies showed that Malay farmers in Johor 'operate' a median acreage of 4.7, as against 6.5 for the Chinese. It was not always clear whether the informants owned the land they operated: for the same reason, the figures from the field studies should be treated with caution. Smallholders and their families usually supplement their income by outside work: share-tapping or share-cropping arrangements with larger landowners in their villages; work paid at daily or piece work rates on other people's land or on estates; or, in a few cases, non-agricultural work like carpentry, running trishaws, and shopkeeping. The Project's agricultural studies showed that a Malay farm family in South Johor typically earns more income outside its own farm (median \$60/month) than on it (\$40).

2.2.8 Land hunger: a case study

The very low median household incomes (\$97 and \$80) and incomes per consumer (\$22 and \$19) in the Batu Pahat and Muar Kampongs studied (R1) are largely a result of the relative lack of outside employment opportunities in the first kampong, and the almost complete lack in the second, Parit B. In the latter, land ownership is concentrated in the hands of five men, for whom the other villagers

(having a median holding of only 2 acres per household) work as share-tappers. For a variety of reasons described in the field report, many smallholders cannot or will not cut down and replant their old trees, which yield little later or in some cases none. There is little estate or other employment within commuting distance of the village: incomes and standards of nutrition would be even lower than they are if it were not for the 'Sawah' padi land six miles away, on which 46 percent of the village households have small plots. The median land holding is five acres per household. Households are slightly smaller than in the other places studied (averaging 5.4, as against 6.7 for all the kampongs and estates studied, and 5.9 for the three rural Malay Kampongs). This may be a result of low levels of health and nutrition and high infant mortality. With a median age of 17, the pressure of population increase can hardly be relieved by further subdivision of minute holdings or of share-tapping acreages.

For young men in such a place, which represents in an acute form the problems of the crowded western districts of the State, there is no alternative to emigration, and few alternatives to land ownership worth considering, unless they are qualified for government employment or other specialized work. Here, as might be expected, the demand for separate plots of privately owned land is most widespread and most uncompromising: 96 percent of informants said it was essential to own a separate plot, hardly any would consider working land as members of a group or renting land with secure tenure, and only 13 percent considered a secure job as good as owning land.

While it is important not to rely too much on opinion polls, the distribution of answers to these and other opinion questions (R 2) when seen in relation to the more reliable figures for land holding and incomes, do illustrate some important relations between rural people's economic situation and the demand for land. 'Parit B' has produced more outstanding FLDA applications than any other kampong in Johor, and it is significant that most applicants said they wanted individual holdings of rubber land (as on an FLDA scheme 8 miles away) rather than a share in oil-palm land (as on another scheme, of which they have heard bad reports).

The field report of this kampong also brings out the sharp distinction made by people between the status of a landowner possessing the one secure source of income and a labourer (the same term being used to cover a casual daily labourer and a share-tapper who had worked the same area of land for years). This last situation is not regarded in any way as a form of secure tenure. In the other places studied, informants were more willing at least to consider the alternatives of sharing and renting land.

2.2.9 Rural people's attitude to land ownership

The study of 'Parit B' deserves attention, not only because it is representative of the worst problem area in the state, but also because population pressure on land appears likely to produce the same result elsewhere, in the absence of government initiative to reverse the trends. As young men come on the labour market, and as holdings divided on inheritance become increasingly uneconomic, more families are forced into debt and into competing for casual employment. Labourers have to accept whatever terms they can get to work as share-tappers or daily labourers for the few landowning families which have managed to keep large holdings together. Where these landowners are also Malays, they tend to employ their relatives for preference. In any case this relationship (which the villagers describe as one of employer and labourer rather than landlord and tenant) can be ended at any time: the labourer has little security, except to the extent that public opinion may restrain the landlord from exploiting his superior bargaining position. In practice

it makes little difference whether the landlord is of the same ethnic group as his labourers. In the padi-growing areas of Malacca, a similar situation appears to exist in an even more acute form.

In such situations, most people see private land ownership as the one condition for personal and family security, a reasonable income, and independence. This assessment is rational, given the alternatives known to them: they have not the qualifications for secure government employment; estate employment gives neither security nor independence; and reports of land-sharing on FLDA oil palm schemes are discouraging. If they are unwilling to consider alternatives to private land ownership, there is no reason to put this down to stubborn conservatism, or to assume they will not look at an alternative which can demonstrably give them something like the same package of security, income and independence.

2.2.10 FLDA schemes as a cure for land hunger

Attempts to feed this land hunger by making uncleared land available to nearby kampong dwellers, under Fringe Alienation or Group Settlement schemes, have been only partially successful. In some schemes, smallholders with sufficient agricultural skill and access to capital, taking a realistic view of the difficulties involved, have achieved high standards of cultivation. Schemes which were designed to help those in greatest need of them - especially Malay smallholders and sharecroppers - have often been disappointing, and in some cases complete agricultural failures, for a variety of reasons: the land was too far from the villages, farmers had no capital to clear and plant the land properly and not enough time or experience to look after it properly, (Tunku Shamsul Bahrin, 1969). As an alternative and more radical way of tackling the problem, the FLDA was set up to remove the obstacles which prevented landless people from settling jungle land themselves. The Authority clears the land, builds the houses, arranges for wholesale migration to planned communities and provides subsistence loans and management, in order to create a stable, self-reliant peasantry earning high incomes from their own land. In practice, the FLDA landless includes the surplus men of households which had land of their own and some people who conceal the extent of their land holdings or whose land is registered as relatives' property.

FLDA rapidly adapted the original design of rubber schemes to the technical requirements of oil-palm, regarded as a more profitable crop than rubber. On FLDA Kulai, the first of the oil-palm schemes, the land is cultivated in three large blocks by settlers or their dependents. The work is supervised by managers and mandors, as on an estate, and paid piece-rate or daily wages. At the same time each settler - the head of a family - is entitled to an equal share of the profits after the trees reach maturity. This share can be passed on to one son, or the widow, on the settler's death.

The same pattern of block working of land, under direct supervision by FLDA officials, has been followed on the other oil-palm schemes. The present form of 'Supplemental Agreement' between a settler and the FLDA states that a settler on an oil-palm scheme shall become a member of a co-operative. When the settler has fully repaid his debt, FLDA shall revert to the state government 10 acres planted with oil-palm and the settler's house-plot, and shall recommend to the state government that the house-plot shall be alienated to the settler, and the oil-palm land to the co-operative society of which he is a member, both for not less than 99 years. Thus it appears that the present intention is to hand over the scheme to some form of co-operative for joint cultivation.

How this co-operative is to be organized, what relation it will have to the present JKKR (FLDA settlers' committee), and how it is to manage the land, are not spelt out in the agreement.

FLDA's limited experiment with cultivation in smaller blocks, on the Sungei Dusun scheme in Selangor, suggests a possible line of development. Groups of 20 settlers work 200-acre blocks under elected mandors, and share the profits of each block, instead of taking a share of the total profits of the scheme or 'phase' as on other oil-palm schemes.

2.2.11 Reactions to block cultivation in FLDA oil-palm schemes

Whatever the eventual arrangements for the control of schemes, FLDA's oil-palm schemes have added to the range of alternative agricultural organizations known to many rural people. The existing alternatives were smallholdings, estates and FLDA schemes with central management but individual plots and profits. The new alternative is block working of land, nominally held in common, with profit-sharing and, in the Settlers' Committee, at least the beginnings of co-operative control.

In the field studies attempts were made to find out whether rural people, on or off the schemes, consider this form of organization offers the same advantages as separate plots. It is necessary to know this not only in order to assess the prospects for co-operative cultivation, but to understand the real significance of land hunger and the ways in which it could be satisfied.

In discussions with kampong people, the one example it was possible to quote was Johor's oldest oil-palm scheme at Kulai of which many of them have heard reports. The scheme itself, having recruited many settlers in their thirties in 1960-1, is now faced with an acute problem of un- or underemployment among settlers and their children who have grown up on the scheme as the heavy labour requirements of early years have fallen off with the maturity of the crop. Other oil-palm schemes, with younger settlers, smaller families and newly planted trees, have not yet had the same serious unemployment problem.

In the studies of FLDA oil-palm schemes, it was decided to test a hypothesis suggested by some preliminary contacts with settlers: that the demand for separate plots of land is strongest, and a source of great friction, on those mature oil-palm schemes which have widespread unemployment, among settlers as well as dependents, because settlers see no other chance of security and a decent income; it is not a live issue on schemes with relatively full employment where settlers feel secure in their present jobs, look forward to a decent income, and do not care, or do not care much, about owning their own piece of land.

Not much direct unequivocal evidence was found of a correlation between the demand for separate plots and unemployment on FLDA schemes. It may be so, but too many other factors complicate the issue. For instance, the difference in age-distribution between new and old oil-palm schemes, or the fact that Phase I of Kulai, Johor (and FLDA's) first oil-palm scheme, was a testing ground where mistakes were made - the land was inadequately surveyed, some settlers were too old etc. These mistakes depressed settlers' incomes below the level to be expected in later schemes, which have learnt from this experience.

2.2.12 The meaning of land hunger: a demand for security, income and independence

The findings of the field studies of kampongs and FLDA schemes, as well as personal observations and contacts with rural people, suggest that land hunger - especially but not only among the young and the Malays - means or is coming to mean not an emotional attachment to land ownership for its own sake,

or as a means to high status, but three things ranking in varying importance according to the speaker's point of view. The following order is probably about right for most people.

The first objective is security: to be sure of an income for oneself or one's widow in old age, since there are no pensions and even one's children, at a time of unemployment and hardship, may not be able to support one; to have a house from which one cannot be evicted; to have something to pass on to one's children; or simply to be sure of a job next month, or next year, or in five years' time - one of the main objections to estate work, for instance, being the ease with which a labourer can be sacked.

The second is high income: it is true that many smallholders have very low incomes, but usually in places where they can see around them examples of people with larger holdings, or access to capital or special skills, who live quite well from their own land. In any case, they can see no way of making a living wage - enough to educate their children and to keep out of debt to shopkeepers - without owning land. They lack qualifications for relatively well-paid jobs with the government or urban firms. Estate wages may be somewhat higher than their present incomes, but the difference is not great enough to compensate them for the loss of security and independence. Malays, in particular, seem to prefer other work if they can get it.

The third is independence: to have some control over one's working life and the product of one's labour; possibly to have some control over the assets one works with; to be treated as a person with respect, not as a mere cog in the machinery or an instrument for someone else's designs; not to be entirely at the mercy of impersonal economic forces. Security is a necessary condition for independence in this sense. How far the demand for independence can be met is another matter.

These demands will change - at least in detail and in the relative weight given to each of them - with changes in the economic situation in the Project Area: changes in people's assessment of it; and changes in institutions. For the time being the demands are taken as given, and it is necessary to try to reconcile them with the economic possibilities and the other objectives of the Project.

Distributing separate plots to all the landless would not meet the three main demands which lie behind land hunger. Separate plots on FLDA rubber schemes give a good mix of security and independence, but lower incomes than oil-palm schemes, which are believed to require joint working of large blocks of land.

If the significance of these demands and the context in which they are made, are considered it is not possible to devise ways of meeting them without distribution of land in separate plots or smallholdings? Forms of organization which might provide 'packages' to meet all three demands tolerably well are discussed in Section 2.4 of this chapter. However, even taking the demands separately, certain partial solutions suggest themselves: the demand for security could be partly met by pensions or other forms of social security; the demand for income, by employment with the prospect of a stable or rising income on conditions which are in the worker's power to fulfil; the demand for independence, by genuine participation in collective control and decision-making, or a strong trade union organization with real power to affect the employer's decisions. Each of these partial solutions is worth considering for possible inclusion in alternative types of organization.

2.3 Migration

Thus there is a population of potential migrants, whose needs or objectives are expressed as demands - land hunger, urban employment etc. There are some

government objectives - national unity, long-term growth, regional balance - which go beyond helping these particular people. The economic opportunities in the Project area will make it possible to satisfy some of these demands for some of the people and/ or will satisfy, the underlying objectives by substitute means, provided that the people concerned have sufficient reasons to go where the opportunities are.

When they have moved, their horizons and therefore their objectives will change. Studies of FLDA settlers, kampong dwellers and others, in their present situation, give some grounds for predicting what these changes will be.

In order to foresee the problems of the move itself each group (rural Malays, rural Chinese, estate workers, urban people, educated youth, small businessmen), was asked why they would migrate? What did they see in it for them? What were the obstacles to migration?

2.3.1 Motives for migration

Previous sections, and the field reports, describe migrant-exporting areas of Johor, potential migrants, and land hunger as a motive for migration. Statistical analysis, of the field study data (R 2 & 4) shows the proportions of Household Schedule respondents giving various answers to questions about migration. Most informants in the two overpopulated Malay villages and the Chinese New Village (R 2) would move if they could get land. Most informants do not consider a secure job as good as owning land. The chief problems people anticipate in moving are the expense of the move itself and the difficulty of educating children in a new place. Only among the Chinese do a majority consider it important to have relatives in a new place. Many Malays said that neighbours in a new place were like relatives, or that it was better to live independently, or that relatives quarrel less when they live apart.

Land hunger means a demand for security, income and independence. The field studies suggest that younger men, especially those with secondary education, tend to want the same things but are less anxious to own land. If urban, jobs in factories, or perhaps government offices, can offer them the same package of advantages, this tends to be the first choice, then FLDA. Estate employment appears to come low on the list - not attractive but better than casual farm work or unemployment. Tamil estate workers, however, see nowhere else to turn. Some apply for FLDA or other government land, but very few get it; few see any chance of promotion, but they hold on to what they have. Informants in the urban area studied, especially younger informants were often reluctant to move into a rural area (see also Chapter 3).

Thus, to the extent that rural people consider moving at all, they have two main destinations in mind: FLDA schemes, and towns. Whether or not the Project area includes substantial town development, most of the population there will be agricultural, at least for some years, and this means either villages or small rural towns. In this discussion of migration it has been assumed that migrant-receiving communities will be (a) in many ways like present FLDA schemes, (b) in rural areas, but (c) having many features, physical and social, which people now associate with town life rather than kampong life.

2.3.2 Motives for migrating to towns

It is clear that many people, especially young men, will prefer town life and urban jobs, other things being equal. This trend seems likely to become stronger, with better communications, rising aspirations etc. This movement into towns is often regarded as undesirable, possibly because it is considered that the country's

economy cannot support a large urban population, or because the social problems caused by a sudden urban influx are too distressing or too expensive to deal with, or because the rural way of life is thought better in itself, being inseparably bound up with values and ideals which ought not to be sacrificed. The latter justification represents a value judgement which is not shared by the migrants themselves. Unless the advantages of town life outweighed those of rural life, from their point of view, they would not migrate; nor, having migrated, would they be so reluctant to go back.

Consider the advantages of town life which appeal to migrants: not just glitter and entertainments (though these have their value), or even goods and services, but diversity in every sense: diversity in occupations, opportunities, education, exposure to new people and ideas, contacts and friendships which can lead on to unexpected things, and so on. Why are many people willing to put up with cramped conditions or insecure employment to have these things? Instead of deploring their choice, it is necessary to consider to what extent it is a rational one - the best way of achieving their objectives, in this situation. If the economic base in the Project area will not permit development of large towns, planners should see to what extent the real advantages of town life can be provided in smaller settlements, as well as the alternative satisfactions of better housing, more open space, income and security.

Making new settlements attractive to migrants in the long run is a large order: it has implications for town planning, settlement size and organization, the range of jobs and economic activities in each place, communications and social services. There are however, certain critical, limited areas in which action can be taken first, to remove immediate obstacles to the kinds of migration to be encouraged.

2.3.3 Making migration attractive: educational facilities

The most important area is education. The achievements of Malaysia's education policy have created and overwhelming demand for more and better educational facilities, especially among the rural Malay population who show a strong reluctance to give up educational chances which their children are the first generation to enjoy. Even with free tuition in Malay-medium schools, the cost of school transport, books, uniforms, and occasional contributions to sports funds make a large hole in a poorer family's budget.

Migration to an FLDA scheme, in a newly developed area, can upset this precarious balance: financial problems the family could overcome in their old environment may become insuperable in a new one because of low income in the early years. Absence of upper secondary schools in the area, and a limited choice between schools may become deterrents to migration. Parents say their children lose the chance to go to a middle secondary school, or even to an English-medium school (and although English-medium schools are to be phased out, as long as they exist many parents will make great sacrifices to send their children to these schools).

Where education is concerned, there is no question of doing without present advantages to live better in future: chances which are sacrificed now will never come again. Informants in kampongs and FLDA schemes return to this point again and again: difficulties in continuing the children's schooling are seen as one of the main impediments to moving.

This means that the success of new settlements, in attracting the kinds of settlers wanted for whatever reasons, may depend not only on pro-

viding more secondary schools, with easier access, but on a more liberal attitude towards 'subsidies'. For example, subsidized, preferably free, school transport and books; an extension of the cheap school meal service; and a wider choice of academic and technical courses, including courses which are only in demand by a minority. Thus it would be a mistake to limit vocational courses to trades like agriculture, which are already in demand in the area, if many pupils or their parents would prefer a more widely-based technical course leading on to urban industrial trades. There is no reason to assume that everyone growing up in the Project area will see his future there.

2.3.4 Health and nutrition

Lost educational opportunities seem to be a more serious impediment to moving than health. It is true that health problems of newly developed areas, especially malaria, are serious in themselves, but they are not usually a direct obstacle to mobility. Moreover the eradication or control of malaria is already in hand: procedures for preventing the introduction of malaria into newly cleared areas are being improved, and the National Malaria Eradication Programme will reach Johor by the middle 1970s.

Migration to newly developed areas can reduce levels of nutrition which are already low. Thus on FLDA schemes, not only are family incomes often reduced in the first years of settlement, but there is some evidence that the leafy vegetables which kampong people find growing wild, the fruit that grows half-wild around their houses, and the small fish caught in drains, are not available in the new areas (R 3). Specific nutritional deficiencies on FLDA schemes, where they exist, are an unwanted result of migration, but they do not seem actually to prevent people from moving. Moreover the programme of health and food education carried on by FLDA's women Settler Development Officers and in primary schools already seem to be persuading settlers' families to make better use of food resources.

2.3.5 Housing

The provision of a house is one great attraction of FLDA to migrants; but it should be possible to improve the quality of housing for settlers in a newly developed area, or to reduce the cost, or both.

If the assumption is made (see section 2.2.4) that the unit of production (the enterprise) need not coincide with the unit of settlement (town or village), it may be seen that advantages in separation - occupational mobility, independence of the worker, the limitation of the role of management to what it can do efficiently. When it is unavoidable that the population of the first settlement must consist mainly of workers in one enterprise and their families, it is still best to separate housing from management of the enterprise.

However new settlements have to be built quickly. The houses must be available when the families move in: and there may be no practical alternative to having the first houses built by FLDA or whatever other agency first organizes production in the area. But, provided the agency is sure of a return on its investment in housing, there is no reason why the occupation of a house should remain tied to employment in the enterprise, or why the enterprise's management should continue to manage the housing area or provide services for it. The following are tentative suggestions for ways to provide workers' housing quickly without the permanent disadvantages of tied housing or 'company towns'.

An agency like FLDA, which manages a large enterprise, could organize the building of the first houses and could give workers a housing loan, secured

by a mortgage on the house. If the management also makes another kind of loan to the worker, for example, the FLDA's loan account for land and development costs, this should be kept separate from the housing loan account. This would mean that a worker who ceased to work in the enterprise but who found some other source of income in the settlement could not be evicted: he could continue to live in the house provided that he kept up monthly repayments of his housing loan. Apart from giving the family secure occupation of a house, this would encourage the growth of other enterprises organized by or employing people from the settlement, diversifying its economic base, increasing the range of opportunities, and reducing dependence on a single employer.

Alternative ways of financing the first houses could be: through a separate government agency for housing alone; through housing co-operatives; by encouraging, and if necessary subsidizing, private building societies, enabling migrants to buy houses built by private developers; and giving migrants a plot of land and a loan with which to buy materials and build their own houses. This is not the place to recommend such an arrangement in detail.

With regard to the actual method of building, more specific suggestions are put to the architects. These are based on FLDA's experience but not limited to an FLDA-type organization.

FLDA, or other agencies organizing first settlement, should look again at the advantages of 'self-built' housing. An experiment with 'self-built' housing, built by the first groups of settlers using gotong royong (mutual aid) on Phase I of the Kulai scheme, was not a success: often no one in the group putting up a settler's house had sufficient skill in carpentry, the materials were not of good quality and have decayed, and so on. It is now FLDA's policy to have houses built by contractors, following a standard pattern and using treated wood, and to add the cost to the settler's debt. Settlers can extend their houses, but only to a standard pattern, and in theory after getting permission from Kuala Lumpur. Several FLDA settlers have suggested they should be able to build their own houses with materials provided by the management, which would either reduce their debt, or would enable them to spend the same amount of money on more or better building materials; and would give them a choice between types of houses.

In fact not all the houses in Phase I at Kulai are as bad as officials suggest: some were built by settlers with skill in carpentry and have been well maintained, painted and extended, so that they are more attractive than the standard FLDA house, and adapted to the settler's own taste and circumstances. Self-built housing in the kampongs from which Johor settlers come is often architecturally very good (though not of the high standard found in Malacca kampongs), even when the materials are not durable. Fieldworkers in kampongs were asked to find out how the building of kampong houses is organized and who is called in to do the skilled work; they were also asked to judge the results. Their accounts of house-building are in the chapter 'Education and skills' in each report of the Field Studies. Most kampong houses are built by gotong royong, drawing on the skills of one or two local carpenters who are often paid a small fee; and knowledge of carpentry and traditional house-building techniques is fairly widely spread.

Would it not be possible to try self-built housing again; this time with skilled carpenters paid a fee to supervise the gotong royong building work, components of a higher quality than before, and possibly some prefabricated parts, so that a standard design could allow of more variations to be agreed on by the settler and the consultant carpenter? Again, the possibilities need to be studied in more detail by architects. Further work is also needed on the possibility of an industrialised

building system, based on traditional methods and forms, using the labour of the prospective occupants to reduce their housing debt, and related to the development of forest industries in the area.

2.3.6 Lessons from FLDA's experience

The field studies of FLDA schemes, and the corresponding report given in Chapter 3, consider the reasons why the present settlers came to the four sample schemes, and whether their expectations were met (R 3). This paper is more concerned with the attraction and disadvantages of new settlements as they appear to people who have not made the move.

Seen from both ends, before and after the move, FLDA appears to offer many urban amenities - water supply, surfaced roads, community centres - but not true urban diversity, which depends on having people of different origins, ages and interests, engaged in different economic activities, forming groups of many kinds of their own purposes and often independently of any central control, and meeting by accident or design in a wide range of situations: in other words, in which a large part of social life is unexpected and unplanned, throwing up new possibilities and suggesting new ways of thinking about the material world and social relations. There is a danger that settlers of similar background, brought to the scheme for similar reasons and finding themselves in an identical situation when they get there, will not complement each other's different experience and will have nothing to offer one another except participation in a common lot, the same things to complain about with little stimulus to look beyond the immediate obstacles and to imagine a possible future. Diversity is one of the chief attractions of urban life, especially for younger people, and something like it must be provided in new settlements if they are to have sufficient counter-attractions for those who might benefit from moving there, or who are needed for the success of the Project.

One way of getting built-in diversity may be to bring in a wide range of different groups of people, as groups: in other words, to encourage migration by people from the same kampong, or groups of relatives, because people who already have dealings with each other tend to complement one another instead of doing the same thing and the overlapping loyalties of each individual to the old groups and the new may be a resource to be drawn on, rather than a drag on adaptation to a new environment. This would only work if a variety of groups were brought in, plus unattached individuals. The opposition expressed by FLDA managers to bringing in groups of friends or relatives may be mistaken.

Since the settlement of new areas is not an end in itself but has to be seen in the context of the whole of Johor and Malaysia, the benefits well-planned migration can bring to those who remain behind as well as those who move should not be forgotten: not only by relieving population pressure on land and adding to the range of career possibilities, but simply by extending the range of family and personal contacts which kampong dwellers have with people in a different situation, making new initiatives possible and new lines of action conceivable.

2.4 Organization for Land Development

2.4.1 The alternatives

Land development follows from the need to achieve the objectives of the Project: maximum employment, income and welfare, equitable distribution, contribution to the national economy, and security and independence for settler: using the chief available resources: land and also labour, which is abundant, except for specialized labour, but may not

easily be attracted to a remote area.

Some costs and benefits can be quantified - income per worker settled on new land, cost to government per acre and settler, acreage and number of settlers in each form of organization in Johor. Some could be but there are no reliable figures - for all types - total cost of developing one acre or settling one family, income per family or settler, especially the income which would not have arisen otherwise. Others cannot be quantified but they can be described and evaluated. The following checklist of existing and conceivable forms of organization for land development sets out some of the costs, special problems, advantages and disadvantages of each. The figures are approximate, for 1969. The observations refer mainly to conditions in Johor.

2.4.2 FLDA

a) Cost to government: most of development cost except administration; cost of housing, and subsistence loan, are all recovered from settler at 6.25 percent annual interest over 15-20 years. At end of immature period, rubber settler's loan account varies around \$16,000 (on 8 acres); oil-palm settler's account, around \$14,000 (on 10 acres).

b) Income: widely varying estimates of incomes to be expected when schemes of the kinds now being developed start producing. FLDA suggested in 1968 that a settler should be able to earn \$300-500 a month from the main crop and \$30+ from outside activities (Tan Sri Taib bin Haji Andak, 1968). A more recent estimate is \$251 on 10 acres of oil-palm for 15 years after maturity, then \$268; probably lower incomes from rubber, the income received by the settler will of course vary according to the yield and the phasing of the income over the period of settlement. For further details see Chapter 4, of this volume. On existing schemes, many members of settlers' households work outside. Household incomes could be much higher if viable secondary industries are established, to employ settlers part-time or members of their families full-time.

c) Employment: in West Malaysia, 18,400 settlers' families (end - 1969) settled (about 100,000 persons). Head of each family should be employed, but some settlers on mature oil palm schemes are unemployed much of the time. Diversification of economic activities organized by FLDA, settlers or others could employ many of the others. Many work outside, on estates etc: but such opportunities may become rarer as FLDA develops more remote regions.

d) Extent in Johor: 60,731 acres planted. 6,250 settlers.

e) Welfare: reasonable if unimaginative housing provided and charged to settler's loan account. Inadequate health services, for example, too much malaria. Primary schools on schemes; transport to secondary schools often expensive. Organized activities (films, Women's Institutes) partly offset isolation.

f) Distribution of benefits: since schemes require high initial loan to settler, with prospect of a living wage plus security, they could conceivably produce a favoured section of the rural population, at the expense of those left out. But the loan is secured and repaid with interest: there is no element of subsidy. Organization not finance appears to be the main constraint on extending similar benefits to more people. In unfavourable conditions (bad prices, failure to develop subsidiary activities, lack of employment on or off schemes for settlers' dependents), the inflexibility of system and crops, together with a contract which tends to tie settler to one place until entire debt is repaid, could lead to rural slums, worse off than more diversified areas which develop more quickly. One outcome probably as likely as the other.

g) Contribution to the national economy: if all goes according to plan, should be large, in the form of taxes, foreign exchange earnings, stimulation of other industries, and savings.

h) Services required: management, said to be in short supply. FLDA's success with relatively inexperienced managers suggests that management may not be as scarce a skill as it is sometimes said to be. If it is, FLDA should be prepared to pay market rates, i.e. as much as the best estates, to attract managers away from estates. If FLDA management were defined more specifically as a technical job, and divorced from paternalistic overseeing of everything on schemes, less but better-paid staff would probably be a better investment.

i) Advantages: FLDA goes some way towards satisfying felt need for secure income, house, and land. Good management of nation's land resources. Well adapted to opening up new land with a diverse group of settlers, some of whom know little about modern agriculture.

j) Disadvantages: cost of settler; large debt to be repaid before settler can hope for expected high incomes. Public finance apparently a less serious constraint, especially when government can lend on such solid security. Could burden of debt repayment be lightened, for example by different timing of repayment, even reducing interest or settler's contribution to replanting fund? Very low incomes in early years (subsistence loan or daily wage of \$2.90): these may or may not be above settlers' previous cash incomes, but are too small to support a family at reasonable levels of health and productive efficiency, especially in a new environment where less food can be collected free. Advantages in spreading income more evenly over whole life of tree-crops, rising gradually. Form of organization, and sometimes isolation, leads to paternalism on one side ('we are custodians of their property') dependence on the other ('Government has done so much for us, and should now do A, B, and C'): these inhibit innovation. Present virtually one-crop economy over large areas gives inadequate income in the short run while the crop is immature; economic and mental inflexibility in long run (the so-called 'tree-crop mentality'), and could prevent adaptation to changing markets and conditions. Too few outlets for second generation, of whom there are already too many. On the possible disadvantages of smallholdings - which rubber schemes will become - see section 2.4.3 below; but these disadvantages might be largely offset if schemes develop efficient Farmers' Associations or co-operatives.

k) Variations: suggested features of any land settlement schemes, as set out later in this and the next chapter, are largely modifications of the FLDA pattern. The following variations are more closely related to FLDA's present practice. They are possibilities, but not all are recommended:

Diversify economic activities organized by the scheme management other crops, livestock etc., especially to provide supplementary jobs for the settler and family, and to provide an immediate income when settlers move in. Encourage co-operation in Farmers' Associations, or multi-purpose co-ops which will market produce when FLDA hands over control of rubber schemes, and will presumably organize cultivation when oil-palm schemes, are handed over: FLDA has not given co-operatives organized by settlers much chance to establish and prove themselves. Reduce debt by spending less on settler houses, which they might be able to build as well or better for themselves with materials provided on loan (see section 2.3.5). FLDA could use management more economically and flexibly if the manager's role

were more narrowly defined, and limited to specific agricultural advice and supervision. However, without going to the same lengths as Kelantan state land schemes: no subsistence loan, minimum assistance with moving in, self-built housing, low income from intercropping until rubber gives high income, debt of only \$1500/settler, selective supervision with checks like withholding fertilizer until performance improves instead of close control by managers and mandors (B.P.U., 1967).

Another variation: rented holdings. Instead of title to a piece of land, or to a share in a block of land, the settler would get a fairly long lease. The rent would spread the cost of development over the full productive life of the trees. Instead of a repayment period, followed by a rise in income for the remaining years of the trees' life, the settler would pay rent for his land and repay any subsistence loan - if wage labour and alternative sources of income did not make this unnecessary as soon as his trees are bearing. He would presumably borrow money to buy or plant the crop.

The advantages are that the settler would get a higher income sooner. The subsistence loan in the early years should be higher anyway: \$70/month cannot be regarded as a living wage, even if many in kampongs have less. The present ambiguity about a settler's status would be ended, he a prospective landowner in any meaningful sense, a labourer, or a participant in a co-operative enterprise? He would then be able to enter at once into the status he was to keep. He would not stand to lose so much if he left before the end of the repayment period, because he would have put in no more than a fair rent (a settler leaving an FLDA scheme for approved reasons is to be given compensation, according to a formula in the agreement: but settlers do not seem to know this); and the scheme would allow for mobility, to fit in with changing career and family patterns and to allow the most land hungry to replace those who no longer wished to stay on the land. There would have to be fair notice and penalty clauses.

One disadvantage is that this would mean giving up the ideal of land ownership, which was the original justification for FLDA and is dear to many settlers. Few respondents in the kampong field studies would consider renting - but the idea of a secure tenancy is hard to explain to people who reason from their experience, quite correctly, that there is no difference between sharecropping (the only tenancy they have experience of) and casual labour. But it should be possible to get the message across if tenancy were chosen as the right solution, and if a concrete choice were offered to potential settlers. The ideal of land ownership is already attenuated, in block ownership on oil-palm schemes, and it should not be hard to replace it with any visibly effective way of giving the people aimed at what they appear to want: security, income and independence.

2.4.3 Smallholdings (privately developed)

The official definition of a smallholding is a farm of less than 100 acres. The statistics given here appear to refer to smallholdings in this sense. But in discussing smallholdings as a form of organization, their advantages and disadvantages, the term is taken to mean a family farm employing little outside labour at most seasons.

a) Cost: the government hardly anything to establish.

b) Income: varies widely. One estimate for 1967: \$129/person/year in rubber smallholders' families, or roughly \$60-80/household/month? Compare \$67 per person in families dependent on padi or \$30-40/household/month (Gates, Goering and Kere (1969)).

c) Employment in West Malaysia: 200,000 households dependent on rubber, 325,000 on padi. It is not clear how many are smallholders rather than sharecroppers (Gates, Goering and Keare). In many regions, larger smallholders employ sharecroppers (or sharetappers). This kind of employment provides very low incomes and insecure employment for many people (no reliable figures).

d) Extent in Johor: over one million acres.

e) Welfare: primary schools and midwives in most kampongs of any size. Secondary schools, health centres and other social services mostly in towns (travel sometimes difficult or expensive). Mutual aid and support in kampongs may provide a cushion against some emergencies.

f) Contribution to the national economy: may be larger than sometimes assumed. Marginal improvements needed in present practice, especially to make extension services known or available to more farmers. Possibly more officially-sponsored marketing and credit arrangements.

g) Advantages: independence: freedom to innovate in agriculture, or to use one's energies in whatever way one pleases; no need to take orders or to work to someone else's timetable. Constant employment. Security for old age, and something to pass on to the children, if only in small shares. Where land shortage is not acute, smallholdings may support social mobility, equality of opportunity and respect. Mainstay of kampong life, which many people find attractive, because of mutual aid, long-standing relations and friendship, and the pleasant physical environment.

h) Disadvantages: low incomes, in most cases. Lack of capital and of knowledge, and subdivision of holdings on inheritance, tend to depress incomes: but present improvements in extension service, Rubber Replanting Scheme, etc. could raise existing smallholders' income greatly. Holding tends to be inflexible and are often too small for most economic working under available crops. Because of population pressure, changes in crops and techniques, and higher incomes in other sectors, small acreage smallholdings may no longer give many people the best available package of income, security and employment, even in places where they used to do so (P.J. Wilson, 1967).

Thus it is doubtful whether the Project's objectives can be achieved by settling many new smallholders in SE Johor, at least on holdings of less than 10 acres. Their incomes will be too low. This does not apply to some experienced and capable farmers growing conventional crops, especially rubber; or to specialised farmers growing high-value crops like vegetables and pepper, or keeping fishponds. Should specialised extension services be provided for the latter kind of crops, or should development rely on those who have the special skills already? The question has ethnic implications, because few Malays or Indians are now skilled in growing these crops.

Other reasons for making land available for smallholders might be: to provide small plots as a kind of retirement pension, in the first instance for older relatives of men doing other jobs in the area; to establish a number of independent small property-owners, with holding sizes ranging upwards to 20 acres or more, in order to encourage enterprise and to prevent a few large organisations from dominating the social life of settlements completely; and simply to satisfy a demand for land ownership which is still widespread, intensely felt, and rational. These arguments may not justify allotting more than a relatively small part of the available land to smallholders.

FLDA's present rubber schemes may be a special case: when the settler's debt is repaid, he will become a smallholder. The experience gained in the

years of FLDA supervision, the infrastructure of co-operative services and relatively large holdings of 10 acres or more, may enable these smallholders to get much higher incomes than other rubber smallholders. The holding size will be relatively inflexible, but this difficulty could be partly overcome by allowing eventual sale and consolidation into larger holdings.

1) Variations: Farmers' Associations, and co-operatives could help to raise incomes. Need for credit, especially to enable those without capital to use 'pocket land' in quantities too small for Fringe Alienation Schemes to handle, and for some arrangement (employment, a loan, or both) to enable farmers to tide over the immature period of tree crops as with.

Another variation: some cultivation services provided collectively by government agencies, on the lines of the Collective Padi Cultivation Schemes at Bachang, Malacca (U. Markswasdi & S. Selvadurai, 1967). Farmers retain ownership of their land, but certain services - tractor ploughing over the whole area, threshing machine, credit in cash and in kind - are provided by the State. Farmers are supposed to sell through the Co-operative Union, which deducts repayment of the interest-free loans. The same principle might be applied, with modification, to other crops.

But whether these variations should be recommended for the Project area must depend on a policy decision about the part to be played by smallholdings there.

2.4.4 Fringe Alienation Schemes under the GSA (Group Settlement Area) Act: subsidized or partly subsidized

All information about GSA schemes, subsidized and unsubsidized, comes from Johor, which has more schemes than any other state.

a) Cost: the State provides planting materials, clearing and fertilizers. On one partly subsidized scheme (not yet tapping), the State has spent \$2100/participant (\$380/acre, or \$420/acre now planted, because some areas were incultivable, damaged by elephants etc.). On this scheme, each participant has to repay on average \$1450 (depending on acreage: some have six acres, some have four).

b) Income: none as yet on the scheme investigated, which is not yet tapping. Officials expect incomes per acre to be the same as or a little lower than on FLDA, but plots are smaller. No subsistence loan. Participants must have alternative income (land nearby, estate job) to subsist for the first years at least, and probably after that.

c) Employment: no full-time employment, at least in principle. Five hundred and fifteen farmers (all Malays, except 10 Chinese) have plots in Johor schemes.

d) Extent in Johor: 4201 acres allocated, 3775 planted (1969). Eleven schemes, of which 4 (2279 acres) have been handed over to the National Land Rehabilitation and Consolidation Agency for rehabilitation, and one (178 acres) abandoned.

e) Welfare: on some schemes, central area reserved for future village with school. One scheme already has primary school, which takes non-participants' children as well. On another scheme near an existing kampong participants are encouraged to build houses on their own rubber plots, and a few have already done so.

f) Distribution of benefits: membership limited at present to those with land or other source of income within three miles. An equalizing measure, designed to bring incomes of poorer rural people to level of more prosperous farmers. Better farm management on the schemes could have demonstration value, enabling surrounding farmers to raise

their incomes as well.

g) Contribution to the national economy: if successful, as for FLDA or any other means of raising rural incomes and production.

h) Services required: some supervision but less than FLDA because management is concerned with agriculture rather than with all participants' problems. Each of the two schemes studied had a Field Assistant and a Storekeeper with a Supervisor commuting between the two.

i) Advantages: good package of productive efficiency and independence for farmers, provided that the schemes are as successful as the two mentioned above appear to be. This depends largely on personal qualities of supervisory staff. Excellent way to raise farm incomes of people who already have one which is too low. Could provide a good environment for innovation. Less centralized and regimented than FLDA.

j) Disadvantages: unsuitable for those without alternative source of income. Doubtful whether any form of small smallholding, except specialized annual crops, can give farmers the incomes they expect now.

k) Variations: bigger, FLDA-sized plots, subsistence loans, and a concerted effort to find alternative sources of income (other crops, wage labour), to adapt this very promising form of scheme to the task of settling the unemployed on newly opened land, as a kind of decentralized and more innovative FLDA.

Another variation: the Federal Land Rehabilitation and Consolidation Authority (FLRCA) has powers, not only to salvage failing schemes, but to initiate its own, employing local people as labourers wherever possible, handing over the plots to settlers when the trees are bearing, and supervising and marketing until the cost of developing the land (except administration) has been repaid. Participants have priority for employment on schemes, if they want it; but roles of settler and labourer clearly distinguished.

On schemes taken over for rehabilitation, FLRCA also manages the land but gives participants priority for employment. When the trees produce an income, participants may take back their land in some cases, provided it is planted with rubber not oil-palm (some plots with unpromising rubber trees have been replanted with oil-palm). In other cases, the Authority continues to manage the land and pays the profits, minus management costs, to the participants, who may have moved away in the meantime. But is it really the intention to establish a class of absentee landlords, whose only claim to an income from the land is that they once failed to develop it themselves?

2.4.5 Fringe Alienation Schemes or GSA (unsubsidized)

a) Cost: the State nothing, except opportunity cost of land. Settlers clear land themselves, and pay Consolidated Annual Charge of \$10/acre (cf. \$12 on subsidized schemes) for 15 years, beginning in ninth year of alienation.

b) Income: varies widely. On rubber schemes, each farmer has 6-10 acres. Some appear to do well, especially the Chinese, apparently because network of family and business connexions provide capital, efficient marketing, and often subsistence credit while tree crops are immature, enabling one person or section of an extended family to live on or near the land, giving it intensive care and raising other crops. Other schemes are neglected, because they are too remote or the land is unsuitable; because the participants lack technical knowledge and capital, especially resources to support themselves while the trees are immature; or because the participants' other jobs do not leave them time to cultivate properly. Participants are supposed to live within a 3-mile radius and to have other income of not more than \$300 a month; but the first

condition, and probably the second, can be evaded. (For details, see Tunku Shamsul Bahrin, 1969).

c) Employment: in Johor, 14,236 participants in 1968. In most cases holdings supplement incomes from other sources. In the long run, they must create some employment.

d) Extent in Johor (1968): 239 schemes; 171,989 acres allocated, 52,047 planted.

e) Welfare: only the services available to rural population generally.

f) Distribution of benefits: mostly to those who have capital or ready access to it. Others lack resources and time to develop the land properly. No reason why income disparities on the schemes should be greater than those outside.

g) Contribution to the national economy: variable.

h) Services required: practically none, apart from Rubber Research Institute and extension services available to all farmers. In Kluang District, which has the more schemes than any other District in Johor, one Assistant District Officer visits the schemes periodically to see that they are up to the mark, and one clerk keeps track of their progress. Schemes which fall below a certain level may be handed over to FLRCA for rehabilitation.

i) Advantages: Cheap and simple procedure for making relatively large blocks of land available to smallholders. Gives many people the land they want, and an opportunity to profit from enterprise.

j) Disadvantages: unsuitable for those without alternative source of income nearby; and these men, if they are part-timers without capital, are apt to neglect the land, thus wasting the land and their own time, and losing other opportunities for income. Also the general disadvantages of all smallholdings (see section 2.4.3 above).

k) Variations: legalize what now happens illegally or semi-legally: allow a participant with a full-time job elsewhere to employ a relative or someone else who works it properly. For example, a father and son tap for a 'friend' living 20 miles away and live on his land, while attending to their own young rubber 3 miles away. But with widespread unemployment, many rural people might be forced into the kind of sharecropping arrangement which gives neither security, nor a good income, nor independence, and from which they want to escape.

2.4.6 Estates (private)

a) Cost: the government little.

b) Income: of labourers: varies with crop, soil, management and number of days' work available monthly. For a male labourer, in the range \$60/200/month, with median around \$100. Many women work, but earn less; also many children (picking up scrap rubber etc. to add to parents' wages). Limited opportunities for promotion. Average income in labourers' families in 1967 estimated at \$369/person/year (Gates, Goering & Keare) about \$150-220/household/month.

c) Employment: in West Malaysia: 232,000 in July 1967 (Department of Statistics, 1969). Tending to fall with technical innovation. Some jobs vacant now, mostly in remote areas, because non-citizens of Indian origin have lost their jobs.

d) Extent in Johor: 487,000 planted acres in 1967 (Johor Planters Association, 1967).

e) Welfare: tied housing for many labourers. Estates provide services (sometimes effective, sometimes existing mainly on paper with little real check on health conditions). Some also provide contraceptive pills, sports clubs and school buildings, if no longer the teachers themselves, apparently for three reasons: legal compulsion, paternalism, and to keep up working efficiency.

f) Contribution to the national economy: large foreign exchange earnings, but some later re-exported as profits and salaries. Taxes. Possible corresponding disadvantages in having a large and crucial sector of the economy dominated by foreign firms, which may be less responsive to national objectives, and loss of foreign exchange.

g) Services required from government: practically none. To a limited extent, estates provide an alternative extension service (seedlings, advice) to surrounding smallholders, including their own labourers.

h) Advantages: productive use of land. Training ground for efficient cultivation methods. Employer-employee relation clearly defined, with conditions negotiable by unions (Although in many estates there is little union activity and, overall, union bargaining power is reduced in the present unemployment situation). Likely to be the only source of employment, for some time to come, for Indian population which has become dependent on estates, having nowhere else to turn and serious problems of readaptation to other forms of economic activity.

i) Disadvantages: estates do not provide the 'package' of high income, security and independence which rural people want, and at which the Project should aim. Income higher than that of many smallholders, but less than could be achieved by profit-sharing with high-productivity agriculture. Highly stratified employment structure, tied housing, excessively rigid self-perpetuating 'discipline' (with or without paternalism) and absence of workers' participation or consultation about company policy, all tend to make labourers dependent, to inhibit economic or other innovation by labourers and their families, and to perpetuate social and economic inequalities. Cramped conditions, monotony and extreme social segregation of 'labour lines' in glaring contrast to relatively large and attractive kampong or FLDA houses; isolated company town' atmosphere even where the houses themselves are quite good as on one of the two estates studied. Many people regard estate jobs as too insecure. Estate work lacks offsetting advantages of urban industrial employment - alternative opportunities for worker and members of his family; less obstacles to taking advantage of them; residence, and social life not dominated by a single organization.

j) Variation: nucleus estates, to give smallholders in co-operatives a crop which has had the benefit of skilled management in the early years, immediate income from the day of moving in, and the other advantages (advice, seedlings, alternative work) which come from living near an estate; also diversity - the advantage of having more than one form of economic organization in the area.

2.4.7 Youth Land Development Schemes

Pahang pioneered these schemes, for young men who undertake not to marry for five years. Other states have schemes at various stages of planning. Information about costs etc is based on Pahang's Bukit Goh, the first of the schemes and the only one which is a going concern. For further details, see Chapter 3, 'Youth'.

a) Cost: on Bukit Goh, anything from \$3200 to \$5400 per young man apparently plus some administrative costs. The amount each youth will repay has not yet been decided but may be anything up to \$5,000 payable over 10 years.

b) Income: each gets 5 acres of oil-palm (co-operative cultivation) and 2 acres for other crops (FLDA gives 10 acres of oil-palm). Even with intercropping of the main crop, the system is unlikely to yield a sufficient income for a family, if and when the young men marry and is barely enough to support the participants during the maturing period, although a small loan is given for the first year.

c) Employment: potential limited by peculiar features of the Schemes as they are at present. If youth schemes did take a significant proportion of the country's unemployed young men - which seems unlikely on present showing - would there be similar schemes to employ girls in the same age-group or mixed schemes?

d) Welfare: heavy emphasis on sports (equipment provided); Staff to train and 'discipline' youth, look after their health etc. Little information about situation expected after youths marry.

e) Contribution to the national economy: could be a cheap way to develop land with high-productivity agriculture, unless the cost of training and supervisory staff turns out to be very high.

f) Services required: staff to train and supervise the youths. If large numbers of youths were settled, where would such training staff be found? Would they be willing to settle on such schemes? Would this deplete the stock of school-teachers, FLDA staff etc? If so, do youth schemes deserve such priority?

g) Advantages: direct attack on youth unemployment. Expected to be a cheap way to settle enthusiastic young men on land, train them in modern agricultural techniques, and give them an opportunity to help themselves by earning from own land within two years. Training in co-operation.

h) Disadvantages: isolation, from family and social life, and outside world generally (not only pledge of celibacy), could repel potential applicants, is unlikely to fit them for full social life later, and sacrifice advantages of cross-cutting ties and contacts. Para-military 'discipline' of doubtful value in modern economic life: can inhibit rather than encourage genuine self-discipline and self-reliance. Income from given acres, even with the best agricultural techniques these young men are likely to learn is unlikely to meet their expectations when they marry.

2.4.8 Possible alternatives: (1) government farms

a) Cost: large investment, like estates; but profits (however distributed) could be equally large.

b) Income of workers: need not be as on private estates, if government decides to distribute more profits in incomes of workers, even leaving a large margin for reinvestment and other development projects. Present estate wages, even when higher than in depressed kampongs, may be too low to support tolerable standards of nutrition, or to leave a margin for spending or saving which would enable workers and their families effectively to take advantage of new opportunities. Certainly far below what young people are coming to expect, or would take except as a last resort. Difficult to give workers any sense of participation in a common effort when wages have little relations to the large profits of the enterprise. But workers' incomes could be set anywhere between present estate levels and expected FLDA incomes.

c) Employment: not many jobs per acre, if government follows present estate practice. Constraint would be finance and the rate at which land can be brought under cultivation. Deliberate underemployment (by estate standards i.e. smaller acreages per worker) would be one way to make more part-time jobs.

d) Welfare: services, especially education, should not be less than on FLDA or other schemes with ambitious social objectives. Housing should be of FLDA standard, with the possibility of self-built housing on lines suggested in the previous chapter, and visibly quite different from 'labour lines'.

e) Contribution to the national economy: as for private estates, plus profits to government

(and/or workers) which now go to private owners, often abroad.

f) Services required: management, for which government should pay the market price, i.e. offer terms not less attractive than on private estates. Foreign technicians and managers can be recruited directly or managing agents employed.

g) Advantages: as for estates, with profits for the nation at increasingly transferred to workers. Relatively easy and direct way to provide employment. Public sector estates need be no less efficient than private ones, or than FLDA schemes (which are special forms of public sector estates) given competent flexible civil service control and well-chosen estate managers with freedom to make decisions. Opportunities to give workers greater security and participation in the enterprise through share participation and in other ways, without the inflexibility of smallholdings or the somewhat ambiguous position of a 'shareholder' in a block of land. Clearly defined employer-employee relation.

h) Disadvantages: as for estates, except for such changes, for example in housing, and distribution participation of income as government may choose to make. Monolithic state employer might be more autocratic and unimaginative in labour policies than an estate having competitors. This danger might be partly avoided by having more than one autonomous public sector agency running farms; and by a strong trade union movement, giving employees a genuine say in policy and working conditions through collective bargaining.

i) Variations: for a discussion of possible types of estates under public sector auspices.

2.4.9 Possible alternatives: (ii) co-operative cultivation.

Co-operative cultivation means that the actual working of the land (not only marketing etc) is organized by the co-operative and done by members. Each member of the co-operative has one vote whatever his holding.

a) Cost: financed by a loan and/or subsidy, as for FLDA.

b) Income per acre: should be as on estate, since co-ops could get advantages of working land in large blocks. Workers' incomes would depend on number of men per acre; and on division of profits between wages to members as workers, and dividends to members as shareholders (co-operative shares usually earn fixed interest).

c) Contribution to the national economy: possibly as for estates.

d) Employment: since co-operative farms would presumably be initiated by government, employment opportunities for original members, and acreages per worker, could be as on other land settlement schemes, for example FLDA, unless co-operative infrastructure (marketing, communications), leads to greater diversification of economic activities (subsidiary crops, services, agro-based industries, and workshops), controlled either by the co-operative itself, or by members or partnerships, or by outsiders setting up business near a co-operative enterprise and employing its members. Long-term employment opportunities on the co-operative farm would depend on rules about employment of members, and about admission of new members.

e) Welfare: multi-purpose co-operatives could provide communal benefits like housing without paternalism - which leads to dependence, and without uncoordinated individual efforts. When a house has been provided by means of a loan to buy or build, or by some other means, it should not be 'tied' to continued employment in the enterprise, provided that loan repayments are kept up.

f) Services required: managers and technical staff, which co-operatives could hire at market salaries. At first, they would have to be provided by the government or a government agency like FIDA. Co-operatives should give managers a free hand in day-to-day decisions, subject to broad policy control by an elected board.

g) Discussion: co-operative cultivation is a relatively untried, in Malaysia. It requires special discussion: form of organization not because it is necessarily the best, but because it seems clear that something of the kind will be set up in Malaysia, and the problems have not yet been considered in enough detail. FLDA seems committed to co-operative cultivation on its oil-palm schemes, when the settlers' debt is repaid. If it is the intention to encourage co-operative cultivation, it would be best to make this explicit from the beginning, to devise a time table for handing over control to members, and to set out the present situation in clear contractual obligations rather than general understandings about the future. In particular, the following problems need examination:

(i) management-member relations: managers would be the co-operative employees, but in some respects they would be like estate employers: i.e. they would make day-to-day decisions about who was to do which kind of work, and at which rate of pay. This need not put them in an impossible situation: members would have a clear interest in getting a competent manager who would raise production, giving him a free hand for a reasonable period, and insulating him from personal and political pressures. He would be judged by his long-term performance.

Decisions about the manager's role should ideally be made by the members; but any cultivating co-operatives which are likely to be established will be set up by the government, with loans or subsidies, to achieve national objectives. The government will have to protect its investment by retaining some control for a period.

(ii) a timetable for handing over control: this is essential to avoid drift and uncertainty, which prevent both the controlling authority and the members from preparing for and adjusting to the planned changes. It is suggested that the co-operative should be founded as soon as the first settlers move in, and should enter into a clear contractual arrangement with the authority as soon as possible. The co-operative would be bound to employ managers provided by the authority for a stated number of years (perhaps five after maturity of the crop), and to accept fairly close control. At the end of this period, provided that certain specific conditions are fulfilled, for example loan repayments on schedule, and crop in good condition, the controls would be relaxed and the co-operative would have more freedom to negotiate its own arrangements with the authority or with outside organizations. At the end of a further period (perhaps another 5 years), the co-operative would have complete control over its assets: the authority would continue to recruit management staff and to provide an attractive 'package' of management, advice, marketing, and research to those co-operatives which wanted it. The authority would only recruit managers on condition that they were paid suitable salaries: co-operatives which chose to look elsewhere, or to appoint their own members, could fix their own rates.

Until the co-operative's debt was finally paid off, it would be secured by assets in the ordinary way.

(iii) workers and members: all workers, including managers, would be members of the co-operative. The co-operative should decide for itself (after 5 years?) whether people not working in the enterprise including ex-workers, should enjoy the advantages of membership, which might include housing loans, marketing arrangements and loans for private

producers or partnerships, guaranteed work or unemployment pay, or at least some claim to a job when one became available. It might be better to plan from the beginning for several co-operatives with different functions.

(iv) admission and expulsion of members: the rules must be clear: and rules about admission, in particular, should be written into the original constitution of the co-operative. New members could be recruited as workers by the management and formally admitted to membership by the managing committee or by a vote of all members. This is the simplest solution, and probably the best.

Members' children could have a right to membership (and therefore a claim to a job) if they wished to work in the enterprise or, perhaps to stay in the area and to enjoy other advantages of membership. This would give migrants something to pass on to their children, thus satisfying one of the main demands subsumed under 'land hunger', without the need for an indivisible plot or share in land. The system of the GSA Act, whereby settlers' land can be passed on to only one son, avoids subdivision and fragmentation, but is hard to justify to people used to Islamic equal inheritance, and tends to turn non-settlers on FLDA schemes into a landless proletariat. If all members' children had the option of joining, many would leave anyway if employment opportunities were better. If not, available work could at least be shared more equally, although at the cost of underemployment.

Expulsion would have to be a last resort. Presumably all members would vote on it, but if non-workers could be members, the management could lay workers off without affecting their membership.

(v) initiating major changes: the co-operative, probably with the advice of the agency which recruits management staff and provides marketing and services, must be prepared to make major changes in economic activities (for example, new crops) and organization (for example, mergers), in order to raise members'/workers' incomes. If cultivating co-operatives are viable at all, there is no reason why they should be reluctant to make such changes, provided that they can do so without sacrificing members' essential interests, especially their jobs. A change which required smaller labour force might require generous redundancy payments to induce surplus workers to resign voluntarily. To sack them would be politically impossible.

h) Advantages: security for workers. Economic advantages of working land in blocks: labour could be applied to land in the most efficient way provided work to be done kept pace with co-op membership. A voice in group decision making would give working members more independence than estate workers, less than smallholders. If ex-workers or non-workers are allowed to be members, then individuals would have choice of working on a co-operative farm or working for themselves or other employers, while living in a co-operative community, benefitting by common services and participating in control. Clear rules about admission of new members would avoid the arbitrary division between a class of 'settlers', with land or a share in land, and 'employees' (driver, clerks, casual labourers, management staff) on present FLDA schemes.

The co-operative principle (one member one vote) builds on existing bonds of mutual aid, and conceptions of social justice, but could tend to make them more open and universalistic; especially if it were a matter of policy to encourage multi-racial schemes. Good balance between independence and well-planned collective action, between economic incentive and social equality.

i) Disadvantages: possible muddle and lack of accountability. Little experience of co-operative cultivation: past co-ops (shops, credit, buses) have not been too successful.

Co-operatives could become closed corporations with vested interests, exaggerating inequalities and exercising tight social control over members.

j) Variations: private smallholdings and communal land side by side, with sufficient incentives, for example, daily wages, to work the communal land properly. Private holdings but co-operative activity in services, for example, multi-purpose co-ops for marketing, credit, machinery; Farmers' Associations. FLDA rubber schemes could move in this direction.

2.4.10 The choice between forms of organization

Veterinary students begin with the anatomy of the horse, and then they study other animals as they differ from the horse. Let FLDA be our horse: it is useful to consider each form of organization for land settlement as an improvement or an imperfect copy of FLDA, or as a possible alternative way of meeting the same needs.

FLDA has succeeded in settling large numbers of people, many without experience of modern agriculture, on new land, with high production, the prospect of high incomes, and at least a gesture in direction of settler participation in policy-making. It is a going concern, learns from its mistakes, innovates and has the impetus to advance into large new areas of land. Variations on the FLDA theme might achieve the same ends better, for example by giving higher incomes sooner and might avoid some of the disadvantages of highly organised and centrally controlled settlement schemes for fixed numbers (per 100 acres) of land owing settlers: - inflexibility of land-labour ratios, which will become more apparent a generation from now, paternalism and dependence which may inhibit decision-making and innovation. Some of the possibilities are outlined above.

No one type suits all settlers, or all areas. It is suggested therefore that FLDA should try out a wider variety of solutions - forms of organization and economic activities. As a single organization, however, it should no longer try to do everything. It should coexist with other agencies developing land in the same area, and with decision-making bodies with complementary functions, for example town planning and housing authorities, local government, co-operatives, trade unions, or Farmers' Associations. It is recognised that functions which require an agency - to advise, train, finance, or to assist in establishing institutions - may have to be undertaken, at the start, by FLDA itself if no appropriate and competent agency exists. But functions which are not narrowly specific to FLDA schemes alone - and many will not be - should then be carried to other rural areas by separate, independent agencies, some of which might begin as specialist divisions of FLDA. Initiatives can be co-ordinated without being centralised.

Once the possibilities and long-term implications of different forms of organization are understood, choosing between them is a political matter. The main priorities are already laid down: national unity, employment creation, economic growth. If a complete set of priorities could be given in advance like engineering specifications, it might be possible to select the form of organization which would use the human material most efficiently. This would only be possible, however, if the wants and needs of the people planned for had nothing to do with the purposes of the plan itself, for example, if it were designed solely to make profits for someone else.

In the case of the Project area, on the other hand, high priority is given to meeting felt needs, and the use of sociologists implies that it is necessary to find out what these needs are. It follows (i) that the meaning and order of the priorities has to be reassessed as more information is obtained about the needs of the people for whom the area is planned, (ii) that the process will never stop, because needs and wants change in a changing situation; (iii) that a sociologist is more like an interpreter, between planners and planned for, than an engineer designing new institutions; and (iv) that having examined alternative forms of organization, it is not always possible to say is best for which economic purposes. The main advantages, disadvantages and implications of each form have been described: in addition, a second list of further considerations which should govern the design of any settlement scheme can be made, guided by a consistent strategy for achieving certain social objectives (see section 2.5.6). It is not possible to close the gap between the two lists completely, though there are points where the gap is so narrow that one solution seems clearly the right one. It is at these points that firm recommendations may be made for immediate action (see 2.6).

2.5 Theory and Strategy for Developing South East Johor

2.5.1 'Traditional' and 'modern'

Previous sections contain a number of recommendations: some broad (aim at an urban type of diversity), others more specific. But the main point of this report is not to recommend policies in detail. It is to suggest criteria for choosing between alternatives - conditions which should be satisfied whatever forms of organization are chosen - based on a coherent view of how objectives can be achieved in this situation.

First it is necessary to question an assumption which is taken for granted, rather than stated, in many discussions of Malaysian development: that the rural, especially Malay, population are poor because of conservatism and unwillingness to innovate, and the way to raise their incomes is to move whole communities out of one environment - the 'traditional sector', with one kind of economic and social system and associated set of values - into quite a different environment - 'the modern sector'. This implies a clean break, to be achieved by incentives to 'enterprise' and disincentives to prevent people from falling back into the old ways. Some reasoning of this kind appears to be behind FIDA's policy of discouraging close contact between settlers and their old kampongs and making the schemes as unlike kampongs as possible.

This opposition between 'traditional' and 'modern' sectors in Malaysia needs to be analysed. Even if there are still any 'traditional' societies anywhere, in which the economy, institutions, customs, beliefs and arts form an integrated and stable whole, it is a long time since there was anything like this in Malaysia. After colonialism, rubber, tin, the Occupation, the Emergency, immigration and massive movements of population, most people's experience is of reacting to one upheaval after another. Rural Malays have shown a remarkable capacity to adapt themselves to new conditions and to innovate when the conditions were right: as in the great opening up of new land around the turn of the century, or the expansion of rubber smallholding between the world wars.

It is not as if the Malays were tied to set patterns of behaviour by tightly organized, coercive local or kinship groups. On the contrary, at least within living memory, Malay society appears to have been equalitarian and individualistic, a loose network of independent nuclear families with

(Malay households often include aged parents etc., but they are added on to what is basically a nuclear family organization: husband, wife and dependent children, living in their own house. Married brothers seldom live together for long, and the economic unit is not an extended family), with a dispersed pattern of settlement, bound together by general ideas of Islamic morality, co-operation and the common good. Although the Malays may have encountered difficulties in getting into a market economy, they have shown very little reluctance. If even now relatively few rural people of any ethnic group get secondary education or learn modern skills, this is not for want of trying.

Thus kampong life does not necessarily hinder innovation and enterprise, any more than living in an old town does. However, certain particular features of life in many kampongs - bad communications, difficulties of access to schools and medical facilities, overdependence on a single crop, population pressure on land with no alternative outlet - can perpetuate the syndrome of low incomes, ill health, low production, lack of education and lack of alternatives. But not all kampongs are like this, or not to the same degree; and kampong life has some advantages, from a modernizing point of view, which most planned settlements lack: especially diversity or the chance of diversity. The population are of mixed ages, often with a mixture of skills and backgrounds, and with projects of their own which they are at different stages of putting into effect: there are enterprises of various sizes and different functions - farms, shops, workshops: and there is little chance that everything will be conceived on the same drawing board, begun at the same time and obsolete at the same time.

Thus the real problem is not how to get rid of kampong ways of living and everything associated with them, seen in a general way as backward and unproductive: it is to change the situation in specific ways so that existing potentialities for economic growth and social equality can be realized. Two kinds of changes are required: changes in the external situation in which settlers act (new crops and production methods, physical planning of settlements, transport, credit, marketing, access to secondary education etc.); and changes in the ways in which development authorities and new settlers define their relations with each other, especially where work and management or joint decision making are concerned.

2.5.2 Status and contract

Changes of the first kind have been discussed in previous chapters. The second kind require us to look, not at the difference between two whole environments, traditional and modern, kampong and scheme or town but between two kinds of social relations: relations of status (where each person occupies a more or less fixed position in a structure - as in a hierarchy or a family - which determines his rights and obligations in a whole range of situations) and relations of contract (where rights and obligations in each particular relation are set out clearly and agreed on freely by the parties, who are free to take into account or to set aside their relationship in other contexts).⁺ Actions which

⁺ This distinction goes back to Sir Henry Maine's Ancient Law (1861, 1906). It reappears in different forms in Weber, Parsons and others, and in distinctions between ascribed and achieved status, multiplex and single-stranded relationships. Status in this sense does not mean a highly valued social position (as in status-seeking, status symbol), only a relatively fixed one.

require the collaboration of people with different roles are more likely to succeed when the participants define their relation to each other in roughly the same way, and know what to expect of each other. (P.J. Wilson, 1967 develops a similar argument, but not quite the same).

The trouble is not that rural people are unable to think in terms of contract: their relations with traders outside their villages - especially traders of another ethnic group - and with technical officials like RRI inspectors have been contractual for a long time. But the way they define the spheres in which each kind of relation is appropriate is not compatible with economic development now, if this means a market economy, large-scale organization, and impersonal norms of achievement.

To take an example: fieldworkers in Malay villages have described failures of Malay shopkeepers, not through bad management, but because in these places a Malay shopkeeper, simply because he is a Malay and not a Chinese like other shopkeepers, is expected to behave as a kinsman, to give unlimited credit and not to press for repayment of debts, (M.G. Swift, 1965). These failures are directly attributable to a confusion of status and contract. A man can be a shopkeeper and a good neighbour, but unless he and his customers sometimes distinguish the two roles, he will go out of business, hence the proverb "Short reckonings make long friends".

Yet this confusion between impersonal economic and personal status relations is perpetuated in new FLDA settlements where the manager is expected by his superiors, and often by settlers, not only to organize production but to supervise everything - social welfare, the school, even settlers' personal problems: and since he cannot hope to do everything that is expected of him, his authority to do his main job is reduced. (See P.J. Wilson (1967) on "paternalism" as an unsystematic but widespread attempt to close the gap between two systems of values: one, the bureaucratic, rational Western system, of contract, the other the traditional, personal status system'. He argues for 'a translation of nonvillage values into a set of concepts comprehensible to villagers. Put in another way, the prerequisite for change is a presentation of the anthropology of the societies from which the changes emanate' (p.151)). In the same way, it is not clear exactly what is expected of a settler as a settler: is the scheme and its management hierarchy intended to provide a total way of life, to which he is to give his allegiance as completely as possible; or an organization with specific technical and economic functions, to which the settler is bound by a contract setting out and limiting obligations on both sides?

Obligations not set out in clear, impersonal terms, but based on status, can provide an effective form of organization for small groups linked by close, lasting bonds, as for the family or close neighbours in a kampong; or for larger groups in a society where change is so slow that most rights and obligations are defined by immemorial custom which everyone knows, as with feudal loyalty. Innovation means looking in new directions, knowing what to expect of strangers, and insulating one relationship from another. It requires clear definition, expressed in institutional forms, of the proper spheres of status and contract, and a conscious intention to replace status with contract in some fields, especially in economic affairs. This does not mean, of course, that impersonal contractual relations in market economy will achieve economic growth or the other social objectives of the Project. But status and contract must be distinguished clearly before relations of a third kind can find their place in a modern, diverse, multi-racial society; relations of co-operation or mutual aid

no longer confined to closed groups but going beyond the strict requirements of contract, and based on ideals of equality and respect for others. These are the hardest to define, essential to the attainment of Project objectives, and almost impossible to plan for directly.

2.5.3 Practical implications: separation of roles

Distinguishing status from contract will not give us a general solution to policy problems, but a point of view from which solutions and difficulties are more clearly visible. Consider some of the practical implications. If a single agency must control the settlement and development of an area, thus dominating the economic and social life of isolated communities, there must be clearly-defined arrangements for settlers' participation in decision-making, or for collective bargaining about incomes and working conditions, all based on the idea of contractual obligations freely entered into by equals. This is necessary both to protect settlers' personal independence and to ensure economic success.

It is undesirable that a single agency should dominate the complete economic and social life of an area. For example, an agency like FLDA, having finished its original task of getting the first settlers into an area, laid the economic foundations and secured suitable guarantees for its investment, could move quickly towards becoming an extension or specialized management service, offering its services on contract to settlers individually or through co-operatives. In this case the need for participation by settlers in the control of the agency itself would be less urgent; they could negotiate with it rather than participate in it. The Manager's role should be deliberately limited to specific technical functions: on other matters, his voice might be listened to with respect, but he should have no formal authority or office.

Instead of making everything converge at a single point, the growth of alternative institutions and the idea that a person's role in one situation can be insulated from his role in another should be encouraged. Instead of trying to resolve all conflicts of interest, the aim should be to work out ground rules for living with and containing them. Instead of trying to break settlers' ties with their original kampongs and to reduce contact with relatives there, or to prevent settlers from joining outside organizations, divided but overlapping loyalties should be regarded as an advantage, something that reduces dependence and extends the range of choices and contracts. It is not much good substituting a new closed community for an old one.

2.5.4 Status and contract in ethnic relations

The distinction between status and contract also helps one to understand the special character of ethnic relations in Malaysia. The difficulty of reducing tensions and inequalities between races has something to do with cultural differences, but not much. The problem arises not so much from the characteristics of each race by itself, but from the situations in which they meet and the ways in which they interpret these situations. Ness is probably right when he says that the value system of each race consists largely of the way it sees itself in relation to others, 'the picture of the values formed at the ethnic frontier, in which each group comes to see itself in part as the way it thinks other groups see it' (G.D. Ness, 1967). Thus the Chinese believe that they are ambitious, industrious, opportunistic, avaricious, sharp businessmen, self-possessed and self-reliant; Malays tend to act up to the image others have of them as lazy, loyal, polite, proud, headstrong, erratic and dependent on government; the estate Indians, as low in mental ability, lacking self-reliance and achievement orientation; the urban commercial Indians, like the Chinese but less hard-working.

It is suggested that the 'backwardness' of the Malays, and the 'money-minded, pushing' nature of the Chinese, in situations where the two groups meet mainly in the market, is largely a result of a historical division of social relations into status relations within each race, and relations of contract between people of different races. Thus Malay village shopkeepers fail because their Malay neighbours cannot think of relations with another Malay villager except as quasi-kinship, status, relations. They cannot or will not distinguish status from contractual economic relations where people of their own group are concerned, though they are used to doing so where non-Malays are concerned. The Chinese is an outsider who will drive a bargain with you: it is difficult to think of him in any other role. In areas where there is not the same rigid ethnic division of labour - on the east coast of West Malaysia, for example - it appears that status and contractual roles are more sharply distinguished. A shopkeeper may be (and usually is) a fellow-Malay, but business is business, and is conducted as such. Though Chinese practices are different, the importance of clubs, associations, kinship and quasi-kin relations for business suggests a similar distinction between an in-group and an out-group, with whom one drives a harder bargain. Once people understand that the two kinds of relations are different, even when they exist between the same individuals, it will be easier for both kinds of relation to exist between people of different ethnic groups: relations of friendship, respect, leadership, as well as economic relations. The converse is also true: in a situation where economic roles no longer coincide neatly with ethnic differences, it is likely that a clearer idea of contract will establish itself. The self-perpetuating myths about 'racial' characteristics will no longer provide a model or excuse of behaviour.

Thus the general picture, greatly oversimplified, is like this: members of different races have only contractual relations with each other; members of the same race may have status or contract relations, but the two are often confused and the contractual relations are often overshadowed by those of status.

This report makes no detailed recommendations for ways of achieving a multi-racial society within the Project area. But once the idea of separation of roles, and the clear distinction between economic (contractual) relations and status relations, are accepted by most people, many of the 'racial' characteristics, which support mistrust and the division of labour along ethnic lines, should begin to disappear.

2.5.5 How to change people's thinking

Redefining the spheres of status and contract and establishing institutions to isolate role-relationships from each other, means changing concepts and values. Values are not something given, to be manipulated from outside by enlightened 'social engineering': a system of rewards and punishments to make the irrational human material behave in their own best interests. This method does not work. Well-meaning schemes for economic development or social reform have failed because they failed to recognize that people are the best judges of their own interests, and will only change their ways if the connection between new means and existing wants is demonstrated to them. Values are judgements formed in a situation, worked out within social groups and taught by one generation to another. They cannot be proved true or false, but they are open to rational criticism, argument and revision.

The problem is not how to condition behaviour but how to begin a dialogue. For example, if the argument about contract and status is a sound one,

- that is that then the function of new institutions will not be just to induce people to behave in desirable way. It will be to explain the argument to them in a practical way, and to make possible a feedback of reactions and criticisms and objections, taking the argument one stage further. FLDA schemes have permanent machinery to get this feedback: certain changes, for example, redefining the managers' dominant role, might make the machinery still more effective.

More generally, it would be a mistake to rely too much on incentives to entrepreneurship, on making 'Malay values' more 'achievement-oriented', and so on. Nor is there a serious danger of 'spoon-feeding', sapping reliance through subsidies if the subsidies are justified on other grounds, because the main problem is not motivation. The recommendations in this report are intended to create conditions in which the motivation that already exists can become effective; in which incentives can be intelligibly related to effort and initiative, and in which people now caught in a vicious circle of poverty and helplessness can make and realize their own projects, alone or in groups.

2.5.6 Guiding considerations for choice between forms of organization

A general strategy for developing the Project area: diversity, contract, separation of roles, nesting felt needs has been outlined. The following list of guiding considerations, or specific objectives, shows how this strategy applies to the choices confronting the Project.

a) Diversification of economic activities and organizations

Involving the people living in each place. In previous chapters the advantages of economic and social diversity have been discussed and it has been argued that, whatever the size and economic base of each settlement, attempts should be made to give it as many as possible of the advantages of urban, diversified, life. This means: no 'company towns' dominated by a single enterprise; housing not tied to employment; diversity of economic opportunities and organization and a varied age range.

This ideal is hard to achieve in the early years of settlement: inevitably a single developing agency (FLDA) has dominated settlements on newly opened land for the first years at least; and with its limited supply of trained managers, it has tended to concentrate on the main crop. The plan for dusun (private plots) failed for various reasons, and was dropped: the plots were sometimes remote, usually not cleared, the settlers lacked advice or material assistance or marketing facilities, and not all had the energy or time for extra cultivation. Settler Development Officers' early attempts to help settlers find subsidiary sources of income have been only slightly more successful so far: cottage industries like making school uniforms hold little promise.

Genuine diversification must mean either full-time jobs for residents not engaged on the main crop; or ways of using spare-time, or off-peak labour, which have to be worked out more carefully than in the past. Individual settlers differ widely in their skills, their rhythms of work, and the amount of work they are prepared to do after working in the fields from early morning to early afternoon, though increased incomes and better nutrition would make a difference.

Many of the present FLDA settlers have viable projects to raise extra money, and appear to be held back largely by lack of credit and marketing facilities. (R 3) It is suggested therefore that an expanded service on the lines of the FLDA's present Settler Development programme, with greater resources and better trained and paid

officers, not limited to helping FLDA settlers, should be gradually built up to help residents in the Project area with advice, material assistance and business contacts, promote the sale of their products, and act as an agent for contacts with MARA, FAMA, banks, and firms.

The number of opportunities could expand still more rapidly if settlers on FLDA or similar schemes were allowed to build small workshops on their own land, to open shops in competition with the Authority's shops or co-operative shops, and if outsiders bringing in skills and capital were allowed to set up shops and workshops in the middle of the scheme area some of the workers already in the area: in other words, if the sort of competition and they provided that employ diversity of employment and land use which are taken for granted in towns could be encouraged in these new towns. A paternalistic, or narrowly protectionist policy with regard to settler shops, or outside employment, is not the only alternative to unrestrained exploitation and inequality: the settler-consumer-producer can only benefit from any increase in the range of options open to him and his family.

At some point real diversification must mean diversifying out of agriculture into industries organized on a large scale. The short-term prospects for factory industry are limited (palm oil and rubber processing, some wood-based industries) unless industry which would have gone elsewhere is diverted to the Project Area as a matter of policy to redistribute population or to make the area a demonstration of agro-industrial integration.

In the short run, diversification means developing workshops, services and complementary cropping patterns, and less exclusive concentration on one main crop. From an economic point of view this may have its costs: either because one main crop is far more profitable than other alternatives that can be developed quickly, or because of economies of scale and management limitations. If a virtually one-crop economy is inevitable, with a single, enterprise dominating each settlement, note should be taken of the possible social and personal costs - limited opportunities for growing members of families to make a career in the area, possible difficulties in attracting skilled migrants, and others. Here there are perhaps stronger reasons than there would be in a variegated urban area to build in safeguards, such as the kinds of decentralized participation in decision-making outlined above in order to prevent a uniform production pattern from imposing a uniform, dominant organization against which there is little or no appeal.

b) Opportunities for the second generation: no scheme for permanent settlement (as distinct from a training scheme) is acceptable unless it allows a stable family life, and puts the first settlers' children in a situation where they have, preferably, a genuine choice between worthwhile careers; or, as a minimum, a reasonable prospect of some kind of job. Even the minimum demand is hard to meet now: FLDA has not met it, though given the urgency of settling the first generation, with limited resources and experience, it is not altogether to blame for neglecting the problems of the second.

A job need not mean a job in the scheme area, but it will tend to mean this if the general employment situation does not improve: it is reasonable to expect the agency planning the development of an area to make some provision for its own second generation. There is a limit to the rate at which new land can be opened up. Surplus population cannot be expected indefinitely: after a certain point, employment creation must begin at home. Moreover, while some migration in search of jobs is necessary and some is desirable, there-

will be little chance of stable family life or any social continuity if every young man (and woman) has to leave home as soon as he reaches working age.

If attempts are made to give a real choice between worthwhile careers, this means not only providing good facilities for secondary education, probably with subsidized school transport and books to ensure that no one is deprived of the opportunities because of poverty; not only vocational training in skills which can be used immediately in the area; but a general technical grounding leading on to specialized courses or apprenticeships in a wide range of occupations elsewhere. For example, a training in farm mechanization would fit a young man for a wider range of occupations than a training in the special techniques of oil palm cultivation. Although it is unlikely that all or even most of the specialized career opportunities will be in the same area, a community where the range of careers is narrow, and the chances of specialization are few, is unlikely to stimulate young people to consider the variety of jobs they might train for. For discussion of job aspirations amongst the young on FLDA schemes, see chapter 3.

c) Opportunities for promotion within the enterprise should be better than on estates or FLDA schemes at present, as an incentive to effort and innovation, an attraction to ambitious migrants and to serve social aims of mobility and equality of opportunity. Attempts should be made to eliminate points at which promotion is blocked: FLDA settlers become mandors, but mandors can seldom rise higher (though estate mandors can become FLDA Field Assistants. FLDA recruits some settlers' children to train for management, but apparently not settlers themselves. Some Japanese firms might be a better model: a single ladder up which any employee can progress, though qualified men are not recruited at the bottom, and emphasis on functional relations rather than status differences at the workplace. A ladder of this kind could be combined with co-operative organization, in which each worker has an equal say in the control of the enterprise; or with other types of organization.

d) Timing of income: incomes should rise over time (as the individual worker grows older &/ or more experienced, and as the national standard of living rises): but FLDA's present subsistence loan/wage of \$2.90 a day, though more than many kampong people earn at the moment, and perhaps sufficient to support a family at a reasonable minimum level of nutrition, nevertheless force settlers to sacrifice educational opportunities for their children. It tends to make settlers hopeless and dependent and to discourage effort; and it is a disincentive to migration except by those who have no alternative.

FLDA is trying to assist settlers to complement tree crops with quick-yielding crops, or other economic activities, to give a higher income sooner. The expected income from tree crops could be spread, more evenly (by optional higher subsistence loans) to give a better income in the early years.

e) Age structure: FLDA, which originally tended to recruit middle-aged men with large families, has reduced its upper and lower age limits. Youth schemes are aimed entirely at one age-group, who are expected to settle and found families in the same place. But in a situation where the great majority of the population are young anyway, there are positive advantages in having a mixture of ages in a new settlement, to give some cultural and social continuity; ideally attempts should be made to avoid the kinds of problems which have beset sub-urban and new towns in the west. For example: uneven age distribution in a new settlement resulting in couples of one age-group, then a gap, then a

second generation; uneconomic 'bulges' of fluctuations in school enrolments; young people coming on to the labour market at the same time, old people retiring from active work together. These 'bulges' cannot be eliminated but could be smoothed out to some extent, by getting a mixture of ages among the first settlers.

The same general point applies to tree crops which tend to be planted at the same time, with similar labour requirements, and ready for replanting after the same interval; and to houses which fall into disrepair or become outmoded at the same time: and to the settlements themselves, which if built as units then left relatively unchanged, will become architecturally inflexible. Reducing 'bulges' must come relatively low on the list of priorities: but other things being equal an even spread of age-groups is desirable.

f) Remove arbitrary distinctions of status: this applies especially to FLDA, which distinguished between settlers', 'dependents' and other 'employees'. Once there are movements away from ownership of individual land holdings and towards diversification of economic activities in the scheme area, why perpetuate an arbitrary division between 'landowners', participants and others? If the point of making settlers 'landowners' was to give them a share in profits and some control over their own working lives through participation in the JKRR or settlers' committee, what is the justification for refusing this participation to other workers on the scheme? If population continues to increase faster than employment opportunities, the effect will be to create two classes on schemes: a class of landowners, and a class of landless labourers or unemployed - and FLDA was established to get people out of this situation.

To avoid this on certain schemes, FLDA could jettison the idea of loans to buy land, and could offer settlers instead secure employment on well-run government estates, with arrangements for participation, perhaps through ordinary trade unions and with gradual share participation. Workers, including other workers' dependents, would be recruited individually.

Alternatively, FLDA schemes could become co-operatives (see section 2.4.9). In this case there would have to be clear rules governing admission of new members: settlers' children could have the right to join, or members could be elected individually. This would have to be settled by the co-operatives themselves, at the time when they are established or when they take over the schemes.

The same general point applies to other schemes as well. For example, on Fringe Alienation Schemes taken over for rehabilitation by the FLRCA, participants who share the profits are distinguished from workers, though one man may be both a participant and a worker. As was pointed out in section 2.4.4, this is leading to the creation of a class of absentee landlords, whose only claim to an income from the land is that they once failed to develop it themselves.

g) Give settlers as much control as possible over their own working lives. Settlers should not be treated as cogs in a machine serving someone else's ends but not their own, or being manipulated by wise planners 'for their own good'. One objective of the planning must be to satisfy settlers' demands, and the demand for independence is strong one. People will not move unless their demand for independence is partly satisfied or unless another strong demand is met.

Put like this, the objective is general but not vague: it can be said quite definitely that one form of organization achieves it better than

another: e.g. FLDA does so better than private estates, and this has to be weighed against the other advantages which estates have.

Individuals can exercise control over their working lives separately, through ownership of tools or land, freedom to decide when or how to work, a skill, a career as something which is consciously built up in a situation of genuine choice between opportunities, even quasi-property rights in the 'job' itself. Or they can do so together with others participating in policy-making through elected representatives actually deciding the policy, as in a co-operative, or by being consulted about it, as in the FLDA settlers' committees, or by engaging in collective bargaining, as in a trade union.

The field studies of FLDA schemes describe the working of settlers' committees (JKRR) and the extent to which most settlers are involved with them. In the kampong and estate field studies, special attention was paid to voluntary associations, village development committees (JKKK) and other representative bodies. More studies of collective decision-making are needed. It is clear however, that rural people can often make a penetrating analysis of their own economic situation, can suggest practical (if partial) remedies, and can formulate their demands in an articulate way.

Among the Malays, in particular, the norms of informal co-operation, equality and concern for the good of the local community provide a good base for common action. If existing decision-making or consultative bodies have often been ineffective, this seems to be largely because they have little real power to alter anything, and therefore people take little interest in them. FLDA settlers' committees are different: in spite of their limited terms of reference, they are emerging as real decision-making bodies, and the settlers expect this of them. They lack experience, and the responsibility of self-government which would give them confidence. The role of 'leadership' has been overemphasized: the trouble is not a lack of 'leadership' seen as some special personal quality, but of conditions in which people can make projects and take initiatives with some chance of success, and in which they will have some continuing responsibility for the projects they start. A programme of training in committee work for some committee members, together with intensive discussion of the problems of decentralized administration, in meetings of all settlers and in publications for settlers, would help FLDA, and other bodies organising land settlement, to achieve a better mix of individual control over assets, joint control through genuinely responsible representatives, and centralised control by an outside body. It is important that FLDA, and the other agencies involved, should speed up the process of discussion and experiment, giving representative bodies real powers and responsibility; especially on older schemes defining their relations with other bodies in contractual terms, subject to negotiation; and, where possible, devising a timetable for the transfer of further responsibilities.

h) Give settlers increasing control over the place they live in, both individually, as owners or tenants of houses not tied to employment, and collectively, as citizens of a town or village having services provided by local authorities. The general reason is the same as for giving them control over their working lives: that they want and will benefit from making decisions which affect their own future. The same considerations about decision-making apply.

FLDA settlers' committees already make recommendations about common services such as the siting of mosques. In some ways they are like embryonic local councils. But if there are advantages in separating the organization of the settlement from that of the enterprise, then FLDA committees are the

wrong model. Two kinds of representation are required: trade unions or co-operatives or works councils to represent workers; and elected local bodies to represent the same people as inhabitants of a settlement. Local authorities can and should provide infrastructure or services to producers; but the main productive enterprise should not act also as local authority.

On FLDA schemes, the existing settlers' committees should specialize either in representing workers or in serving the settlement, not both: or they should be divided.

Local committees of the kind envisaged might develop into Local Councils, given taxing powers and access to more highly specialized staff. Alternatively they could become consultative committees representing local interests to District or other local authorities. A decision on this point would presumably have to be part of general reform of local government throughout the country or the state.

1) Continuing research and evaluation: the sociological contribution to the Project has consisted largely of attempting to find out the objectives and demands of people in known situation and to forecast how these will change and what these people will do in new situations. Clearly this information is of limited value without a continuing feedback of sociological information as the Master Plan is put into effect, to allow adjustments in the Plan, and a useful dialogue between the planners and the people planned for. There must be some permanent arrangement for continuing research and evaluation.

Appointing a full-time sociologist is not the right solution. Sociologists of the right quality and experience are hard to find and would not be attracted to such a post.

Giving a government department a watching brief, to monitor new developments in the area, would not ensure that the Project area gets the concentrated attention, and the imaginative search for new solutions, which a bold experiment in comprehensive planning requires. The job could easily become limited to routine collection of statistics and progress reports. While useful, this is not enough.

As one possible solution it is suggested that a small permanent committee, with members from the government service, the universities and possibly the Project areas, be established. The committee should have a regular budget, and close contacts with policy-makers. It should meet regularly or on an ad hoc basis to consider research proposals and to make grants to individuals or institutions, inside or outside government service, for studies both of immediate practical problems, and of long-term or theoretical problems. The main benefit would be to the development of the Project area; but there would be a considerable payoff for academic sociology in Malaysia, if universities become seriously interested in a large-scale experiment in planning.

Intensive field studies should be encouraged as the principal method of research. The supply of trained anthropological sociological field-workers is limited. For example of the kind of problem-directed field studies which can usefully be made, under the supervision of trained sociologists but using fieldworkers with little or no formal training in sociology, see field studies (R 1, 2, 3 & 4) and two volumes by the Department of Social Welfare, 1967. To attract research workers of high quality, there should be few or no restrictions on publication of findings, or their use in these, provided that informants' confidence is respected. Public discussion of the issues raised by research, inside and outside the Project

area, is to be encouraged.

2.6 Summary

2.6.1 Potential migrants

It is necessary to identify kinds of people likely to move to the Project area, and to study their situation and demands, in order to design organizations, to plan migration, and to make the political choices clearer.

The field studies gave a picture of various groups of potential migrants. The studies were limited to Johor, partly because Johor residents seem likely to get priority in land settlement schemes in the state. Potential migrants include rural Malays in areas of acute population pressure; Chinese smallholders or rural workers; Indian estate labourers; and urban youth.

It may be a mistake to single out 'youth unemployment' as a special problem requiring special treatment, in isolation from the general provision of jobs and establishment of new communities. Since the proportion of older people is so small, the social benefits of bringing some older people into new settlements will usually outweigh the disadvantages. Nor is 'educated unemployment' a problem in itself: the same amount of unemployment in an uneducated population would be worse.

Both for economic and other reasons, attempts should be made to get the greatest possible social diversity in new settlements. People's economic functions should be separated from the pattern of settlement they live in: a scheme which remains both a unit of production and a settlement, or which caters only for the needs of one social group tends to stagnate. Wherever possible, avoid tied housing (tied to a particular job) and "company towns" (dominated by a particular enterprise).

Settler selection should mean recruitment of workers for an enterprise, not social planning of a whole settlement. FLDA's experience of settler selection illustrates the problems of ensuring that people for whom new job opportunities are created will take them up. FLDA's publicity has tended to give potential migrants an excessively favourable picture of conditions on schemes, while settlers' reports to their original kampongs paint too gloomy a picture. It is therefore hard for potential applicants to make a rational assessment of the advantages and disadvantages of moving, and the formal selection procedure does not achieve its objectives. New Channels of communication and more accurate information must be given to rural people to enable them to make an informed choice. Some specialized workers can be recruited in an ordinary market situation. Moral exhortation to live in remote areas is useless, and idealism works best when combined with incentives. The majority of settlers will be recruited because they need the Project, being poor and underemployed, rather than because the Project needs them. The forms of organization should be chosen to meet the needs of the people whom the Project is intended to serve.

The clearest expression of the felt needs of the poorer rural people is land hunger: the demand for ownership of separate plots. Most rural families have a little land of their own, but earn much or most of their income by outside work such as share-tapping, and labouring. The field studies of two kampongs in Batu Pahat and Muar Districts illustrate the background to this demand for land. Most holdings are small: villagers are forced to accept any work they can get on the land of a few large landowners or elsewhere. They distinguish sharply between the status of a landowner having a secure source of income, and a labourer - the same term being used for casual labourers and regular share-tappers or wage-earners. In this

situation, few people are willing to consider any alternative to separate plots of land: but the alternatives of sharing land, as on FLDA oil-palm schemes, or renting it with secure tenure have not been presented to them as real possibilities. They tend to see private land ownership as the one condition for security, income and independence. This assessment is rational, given the alternatives known to them. It can be expected to change if they are presented with an alternative offering similar advantages.

Attempts to feed land hunger include Fringe Alienation Schemes (many of which have been agricultural failures): FLDA rubber schemes (with individual plots) and FLDA oil-palm schemes (with joint cultivation). It appears to be FLDA's intention eventually to hand over the oil-palm schemes to co-operatives, which will continue to organize joint cultivation with profit-sharing.

Attempts have been made to find out whether joint cultivation on FLDA oil-palm schemes appeals to settlers and potential settlers as an acceptable alternative. Firm conclusions are hard to draw, because of special features of the one Johor oil-palm scheme which is in full production and of which most rural people have heard reports. But there is some evidence that the arrangements of this kind are becoming understood and acceptable.

For most rural people (especially the young and the Malays), land hunger appears to mean not an emotional attachment to land for its own sake, but a demand for security, high income, and independence. Distributing separate plots to all the landless could not meet the demand for high income; estate employment does not meet the demands for security and independence, even when incomes are higher than on smallholdings. For the time being, these demands must be taken as given. Package deal - forms of organization which strike a good balance between these three objectives should be considered, together with the use of special measures to meet particular objectives separately.

2.6.2 Migration

The chief problems of migration which informants anticipate are the expense of moving and the difficulty of educating children. Malays are not very concerned to have relatives in a new place. Younger men tend to want security, income and independence, like their elders, but are less anxious to own land. When people consider moving, they have two destinations in mind: FLDA schemes, and towns.

There is no reason to deplore younger people's preference for town life. Their choice is rational since they want diversity of opportunities, contacts, and experiences. If large town development is not yet feasible, the smaller settlements should be designed to provide as much diversity as possible.

One of the chief obstacles to migration is loss of educational opportunities for children restricted choice of schools in new areas, low incomes in the early years. These opportunities are lost forever. To attract suitable settlers, more secondary schools should be provided; school transport, books and meals should be subsidised; and a wide range of academic and technical courses should be available as well as vocational courses in trades immediately in demand in the area. These recommendations apply to the rural areas in general, not just to new schemes.

Malaria is a serious problem in newly cleared areas of Johor, but the National Malaria Eradication Programme will reach the State by the middle 1970s. Migration can reduce levels of nutrition at first both because of lower cash incomes, and because of the initial lack of leafy vegetables, fruit and small fish which kampong people get free. Health and nutrition, however, do not

appear to be serious direct disincentives to migration.

2.6.3 Housing

The provision of housing should be kept separate from the management of the enterprise, even when the same authority has to perform both functions at the beginning. If an authority like FLDA is to provide housing as well as jobs for the first settlers, the housing loan should be separate from the settlers' ordinary loan account. If he finds another source of income and leaves the authority's employment, he should continue to live in the house for as long as he keeps up repayments of his housing loan. This will encourage job mobility and diversified enterprise in the settlement.

Alternatively, housing for workers in one or several enterprises, established in the same village area, should be provided by a government housing agency or a housing co-operative borrowing from the government; by a building society; by loans to settlers to enable them to buy land and build privately.

FLDA's first experience with 'self-built' housing was not a success; but the standard of kampong houses, built by the occupants drawing on gotong royong (mutual aid) and traditional carpenters, is often very good. To give settlers a wider choice of house types and costs, the possibilities of semi-industrialized 'self-built housing' should be investigated with skilled craftsmen supervising gotong royong work, good materials, and some prefabricated components.

2.6.4 Diversity

Diversity means bringing together people of different social origins, with different networks of outside contacts, in a situation where a large part of social life is unexpected and unplanned, throwing up new possibilities and suggestions. Migration by groups of friends or relatives should not be discouraged, because friends or relatives tend to complement each other instead of all doing the same things. A wide variety of groups, plus many unattached individuals, would provide more built-in diversity. Overlapping loyalties to old and new groups should be regarded as a resource, extending each individual's range of choice, not as a constraint to adaptation to a new environment.

2.6.5 Organisations for land development

No single form of organisation meets or is likely to meet the various needs of all potential migrants seeking agricultural work in the Project Area. A variety of forms of organisation is desirable. This does not mean the abrupt large scale introduction of untried and unfamiliar forms, but continued modification in various ways of existing forms and experiments with relatively new forms, both being carefully evaluated.

Characteristic of the following types of organisation have been outlined and discussed in section 2.4:

- a) Existing organisations: FLDA public settlement schemes. Smallholdings, privately developed Fringe Alienation schemes under the Group settlement areas (GSA) Act, Private (company) estates, youth land development schemes.
- b) Relatively new organisations: Co-operative cultivation, Public sector or 'mixed' public and private sector estates.

2.6.6 Theory and strategy for developing South East Johor

The problem of adapting the rural population to high-income activities should not be regarded as one of moving from a 'traditional' to a 'modern' environment, with the need for a clean break and

a set of disincentives to prevent a return to 'traditional'. Kampong life, as distinct from certain features of it, does not necessarily discourage innovation; and has some advantages, especially diversity, which schemes lack. The problem is not to get rid of kampong ways of living and everything associated with them, but to change the situation in specific ways so that existing potentialities for economic growth and social equality can be realized.

It is necessary to concentrate not on the difference between two whole environments, but between two kinds of relations: contract and status. Often the spheres in which each of these kinds of relations is appropriate are defined in ways which are not compatible with development. Some economic failures, for example, of Malay village shopkeepers are directly attributable to a confusion between these two things. Yet this confusion is perpetuated, for example, on settlement schemes where the Manager is expected to supervise everything, including settlers' personal problems; or where the scheme is regarded as a total way of life, to which settlers should give undivided loyalty, rather than an organization with specific economic functions. Clear definitions are needed, expressed in institutions, of the spheres of status and contract, and of those status relations to be replaced with contract. If one agency must dominate an area, there must be clear, contractual arrangements for settlers' participation in decision making, or for collective bargaining about incomes and working conditions. It is undesirable anyway that a single agency should dominate the whole economic and social life of an area or settlement. An agency like FLDA can bring in settlers, set up enterprises, secure its investment and turn itself into a specialized management service, offering its services on contract to individual settlers or co-operatives. Settlers would then negotiate with the agency rather than participate in its control.

Instead of making everything converge at a single point, encourage alternative institutions and the idea that a person's role in one situation can be insulated from his role in another. Instead of resolving all conflicts of interest, work out rules for living with them. Instead of breaking settlers' ties with their original kampongs or outside organizations, regard overlapping loyalties as an advantage, extending the range of choices and contacts.

The status/contract distinction throws light on the problems of reducing inequalities and tensions between ethnic groups. The problem is not the characteristics of each race by itself, but the situations in which races meet and how they interpret these situations. Each race tends to act according to the stereotype others have of it. Thus racial characteristics are largely a result of a historical division of social relations into status relations within each race, and contractual relations between them. It is assumed that it is the intention to have different ethnic groups living side by side in the Project area. Once the idea of separation of roles, and a clear distinction between contractual and status relations, is generally accepted, self-perpetuating 'racial characteristics' should become less important.

Redefining the spheres of status and contract means changing values and ideas, but this cannot be done by manipulation from outside social engineering, through rewards and punishments. It requires a dialogue. One function of new institutions is to explain the argument to the people planned for in a practical way. A feedback of reactions and criticisms will take the argument further. Too much reliance should not be placed on incentives to make people more 'achievement-oriented'; nor is there a great danger of sapping self-reliance

through 'subsidies' because the main problem is not motivation. It is to create conditions in which existing motivation can become effective, and in which incentives can be intelligibly related to effort and initiative.

2.6.7 Guiding considerations for choices of forms and combinations of organisations are discussed in section 2.5.6 and are summarised below.

a) Diversification of economic activities and of organisations involving the people living in each place, to provide, as far as possible, the diversity of urban life.

Wherever possible: settlements should be with- in access of several different employing organisations and opportunities for self-employment; housing should not be tied to particular employment; the organisation of and participation in settlement affairs should be separated from the organisation of and participation in the main productive enterprises; emphasis on development of varied opportunities.

b) Opportunities for the second generation - emphasis on provision of educational and technical training facilities, with subsidies to cover costs - applicable to all rural areas, but particularly important in early years of new settlements. Development of employment opportunities in area and training for jobs elsewhere.

c) Opportunities for 'vertical' and 'horizontal' mobility - applicable especially to settlement schemes: obstacles to advancement within an enterprise or to movement into other fulltime activities should be as few and as temporary as possible.

d) Timing of incomes on settlement schemes - settlers on FLDA schemes should be given the option of taking a larger loan in the early, immature years up to, say, a maximum of \$100 per month, and the option should be made clear - that more now means less later.

e) Age structure - it is desirable to have a mixture of ages in each settlement; but this has low priority.

f) Remove arbitrary distinctions of status.

g) Give settlers as much control as possible over their working lives.

h) Give settlers increasing control over the place they live in, individually as homeowners or tenants and collectively as citizens of a town or village.

i) Evaluation: the sociological contribution to the Master Plan must be followed by continuing evaluation and feedback of information as the Project is put into effect, to allow informed adjustments to the plan and a productive dialogue between the planners and the people planned for. Permanent arrangements for sociological research and evaluation, including intensive field studies, are recommended.

3.1 Introduction

The contents of this chapter were written in October 1970. The sociological field studies of kampongs and estates and of FLDA schemes examined the problem of youth unemployment and the aspirations of young people in general terms but could not consider these aspects in detail. After completion of these field studies, and after preparation of the report in Chapter 2, it was decided to complement them with a short period of field work specifically among young people. The field work was restricted to a series of informal interviews with a selection of youths, both male and female, in different situations and having different backgrounds. While the results of these interviews do not have any statistical validity, they were extremely useful in testing a number of assumptions that are currently held on the aspirations of young people, on their mobility, on their attitudes towards training, mobility, land ownership, parental ties and the rural/urban drift. Interviews were conducted amongst participants on youth land schemes in Pahang and Johor. Pahang schemes were chosen because of easy access from Johor and because these schemes have pioneered the development of similar schemes in other states, including one in Johor. Other interviews were conducted at schools in both rural and urban areas, and at employment offices, to obtain the attitudes of potential school leavers and the existing unemployed.

The problems associated with Malaysia's grossly uneven age structure - 60 percent of the population are under 25 - are not only those of scale, but also of a large body of educated or semi-educated new entrants to the labour market who may not be content to accept for long the employment prospects open to them. It is largely because the quality of the problem is different where youths are concerned that the Federal Government and several state governments, have sought to find solutions in the establishment of training or job opportunities for groups of youths alone. While problems of unemployment and under-employment are no respecters of age, it appears that increasingly steps are being taken to tackle youth unemployment as a special and separate problem. Whether or not it is agreed that it should be viewed as such the fact remains that government agencies are seeing as an important part of their function the specific provision of job opportunities for the under twenty-fives. Proposals for new land development in the SMP period suggest greater efforts on the part of State Governments, with Federal assistance, to establish youth land development schemes at the rate of 15,000 acres a year. While this represents only a small proportion of the land to be developed annually, it is sufficiently large to warrant an examination of the viability of youth schemes, and, in particular, their place within the Project area. For this reason, special attention was paid to youth schemes and the attitudes of participants on existing schemes, during the course of the interviews on which this chapter is based.

In addition, interviews, or informal discussions, were held at FLDA schemes, employment offices, secondary schools, and at the Dusun Tua Training Camp in Selangor. The interviewing team consisted of a Sociologist assisted by a Field Worker experienced in carrying out previous Project Field Studies and a young member of the office staff who helped greatly in bridging the age-gap. Emphasis throughout was placed on informality and, on nearly all occasions the interviews were conducted without the presence of scheme managers or other

officials. The total number of youths interviewed was small (233 respondents) since each interview lasted approximately half an hour, and few girls were included.

The following locations were chosen for the field work and one day was spent at each:-

Employment Office, Johor Baharu.
Registration Office (employment), Kluang, Johor.
FLDA Bukit Besar Scheme, Kulai.
FLDA Kong Kong Scheme, Johor Baharu.
FLDA Pasak Scheme, Kota Tinggi.
Bukit Goh Youth Scheme, Kuantan, Pahang.
Kg. Awa Youth Scheme, Temerloh, Pahang.
Lebu Scheme, Bentong, Pahang.
Dusun Tua Training Camp, Selangor (National Youth Pioneer Corps and National Youth Development Corps).
Sekolah Menengah Lakaamana, Kota Tinggi (English Medium).
Sekolah Menengah Kebangsaan, Kota Tinggi (Malay Medium).
Sekolah Menengah Semerah, Batu Pahat (Mixed Malay/English Medium).
Johor Youth Land Development Scheme, Tebrau.

It was hoped that the locations chosen would give a cross section of those who had not yet experienced job difficulties but who had begun to think about their futures (third and fifth form school leavers); those who were positively looking for work and who had in some cases come to an urban area in the hopes of increasing their chances (employment offices); those who had had first or second hand experience of modern agriculture through living on land development schemes with their parents (FLDA schemes); those who were being given some training and would shortly be looking for work (Dusun Tua).

This chapter is divided into the following sections:-

3.2 Youth schemes: an examination of youth schemes in several states and, in particular, of attempts as in Pahang at low cost land settlement and agricultural development with reliance on subsistence from short term cash crops until the maturity of the main crop. It is concluded that schemes on the lines of those in Pahang should not be adopted in the Project Area without very substantial modifications. Alternatives are suggested.

3.3 Training - with special reference to Dusun Tua.

Selangor: an examination of the relevance of disciplined training to job opportunities and the place of training generally. It is concluded that no attempt should be made to emulate the Dusun Tua para-military and non-directional type of training in the Project Area.

3.4 Summary and conclusions: a summary of the attitudes and aspirations of young people in different situations and implications for land development and training. This section summarises the whole chapter.

3.2 Youth Schemes

3.2.1 General Introduction

Youth schemes, that is land development projects aimed specifically at the unemployed, unmarried male, have been gaining increasing attention as a positive and productive means of combining two of Malaysia's most abundant resources, land and the under twenty-fives. Recent proposals by the BPU for land development under the Second

Malaysia Plan period (EPU, 1970) include the allocation of 15,000 acres per annum to youth schemes, or approximately 10 percent of the total land development target for that period. The Economic Committee of the Cabinet studied a paper proposing a rapid expansion of youth schemes and itself recommended the establishment of one in every district of West Malaysia, to be the full responsibility of the respective state governments. More cautious submissions by the EPU and the Ministry of National and Rural Development (EPU, 1970) have recognised the problems imposed by so rapid and expansion in a field which is still largely experimental, but both accept the concept, the target and the Pahang-type ground organisation of youth schemes (with some modifications) and concentrate their attention on the need for Federal financial assistance and some degree of Federal co-ordination. Acceptance of the basic concepts behind existing youth settlement schemes (described briefly later in this section) means acceptance of a number of assumptions:

- a) that problems of youth unemployment can be tackled as a separate issue from the overall problem of unemployment within the country;
- b) that land ownership is of primary importance and that participants will be willing to pay a heavy price, both in social and economic costs, to achieve it;
- c) that youth schemes are attractive because they offer a cheap alternative in terms of land development costs to other types of schemes - largely because individuals are settled rather than families and because young men can be expected to require a lower income than family men with responsibilities;
- d) and that by combining the achievement of land ownership and employment goals with training, communal living and discipline it is possible to encourage a new attitude to agriculture and a new concept of personal responsibility and initiative.

In Chapter 2 of this volume (2.2.3) it is stated that, while it is true that the incidence of unemployment is highest in the under 25 age group "it could be a mistake to single out youth unemployment as a special problem requiring special treatment, in isolation from the general provision of jobs and the establishment of new communities". In addition, Chapter 2 indicates that land hunger represents a demand for security, income and independence which may be met in other ways. The field studies on which the chapter is partly based suggest that younger men, especially those with secondary education, tend to want the same things but are less anxious to own land. To these basic queries on the first two assumptions on which the youth scheme concept is based must be added an examination of whether the schemes are, indeed, cheap in terms of public finance (and whether this is in itself a good thing) and whether they offer a viable economic solution to attempts to reduce the loan (or subsidy) period below that considered necessary for FLDA-type settlers. The last assumption, that substitution of government help with early self-reliance on cash crops and emphasis on discipline will develop character and provide a future cadre of responsible citizens, is the most difficult to assess because it is the most difficult to test. All the assumptions, however, need examination, both in the light of the general proposals for expansion of youth schemes and in view of Johor's own proposals for a variety of new youth schemes to be implemented during the SMP period and, most importantly, because of the possibility that youth schemes could form one of the alternative organisations within the Project area.

Some attempt at analysis of the concepts behind youth schemes is given in this section.

Data were obtained from visits to three youth schemes in Pahang and to the very new scheme at Tebrau in Johor. In all cases attempts were made to find out the attitudes of the participants to the assumptions mentioned above through informal interviews. Problems of management were obtained from officials of the selected schemes. All the schemes were new, the oldest at Bukit Goh in Pahang being only four years old, and none had yet produced a harvest from the main crop. In view of this, a number of question marks exist with regard to the final success of the schemes. In addition, the organisation of youth schemes in Perak, Kelantan and Selangor is based on different systems and since it was not possible to visit them, brief reference only is made to them with no attempt at critical analysis.

3.2.2 Existing Youth Schemes

a) Pahang. Sufficient has been written about the organisation of youth schemes in Pahang to justify only a very brief description here. (In particular see Wan Mohd. Don, 1969 and EPU, 1969). The schemes, of which there are presently eight in Pahang, one in every district, are based on the idea of co-operative effort and sharing of resources during the maturity of the main crop - oil palm. At a later, undefined, stage after the maturity of the main crop the land will be divided into individual seven acre lots (five acres oil palm, two acres fruit trees) with an additional half-acre house lot per participant, but actual work will be carried out on a co-operative basis. The participants receive a government loan ('subsidy') during the first year on the scheme at a rate of \$1.30 per day for food and lodging and \$10 per month pocket money. Food and pocket money for subsequent gestation years must be found from the co-operative production and sale of cash crops. The predominant cash crop so far has been a tapioca inter-crop marketed at the MARA factory at Kuantan, but other attempts have been made with fruit, poultry, and vegetables. Revenue from the cash crops is divided between the participants and has so far provided sufficient income for food and \$10 per month pocket money. Participants live together communally during the five-year maturity period, must agree to remain unmarried on penalty of dismissal from the scheme and have to adhere to a system of discipline based on drill and scheme rules. On selection all participants, aged between 18 and 25, undergo one month's training in basic agriculture either at the State's Rural Agricultural Training Complex or at Bukit Goh, the first youth scheme. Land clearance is carried out by contractors; much of the infrastructure such as buildings, roads and recreational facilities are built by the participants. Management input is high: one manager (Junior Agricultural Assistant, JAA) four Field Assistants (an average of 400 acres and fifty participants). The schemes are the responsibility of the Department of Agriculture and a State Youth Schemes Committee which meets monthly to consider general planning. Details regarding repayment have not yet been finalised but it is expected that participants will be in debt to the extent of \$5,000 to \$6,000 repayable over a period not in excess of 10 years and that this will not include management or general infrastructure costs such as mosques and community halls. Houses will be self-built, materials being provided by the schemes. Costs to the State Government of providing employment in this way are uncertain due to hidden costs not counted in the original estimates. Under the original proposals the total area designated for youth scheme development was 26,000 acres catering for the employment of 3,000 youths. The area, most of which adjoins the existing youth schemes, will be developed in phases according to a plan laid down by the state committee.

b) Johor - Existing Schemes. At the time of writing (October 1970) Johor had only one youth scheme of 400 acres at Tebrau which had been opened only one and a half months. The Tebrau scheme is similar to the Pahang formula, but has been the dual responsibility of the Department of Lands and Mines and the Department of Agriculture. To date, there is no guiding committee at State level. The main crop, oil palm, was planted two years before the youths were settled on the scheme and there is no inter-cropping. The social organisation is similar to Pahang's but it is expected that the boys will be able to marry in three instead of five years since they will not have so long to wait for the maturity of the main crop. Eventually each will own a title to six acres of oil palm but will not be designated a specific plot. In addition they will be allotted one acre of dusun and a half or quarter acre houseplot in a central area. The one year loan (subsidy) is at a rate of \$1.30 per day for food and lodging and \$1 per day pocket money (of which \$15 per month is retained by management for savings towards the cost of individual houses). Mixed cash crops have been planted on a separate acreage and poultry and fish farming are to be introduced. The main cash crop will be the production of pepper seedlings for the 2 to 3,000 acre youth scheme planned for the Yong Peng area in 1971. It is planned that the scheme will be self-supporting at the end of one year and the loan (subsidy) withdrawn. Buildings are erected by the JKR; roads on the scheme will be built by the participants. A JAA with three Field Assistants will manage the scheme and its total population of 60 participants, all of whom will have been given three months training at the National Youth Development Corps in Dusun Tua and one month at the Rural Agricultural Training Centre at Ayer Hitam. Adequate supplies of machinery and equipment are provided for the scheme by the Department of Agriculture.

c) Johor - Proposals under the SMP

There are (1970) three main proposals. The first involves an expansion of the Tebrau-type scheme mentioned above to accommodate 2,500 new participants on 29,000 acres at a cost per participant of \$5,400. It is expected that the permanent crop (probably oil palm) will yield incomes of approximately \$300 per month per settler but that the schemes will be self-sufficient after one year through the sale of an inter-cropped cash crop. The second proposal for a mixed cattle and crop scheme will accommodate 500 participants on 5,000 acres, each settler receiving a title to a 10 acre plot after 5 years. The scheme is expected to be self-sufficient after 2 years through monthly cash sales. Both these proposals are for youth settlement schemes. The third proposal involves the expansion of the Ayer Hitam agricultural training complex to take 300 young men and women annually for training in skills for both industry and agriculture.

d) Perak. Three bachelor community youth schemes have been opened in Perak of which the largest is at Perlop (5,000 acres to be developed over 5 years with the settlement of 200 youths per year). Each youth will eventually receive four acres of oil palm, a quarter of an acre dusun, half of an acre food crops and a quarter of an acre housing lot. There is no inter-cropping, and the State Government has recently decided to extend the loan period, but it is not quite clear by how much. Repayment has not yet been specifically planned. The social structure is very similar to that of the Pahang schemes but pre-scheme training is obtained at the National Youth Development Corps at Dusun Tua. Cleared and settled land (by August 1970) totalled 2,650 at Perlop, Pondok Tanjong and Grik.

e) Kelantan. The state has reserved 1,000 acres of land for settlement by youths returning from Dusun Tua.

f) Selangor. This scheme is quite different and involves the unconditional alienation of 900 acres of land in North Selangor to 200 youths with the proviso that it is cleared within three months. Clearance was achieved within 45 days and food crops planted. The participants, in committee, decided that the main crop would be coconuts and 5,000 palms have been planted; 150 acres has been put to tapioca. A subsidy (not repayable) of \$1 per day is given for the first three months only, after which the youths must survive on their own. The tapioca income will be pooled for common use; house building is left to the youths who have chosen to site them on their individual three-acre plots. Some youths are married; maximum age - 20. All decisions are left to the youths but some guidance is given by the District Officer and a Committee; the youths have chosen their own camp commandant. The scheme is barely three months old and, to date, undocumented. The land has so far been alienated under T.O.L. but will be finally given by Grant title. Premiums of \$64 per acre will be paid by the youths. Presumably, the system is similar to Group Alienation but elements of youth scheme organisation are incorporated (communal housing during the development phase, personal subsidies, a stratified age group). While it will be some time before the success or failure of the experiment becomes apparent, it is interesting to note a departure from the normal rigid organisation of youth schemes - the flexibility towards marriage and relatives, and the emphasis on a community development approach to decision making. The experiment has also shown that youths are quite capable of land clearance and, given incentives, may prove to be as efficient as contractors, if not more so. Costs to the State Government have not yet been assessed.

g) FLDA Youth Brigades. Various attempts are being made by FLDA to provide employment for the children of settlers. While it is the policy not to employ youths on dangerous clearance work, brigades of youths are being sent to new FLDA schemes for maintenance work before the arrival of settler families. So far the Authority is employing 185 youths in four brigades, all of whom receive an initial three months training at Dusun Tua extension centre at Morib in Selangor. Payment is at the rate of \$4.50 per acre and one brigade will work 900 acres to be completed in 30 days. All the work so far has been carried out in Pahang and the brigades migrate from scheme to scheme. Four more brigades are planned. Individual earnings average \$135 per month of which \$1.70 per day is deducted for food and board.

3.2.3 Reference to Chapter 2: Sociology and the Project.

With the exception of the Selangor experiment, and the FLDA brigades, which provide employment but not settlement, a common theme runs through all the schemes which incorporate values which are often in direct conflict with those expressed in Chapter 2. Firstly, the schemes accept that solutions to youth unemployment may be found in the creation of specific opportunities, based on different criteria from those created for the older generation. The Chapter says (2.2.3):

"One practical implication is that the savings achieved by settling new communities entirely with young men may be comparatively small, since there are so few of the older people anyway: while the compensating, but less easily quantifiable, advantages of having some mixture of ages in a new community may be much greater. Seen from this point of view, the few older people are a useful resource for ensuring social continuity and diversity, and avoiding the awkward consequences of bulges in the age distribution".

Secondly, the assumption is made that land ownership is a solution to youth unemployment and is desirable because it provides what people really want. Chapter 2 suggests (2.2.12) that land hunger means, or is coming to mean not an emotional attachment to land ownership for its own sake, or as a means to high status, but as a means of satisfying three objectives: security, high income and independence. If this is true it is necessary to examine whether young people's desires for these objectives might be better achieved through alternatives to the present system of youth land settlement schemes. Also, it is necessary to examine to what extent the land, or promise of land, does in fact provide the objectives.

Chapter 2 also suggests that diversity, particularly in relation to preferences amongst young people for urban life, represents the main ingredient to what people, especially the young, expect and want out of life. It says, (2.2.4):

"Human settlements get their vitality, their interest and their capacity for growth and innovation from diversity, not uniformity." Given this, it is necessary to examine the extent to which youth settlements meet these objectives and, if they do not, the extent to which they suffer as a result.

Other factors mentioned in Chapter 2 include the need to offer individuals the opportunity to enter into clear contractual obligations in which they are equals with the organisation that has evolved to meet their needs; and the need to examine carefully the economic implications of a short-term solution to a long-term problem, for example, seven acre plots for youths who will have to support families in the not too distant future. The next sections attempt to analyse existing youth-settlements in the light of these factors, not only by reference to the official view, but also to the opinions of those more intimately concerned with the success or failure of the experiment - the participants themselves.

3.2.4 Income

Youth schemes are cheap in terms of financial inputs, that is, cheaper than FLDA and as such are within the financial scope of some State Governments. Much is made of the savings that can accrue from the settlement of single young men since they are thought not to require a complicated village infra-structure, individual houses, or high wages. Emphasis is placed on the development of character that will evolve from a disciplined training and an early reliance on the sale of cash crops. To a certain extent, however, this appears to be a justification for constraints on government financing rather than a genuine attempt to build in elements of self-discipline and control. The financial cost of creating one job on a youth scheme has been variously put at between \$3200 and \$5400 but exact figures are difficult to obtain since hidden costs and subsidies from various departmental votes appear to be necessary to keep the scheme going. For instance, in Pahang the Agricultural Department is paying fully for the cost of transporting tapioca from all the schemes in the State to the MARA factory at Kuantan. If the schemes had to meet this cost, it is doubtful whether they could survive. Comparison is frequently made with the cost of providing a job for one FLDA settler approximately \$16,000.

However, a young man's investment in a youth scheme is an investment for his future family as well as himself. The real inputs of resources and effort required to establish viable agricultural settlements for future families are much the same, even though a smaller proportion is financed initially by government. Reduction

of real inputs below these amounts required produces schemes which are cheap only in a very narrow sense and in the short run.

On paper, the idea of schemes being self-financing at the end of one year on the sale of cash crops seems an excellent one. But success depends so much on markets that small variations in price or sales may render projects useless. An example was found in one scheme where attempts at a battery chicken project had been abandoned because the average number of eggs per chicken was insufficient to cover costs, and the market within the vicinity was extremely limited. Work by Project agronomists has shown that egg or table bird production is a sensitive area in which slight variations in feed price, sale price and egg production will seriously affect profits. Similar problems may be attributed to short term cash crops. The initial success of a scheme based on the cash crop idea during the gestation period of the main crop may depend as much on the proximity of markets as on a heavy management input, sufficient labour input, fertilisation, economies of scale and choice of crop. However, if adequate attention is given to these aspects the result may be that the main crop itself, on which the viability of the scheme in the longer run depends, may suffer.

What are the alternatives? Obviously it could be a heavier financial commitment by government during the initial years of a scheme's life, for example five-year loans on the FLDA principle. Youth scheme managers in Pahang suggested loans for two or three years - or at least sufficient to establish the cash crops properly and to enable the schemes to bank reserves to counter-act the results of short term cash-crop disappointments. There appears, however, to be great reluctance to increase the one-year loan period (often termed subsidy) during which time the government provides pocket money and pays for food and lodging. The reasons given include the desirability of decreasing the repayment period (yet it would still be less than FLDA as savings on initial infrastructure would still apply and smaller loans would be given anyway); the need to discourage an attitude of reliance on government support; and the fact that it is economically not possible for government to introduce schemes of this nature unless financial costs are cut at all stages. The first point was put to participants, who were equally divided between those who would like to pay later for benefits obtained now, and those who would prefer the existing system. On the last point of public finance, the word subsidy is itself a misnomer since it is a loan and not a grant. A re-examination of the role of public expenditure in relation to these schemes is already under-way since both the EPU and the Ministry of National and Rural Development have recommended Federal aid to State governments wishing to develop youth schemes. Further examination of the extent to which loans should be given is also of vital importance if the existing organisation of Pahang-type schemes is to continue.

A second alternative might be to rely on short term cash crops solely for home consumption and for youths on schemes to undertake contract work on other land development sites, or for the JKR, while the main crop matures. Income from these sources would be pooled in a similar way to the returns from the sale of cash crops. Before embarking on such a scheme, however, attention would have to be given to the labour requirements of the scheme itself and to the availability of contract work. Slightly lower wage rates might be given than those paid to outside contractors, but only to the extent to which they reflect the youths' efficiency on the job. While felling may not be suitable for youth contractors, secondary clearance, maintenance, and planting have already

been carried out successfully by FLDA youths in Pahang (see section 4.2.2.f).

The EPU (EPU, 1970) states in reference to existing youth schemes, and uses as one of its main arguments in support of an expansion of Pahang-type schemes - "The success of existing schemes can be attributed to the high level of settler motivation which arises out of the early economic benefits that they derive from their own enterprise." However, early economic benefit seems to be one thing that definitely does not accrue from schemes as they exist at present. During the interviews with boys on the Pahang schemes it appears that their low income (still restricted to \$10 per month after three or four years on the schemes) was the biggest source of discontentment and was barely sufficient to provide them with basic items such as working shoes and toilet requisites. All other problems, including celibacy and social isolation, were completely subordinate to the problem of income. On one scheme in particular no pocket money at all had been received for two months since the bank account was empty. While the pioneering spirit and concepts of initial hardships leading to eventual reward may have some place in dealings with young people, there is a limit to the amount of "give" that young people should be expected to make, without the prospects of any "take". Unless a viable economic base can be worked out that will guarantee a reasonable income during the gestation years of the main crop, the schemes should not be operated without proper loans/subsidies during years 1 to 3, or even for the full gestation period. A reasonable income might be interpreted at \$20 or more per month in addition to board and lodging. (This amount was suggested by the youths on one scheme).

3.2.5 Agronomy

Directly applicable to the subject of income is the agronomic and economic problem of attempting both a quick cash return in the short term and a satisfactory return from the main crop. Inter-cropping, as practised on the Pahang schemes, appears to have a number of disadvantages, although it may be too early to judge the eventual success of this method. Agronomists at the Department of Agriculture and at the Rubber Research Institute have begun to give attention to the subject of inter-cropping but insufficient research has so far been done to warrant the full-scale commercial development, particularly when inter-cropping itself may affect the development of the main crop. It is quite certain, however that unless enough fertiliser is applied to meet the full needs of both the annual crop and the tree crop, one or other (or both) will suffer to some extent. How much is not yet known. Other factors to be considered are competition for moisture, shade relationships, crop compatibility, labour requirements. These problems are well illustrated in Pahang where there are visible signs of stunted and yellowed palms amongst the main crop, although admittedly more noticeable on one scheme with poor quality soils. It is expected that the main crop may take longer to mature under these conditions, the additional length of time varying according to soils, fertilisation, specific conditions on schemes and management input. If this additional period is to be carried by the schemes, participants must expect to survive on sales of cash crops for even longer than the planned five year period. Until more is known about inter-cropping it would be advisable to restrict cash crops to specific areas of the schemes. If new annuals (other than tapioca) are to be tried, these should be viewed as experimental rather than providing complete and certain answers to the need for immediate income.

3.2.6 Marketing

Proximity to urban markets may not alone solve problems of outlets for cash crops. While it was noticeable that of the Pahang schemes, Bukit Goh experienced the least difficulty in marketing produce, the examples given were of comparatively small attempts to distribute equally small amounts. Daily visits to a hotel to enquire about the next day's chicken order, and a small market stall for vegetable produce are projects of limited scope. On the two other schemes visited the problem of marketing was even more severe. Some reliance on seasonal fruits has met obvious problems of market prices and more diverse products such as maize have so far been largely consumed at home. MARA's Ubikayu factory at Kuantan provides a steady market for the tapioca but its monopolistic position, and lack of capacity, has resulted in low prices which would not cover the cost of production but for the transport subsidy provided by the Department of Agriculture.

A great deal more research on market potential seems to be needed before schemes are designed to rely on sales of cash crops. Proximity to urban markets, as suggested in the Economic Planning Unit's recommendations (EPU, 1970) is not in itself a guarantor of success. But the paper does make the point that "cropping programmes must be flexible, one which responds to changed market conditions, changing labour supplies on the scheme and the expanded crop possibilities likely to become available through agricultural research."

3.2.7 Management and Planning

Scheme managers in Pahang are guided by the decisions of the State Youth Schemes Committee and by the technical advice of the Department of Agriculture under whom they are run. To date Johor has no such controlling Committee. The Managers in Pahang have little say in choice of crops, timing of land clearance for additional phases on the schemes or recruitment of participants. Blanket decisions by the State committee may present problems to individual schemes. Attention to detailed planning must be an important requisite to successful implementation, not only with regard to agronomic and management questions, but also to the role of the participants and their contractual obligations. Apart from concern at the low income they were receiving, the second most important concern amongst scheme participants referred to questions of repayment and the repayment period, the allocation of land and under what conditions and their own security with regard to the scheme. These matters have not yet been decided in Pahang, largely due to the present difficulties of costing the schemes, and are similarly undecided in Johor. Doubts were arising among the participants interviewed, as to whether the land would ever be given to them and, since the promise of land represented their main reason for continuing on the scheme, this uncertainty was giving rise to insecurity, and loss of motivation. Management also loses some authority when it cannot answer simple questions of contractual obligation and lack of information of this kind increases organisational and planning problems. Sufficient should now be known to clarify development costs and repayment. The Ministry of National and Rural Development suggests development costs as for FLDA, i.e. \$640 per acre which for eight acres of productive land will total about \$5,120. If interest is charged at six percent and the loan is to be repaid over a 10 year period, annual payments should be about \$1,050. Land titles will

be granted when the loan is repaid. This assumes that operating expenses would not be included in the loan obligation and would be defrayed each year by income from the scheme. If a loan is given for subsistence for three years instead of one, the total amount to be repaid would be approximately \$10,000-\$11,000.

It should not be difficult to be more specific about the contractual obligations of participants and it is suggested that a great deal of dissatisfaction might be defrayed by much more explicit details being made available before youths are recruited. A provisional contract, perhaps allowing for release from obligation by either side under certain conditions, should be given to all participants on entry to the schemes. As one group of respondents said, if the authority appears to be breaking promises it cannot expect participants to understand what discipline means.

3.2.8 Land Ownership

It appeared from talking with participants that land hunger did not constitute their main reason for joining the youth land schemes. The prospect of employment, and the lack of other alternatives, were quoted as providing the leading reasons for joining, although ownership of land gave additional encouragement. However, with experience of the scheme and the low incomes, land ownership became an increasingly important goal which was given by some as their main reason for remaining on the schemes. However, because the sample was small, and largely because the question itself was difficult, it was not possible to draw any definite conclusions regarding the importance of providing opportunities for land ownership to young people. Had the conditions, and incomes on the schemes been better, it is quite likely that the factors quoted in Chapter 2 as being those for which land hunger becomes a substitute, i.e. demands for security, income and independence, would have been satisfied and, consequently, the desire for land itself would be reduced. Certainly it appears that it was not necessarily the paramount reason for joining the scheme.

In conclusion, however, it seems safe to say that there are some young people who, for whatever reason, want land, as well as jobs and income, and this desire needs to be met, either by properly constructed youth schemes, or by other land development programmes. Reference to the interviews with the children of FLDA settlers showed that exposure to modern agriculture and employment increases the desire to participate in land development schemes. At present, youth schemes offer the only alternative for unmarried youths ineligible for FLDA. For others, the factors of security, income and independence may be met by direct employment which might be provided in the agricultural sector, on public estates; here it should be pointed out that almost all the young people interviewed at school, or in employment offices, found the idea of any estate work very uncongenial.

3.2.9 The Social Structure of Youth Settlement Schemes

The social problems arising from the development of job opportunities for groups of young men in a highly unnatural community environment appear secondary to the economic problems of turning an attractive financial idea into an economic possibility. The majority of respondents interviewed during visits to youth schemes in Pahang were happy with their all-male communal living and most said they did not find the five-year period of enforced celibacy too great a burden. What they did claim to miss was more frequent contact with a more diverse community - greater proximity to towns and to village communities. They saw their social isolation as

being as much a feature of lack of transport facilities as of the structure of their communities. However, it was on these points that management admitted more problems than did the youths themselves. Parents put pressure on their sons to marry and even in the Johor scheme, only two months old at the time of the field work, the marriage question had been raised on several occasions. Youths joining the schemes in their early twenties will be well past the normal Malay marrying age by the time they are permitted to marry. For this reason some thought is now being given to the possibility of dropping the minimum age of entry to 16 and the maximum age to twenty-one. A younger scheme population would, it is thought, be less prone to the pressures of the home community to marry. On the other hand, it is thought that some of the youths may, in fact, already be married, their wives continuing to live in their original kampongs. Although none of these cases have been detected, the anticipated disruption of unity and work and the possibility of financial difficulties used to enforce the celibacy rule have not apparently secured, therefore it would appear that a more flexible attitude to marriage might not produce the problems envisaged. If youths do wish to marry they should be allowed to do so, so long as they do not bring their wives on to the scheme during the initial years. It is difficult to see, under the present structure of schemes, how some youths could be allowed individual housing while others are not, but house building could begin at a much earlier stage and a much more accommodating attitude adopted towards the five year waiting period. If longer subsidies and a method of increasing scheme income in the gestation years can be found, there seems no reason why the whole question of celibacy, five-year communal living, and housing building should not be treated with more flexibility. After all, building materials are a loan, not a gift, and could be brought forward without additional cost to government.

On the question of social isolation, managers wanted contact with a wider community to reduce isolation and provide diversity. The mixing of different types of settlement within one area may provide part of the answer; the siting of the scheme in relation to settled communities another. The easiest solution would be to cater for the unmarried youth in mixed community land settlement schemes like FLDA rather than setting him aside as a problem which can be treated in isolation. If this is not possible, however, it does appear from talking to youths on schemes, that the community of young men is not so great a problem as might be expected, and is positively enjoyed by some. When asked if relatives would join them on the schemes when their houses were built, almost all had plans for bringing in parents, or sisters and brothers, as well as wives. Fears that the community would remain unbalanced, in terms of age, over the years may therefore be unsubstantiated. In conclusion, however, it is not clear to what extent removal of the financial and contractual uncertainties might leave the way clear for participants to take a longer look at the social context of their situation.

Attitudes towards aspects of discipline on the schemes were also largely accommodating. The majority of respondents admitted they needed discipline and were quite willing to see its value in terms of time-keeping and work programming. However, discipline, while accepted by young people as a necessary element of scheme management and a substitution for parental authority, is regarded as useful only if its relevance to the situation is apparent. A few examples were given of regulations for which no reason could be seen,

such as dressing for dinner, and confinement to the scheme perimeters. Following an incident on one scheme where the youths 'withdrew their labour' in defiance of the excess of rules and drill, it appears that discipline and drill on the Pahang schemes have been reduced to a level which is largely acceptable. While certain rules are laid down by the outside organisation, these tend to be based on the development of obedience rather than self-discipline; attempts to develop responsibility through responsibility have been left to scheme managers, and some are trying, through the formation of groups and group leaders, participants' committees and work targets, to achieve discipline in its wider sense. More perhaps needs to be done on these lines. A less paternalistic attitude and a greater emphasis on self-responsibility should be seen as a positive alternative to the enforcement of rules for the sake of moulding the young along common lines. People need to see the relevance of orders to the common goal and will themselves make rational decisions about the amount and type of discipline they need.

3.2.10 Selection and Training

The proposals by the Ministry of National and Rural Development say "it is feasible in selection to place emphasis on the LCE as the minimum educational requirement and expect a sizeable number of candidates for youth schemes," (MNRD, 1970). While by far the greatest number of school leavers during the SMP period will have LCE qualifications, approximately 38,000 will be dropping out at the primary school level. Opportunities for the LCE leaver in the way of vocational training may increase slowly, but for the primary school leaver they are almost non-existent. It is suggested that two qualifications only are needed for participation in youth schemes as they are presently conceived: interest and literacy. By demanding more, a whole section of the community for whom the future is already bleak, will be excluded. As it is, the careful selection of participants, often emphasising political affiliations and educational experience, has precluded many who need and would like to join. In addition, it seems that more important than educational attainment is the need to make the schemes multi-racial and open to youths from the districts with least opportunities. The number of non-Malays on schemes is presently very small, whether because the schemes do not appeal to non-Malays under their present organisation, or because political considerations give preference to Malays. Almost everything written about youth schemes calls for greater multi-racialism, but the schemes remain Malay. Some state governments, particularly Perak, made efforts to recruit non-Malays, but without success. The reasons need further investigation.

Training - FLDA settlers are given no pre-settlement training; youth scheme participants are given some. In view of the diverse crop structure of the schemes, training is probably much more necessary but might be done as well on the schemes themselves, so long as management, and especially the Field Assistants are themselves well trained. The Johor youths are given pre-settlement training both at Dusun Tua - three months - and at the Rural Agricultural Training School at Ayer Hitam for one month. Dusun Tua is used because it helps to accustom youths to the type of life they will live on the scheme and because it is easier for management to deal with youths who have already received some disciplined training. Discussion in the next section of Dusun Tua type training will suggest that there seem to be advantages in the methods it uses, and if it helps to provide a "thinking" period during which time youths are free to opt out of their decision to join a youth scheme, it may provide a very useful safeguard to disappointment. Some basic agricultural training also seems useful and one month is probably enough.

What may be far more important is the release of individual youths from the scheme from time to time to receive specific training to meet scheme needs, such as poultry and fish farming. Not only will this ensure some expertise on the scheme, but it will also help to produce a sense of responsibility for one part of the scheme. This has been proved beneficial at Bukit Goh where a successful chicken battery project has become a source of pride and achievement to the two youths in charge.

3.2.11 Departure from the Scheme

If youth schemes are to be introduced they should obviously be designed in such a way that individuals want to remain on them. But they should also be designed to ensure that individuals feel free to leave without any loss to themselves or their families. The Economic Planning Unit paper (EPU, 1970) suggests that upon departure the settler be refunded that portion of the loan obligation which he has repaid. Similar conditions would apply in the case of death of the settler, with payment made to heirs. This holding would then be made available to another settler at a price which reflected the free market value of the property. After full repayment of the loan any settler would also be free to dispose of his holding in the open market. However, as on FLDA schemes, no sub-division of the property will be permitted. These proposals for youth schemes differ from the more complex compensation provisions of FLDA, which give lower compensation in the early years but approach market valuation less outstanding debt before the end of the repayment period.

Chapter 2 of this volume stresses the desirability of separating house ownership from employment. It is suggested that housing repayment be seen as a separate issue from the agricultural development costs and youth settlers should be free to continue repaying these house loans even if they decide to leave the agricultural scheme. Or the house loan could be set against the refund of repaid debt.

3.2.12 Conclusion and Alternatives

Firstly, there are many young people for whom participation in land development is either a positive wish or an alternative to unemployment. In addition, some want to own land, or see land ownership as the only means of obtaining security and the promise of good incomes. The alternative means of agricultural employment are, so far, employment on private estates, youth schemes in some States, or as assistants to small-holder relatives. While the field work amongst young people showed that school leavers are reluctant to go into agriculture in any case young people who have been unemployed for some time might consider agriculture either if they can be given land, or if they are assured of incomes at around \$150 and above (see section 3.4). The children of FLDA settlers, especially those on older schemes, have seen that modern agricultural methods and land development can work, and themselves wish to participate.

Secondly, unless such organisations as FLDA, open their doors to the unmarried young, some other alternative land development scheme needs to be made available to them. Even if FLDA were to change its selection criteria and admit bachelors (it has already dropped its minimum age to 18), it is suggested that the more alternatives people have to choose from the better. Well planned, viable youth schemes may provide one of the alternatives. There does not seem to be sufficient evidence of the harmful, or undesirable social effects of present youth scheme organisation to warrant their dismissal out of hand. There does, however, appear to be evidence for changing the existing economic base in

order to overcome some of the most obvious, and harsh, conditions that are present in existing youth schemes.

The following organisation alternatives are suggested for accommodating the unemployed youth willing to work on land development schemes:

a) FLDA It is suggested that the FLDA considers its role in relation to unmarried youth. While recognising that FLDA cannot open up land fast enough to meet the needs of the married family man and has an increasing back-log of applicants, it also has an increasing problem of unemployment, or under-employment amongst the children of settlers on its own schemes. Many of these young people would themselves like a chance to become settlers. FLDA has already proved itself by far the best land development agency; individual state governments attempting piecemeal land development solutions to problems of unemployment amongst youth are probably less able to provide the leadership, expertise and financial assistance required to make a success of it.

A paper by the Labour Market Information Service of the Ministry of Labour, 1969, argues that the physically fitter younger settler, after appropriate training in co-operative farming methods, may be more suitable for developing and settling FLDA oil palm schemes than older farmers. A further economic advantage of admitting youths is that their working lives will be longer and the prospect of recovering the development costs will be enhanced. (FLDA has already partially met this by reducing its minimum age requirements to 18). The paper suggests as one answer to the alleviation of unemployment amongst youths a revised FLDA selection policy to include the unmarried youth: it places the development of youth land schemes as a slightly less desirable alternative and thereby echoes the conclusion of this report. Along with the economic benefits that might accrue should be placed the social advantages of a mixed community of young and old, social equality with the married youth and the opportunity to combine efficient farming with social diversity. Some slight savings might be made in development costs by delaying house-building since unmarried settlers would probably wish to lodge with families, but the usual argument of high development costs meeting the needs of an individual instead of a family should be seen in terms of the settlers' future family as much as his existing unmarried state.

b) Youth Settlement Schemes and a longer loan period

The present policy of organising youth settlement schemes with a one-year subsidy followed by immediate reliance on cash crops has met with difficulties. It is suggested that it is not only the problems of marketing which make for inefficiency, but also the high manpower needs of the main crop. Oil palm labour inputs average 27 man-days per acre per year over the first three years after planting and at the end of this period harvesting should begin. Rubber in its initial phases requires even more labour, averaging 34 days per acre in the first three years, but this is reduced in the succeeding period. In view of this it is difficult to see how attention can be given to both the main crop and the cash crops necessary for the scheme income, during this initial period. It is suggested that a youth scheme in Johor be tried with a loan to cover the period from clearing up to three and a half or four years (or until the main crop matures). If rubber is the main crop labour requirements will be lower from year 3 after planting until tapping begins (about 7 years after planting). During this period the youths could be encouraged to undertake some subsidiary agricultural activity or organise themselves for work outside the scheme. Should it be found possible, given the needs of the main crop, to undertake some cash cropping any revenue accruing should be

set against the debt repayment of individual participants or divided as additions to the pocket money allowance. The loan, based on an average of \$700 per acre to include clearance, planting and materials; \$1.30 per day food and accommodation per settler, and \$10-\$20 per month pocket money, plus building materials for individual houses would be around \$10,000 to \$11,000. While this appears high, it should not be compared unfavourably with FLDA repayments on the grounds that only one individual is settled for the money. Given that each settler will bring in a wife and, according to the Field Studies, other relatives as well, the figure will cover delayed family settlement and yet will still be initially cheaper than FLDA. The Agricultural Department in Pahang is trying to increase the subsidy years to three; Perak has already seen the need to support youth schemes for longer periods. Attempts at being self-supporting on cash crops are unrealistic, given problems of market and agronomy. It is suggested also, that freedom to plant cash crops if there is time to do so and a reasonable return will combat fears that a loan over the initial years will encourage reliance on government support which could have an injurious effect.

c) Youth settlement schemes as part of a complex of different land development organisations

A mix of organisations within an area might provide a useful basis for youth schemes. For instance, if an area of 20,000 acres or so should be sub-divided into FLDA, Private smallholders, Public Sector Estate and Youth Settlement Schemes with phasing of each to provide some dove-tailing of labour requirements, it might be possible to achieve a situation whereby not only are the youth scheme participants provided with an opportunity for contract work on other schemes, but the children of FLDA or private smallholding settlers are also given a variety of job opportunities. Such a plan would also have the social advantages of mixing settlers through the provision of some facilities in common to all schemes, including residence in villages not tied to any one type of scheme.

d) Co-operative effort and block ownership

From the information obtained in the Sociological Field Studies it appears that the higher income groups among settlers not only prefer income security to land ownership but also block ownership on a shared basis to individual ownership. Also that the young settlers prefer block ownership. Emphasis on existing youth schemes is for co-operative effort during the early years while the schemes rely on the sale of cash crops. While individuals on these schemes suggested a number of reasons why co-operative effort does not always work (including laziness and lack of interest) there was also sufficient evidence of willingness to work towards a group goal to suggest that the idea of co-operativeness might be extended in youth schemes to the organisation of the main crop. Many of the disappointments mentioned by participants centred around the uncertainty as to which piece of land would be theirs, and when. An extension of the block ownership idea and immediate allocation of a block to a group of participants during Year 1 or 2 of the scheme life might help to overcome frustrations; elements of competition between groups might provide incentives; and organisational problems and management might be successfully reduced. It is suggested that recommendations given under b) for a longer loan period would still apply, and any income from attempts at cash cropping by groups on land set aside for the purpose

should be offset against their loan repayment.

e) Youth agricultural employment schemes

Public sector estates established to provide employment but not land ownership or permanent settlement largely for youths, can have substantial advantages over settlement schemes in a situation of unemployment, in spite of the generally expressed aversion to estate work. They can offer wages for work done and reasonably secure though not permanent employment. In known crops, provided they are well managed, as any land development scheme for youths or others ought to be, they can be financially profitable to government. In agricultural activities whose prospects are uncertain they can offer inservice training without all the risks being borne by the youths themselves. Particularly appropriate would be the new agricultural activities such as cattle farming and vegetable and fruit production, which it is proposed should be introduced into the Project Area. A period of, say, 5 years paid employment, training, experience and accumulation of some savings on a well-managed public sector or joint private/public estate could be a good beginning for youths who decide to go on to farm their own land.

3.3 Training - with special reference to Dusun Tua, Selangor

3.3.1 Introduction

Training does not always mean the acquisition of specific skills. It may also mean the enhancement of personal development through a varied programme, none of which adds up to the production of skilled people, but which may enable individuals to realise their own potential and make it easier to adapt to more specific training or situations. It may also mean the acquisition of experience through a guided programme intended to develop knowledge while working within a given situation. All have elements of delaying the influx of the participating group on to the labour market although the first, and to some extent, the second, are usually designed to equip individuals with skills which would be hard to learn on the job, while the third is often a direct attempt to combine the need for job creation with elements of training that will be useful for the student to take elsewhere. In this last category may be included FLDA's Youth Brigades (see section 3.3.4) Conservation Corps, or other work orientated groups (often deficit financing in nature) and some apprenticeship schemes. The youth settlement schemes discussed in the previous section combine elements of training but are essentially long-term job creation schemes. The question to be discussed in this section is the extent to which training of the second and third type needs to be considered in terms of the Project Area, or whether expansion of existing vocational training opportunities are sufficient to meet needs.

3.3.2 Vocational and Agricultural Training

Vocational and technical training opportunities are increasing as more emphasis is placed on the acquisition of industrial skills, and more particularly, on the introduction of more Malays into the Chinese dominated industrial and commercial sector. While these opportunities may seem to be the responsibility of diverse Ministries, attempts to co-ordinate the training and to standardise its quality are being considered by the Economic Planning Unit and other departments. Interviews with the Ministries of Labour, Youth and Sports, and Education, and also with MARA, have shown that these agencies would be willing and able to respond to demands within the Project area and to establish relevant courses as and when they become applicable (Project, Vocational and Technical Training, June 1970).

Similarly the Ministry of Agriculture is encouraging the establishment of more training opportunities in agriculture and related fields, particularly through the State Rural Agricultural Training Centres. Its programme for expanding the number of places at Schools of Agriculture has not run to time due to lack of World Bank finance, but other plans for combining the Faculty of Agriculture, University of Malaya, with the College of Agriculture at Serdang have gone ahead as planned. The Department of Agriculture in Johor has already opened a Rural Agricultural Training Centre at Ayer Hitam which it hopes to expand under SMP proposals to train 300 youths a year for varying periods in skills which are not confined to agriculture alone. It is hoped that the youths completing courses at the Centre will find it easier to obtain jobs in FLDA, MARA and industrial bodies. The emphasis of the Centre is to be on project orientated training to include some attempt at self sufficiency from the production of cash crops. Plans for the Ayer Hitam Centre have been based on the Agricultural Training Complex at Paya Besar in Pahang which has already received praise for its low-cost and efficient training methods (Labour Market Information Service, 1969). Both centres have been designed to provide trained Field Staff for the extension services of the State Department of Agriculture and for the needs of particular land development projects as they arise. It is doubtful, however, under present expansion plans, whether the Ayer Hitam complex can hope to cope with the training demands that may be made by the development of the Project area.

3.3.3 Dusun Tua - the National Development and Pioneer Corps

The Dusun Tua experiment combines elements of vocational training with the development of individuals as disciplined and useful members of society. The National Youth Development Corps, established in 1969 after 13 May is an ambitious attempt to take large numbers of unemployed youths, usually from urban areas and, in the space of three months, to instill them with sense of discipline and responsibility - and some basic knowledge of their society - in order that they will make better and more reliable employees. The National Youth Pioneer Corps, on the other hand, is an older organisation started in 1966, which was conceived as an attempt by the Ministry of Culture, Youth and Sports, to provide skilled training opportunities, together with disciplined training, for those who had left school before such opportunities became available, or who did not have the educational attainments necessary to participate in other kinds of vocational training course. The Pioneer Corps course lasts for 18 months and is now preceded by three months in the Development Corps, and sometimes by on-the-job training. Both corps are run on para-military lines and discipline is instilled through army drill, time-keeping and obedience.

The para-military approach has been severely criticised by a number of people who feel that emphasis on imposed discipline is less valuable, and often more harmful, than self-discipline learned through responsibility and awareness. The theories behind Dusun Tua however must be understood in the context of Malaysian society where discipline is imposed by elder upon younger and by those with status upon those without. In addition, the urban drift of young unemployed rural men, unqualified and often largely uneducated, has produced a vast body of frustrated young people for whom there have been few prospects. The attempt to make these youths more acceptable to employers, and more amenable to their situation, may not be appreciated by everyone, but it should

be understood. In fact, it was found during a visit to the camp, and during conversations with the participants, that the social implications of para-military training, communal living and emphasis on discipline are matters of least concern; of far greater importance appears to be the concern over standards of training, and the direct relevance of particular parts of the course to future employment. If self-confidence is a guide, the participants interviewed at Dusun Tua were far better endowed than youths interviewed in other situations and were much more ready to speak about and to analyse their own situations. Since the youths interviewed were chosen at random it is to be hoped that they represented some of the achievements that may transpire from Dusun Tua. All the boys interviewed considered that discipline was necessary; that it provided them with a sense of security and identity. On the other hand, it was suggested that the emphasis on drill is largely irrelevant to the acquisition of discipline, and could be considerably reduced.

Of far more importance to the youths interviewed was the help that Dusun Tua would give them in obtaining employment. All had joined to increase their chances in the employment market, and the thousands of applications received annually from prospective participants, suggests that Dusun Tua is still seen very much as a passport to future employment. Since this is why they come, it seems that Dusun Tua should be judged first and foremost on the extent to which it helps to fulfill the participants' objectives: and secondly on its ability to be an efficient training organisation fulfilling the needs of the agricultural and industrial sector.

The Pioneer Corps, with its optional courses in electronics, agriculture, tailoring, motor mechanics, building and carpentry, appears to have fulfilled part of its employment objectives. Out of the 1,821 youths who have attended the Pioneer Corps, 1,449 have left to get jobs, or have set up business on their own. However, of these the vast majority have been absorbed into the army and police, for which the kind of regime imposed at Dusun Tua is seen to make them eminently suitable. The other large source of employment has been Government service, especially the JKR. Only 163 youths who found work left after only a few weeks because they were unhappy with the pay and conditions.

It is obvious that government service, and the army, cannot continue to absorb large numbers of new recruits indefinitely. There is evidence, therefore, that jobs will be increasingly difficult to find. In addition, despite spending 18 months at Dusun Tua, the standard of vocational skills is not considered sufficiently high by many employers, and the agricultural section is thought to be particularly deficient. Attempts are being made by the International Labour Organisation and the Ministry of Youth and Sports to rectify this and to standardise the training, but improvements are hampered by the shortage of skilled instructors. In addition, training costs at Dusun Tua are high - approximately \$1,773 per student per annum, compared with \$919 at a secondary technical school.

Employment prospects for graduates from the National Youth Development Corps are even less hopeful. So far three batches have been through Dusun Tua: the majority of the first batch of 2,787 found employment in government service and the army; of the second batch of 2,832, 93 left without finding work; but of the third batch of 945, 864 still have no work. It appears that private employers do not feel the three months disciplined training is of much advantage in an

industrial or commercial situation, although they would probably chose the boy from Dusun Tua if offered two applicants with otherwise identical qualifications. However, there are sufficient youths with L.C.E. education or more specific training to render the Dusun Tua graduate a second best. State governments are now being asked to send only boys for whom they can guarantee employment on their return, and, consequently, the total number of trainees is dropping rapidly. Increasingly the Development Corps is being used by State governments as preliminary training for very specific schemes, such as Johor's youth scheme, and not as a general orientation course. It is possible, that the Development Corps may work itself into obsolescence unless more specific uses can be made of the services it offers.

One extension camp at Morib in Selangor for agricultural trainees (Development Corps) has already been opened. It does not seem on the present situation that further extensions to Dusun Tua-type training would serve any purpose, or at least not until the basic problems of its role as a training organisations can be ironed out. While the emphasis on para-military type training may have its uses for preparing young people for certain types of career, for instance, the army, it seems to have limited value as a qualification in itself. Nor is it necessarily the best means of teaching the kind of self-discipline that may be needed amongst young people. This constraint, together with the questionable role of the Ministry of Youth and Sport in vocational training, the shortage of staff available to institutions of this kind, the high cost of training, and the danger of raising aspirations without the proper market research to see if these aspirations might be met, point towards other types of training within the Project area rather than training projects based on the Dusun Tua experiment.

3.3.4 FLDA's Youth Brigades

FLDA has used the National Youth Development Corps extension centre at Morib as a basic training ground in agriculture and discipline for the children of settlers recruited for its four Youth 'Brigades'. The brigades, numbering a total of 185 youths at the time of writing (October, 1970) constitute one of FLDA's main attempts at both creating employment opportunities for young people, and giving training through experience on the job. It is intended to give youths from the Brigades priority when selecting settlers. So far the Brigades have been working in Pahang. New schemes are cleared and planted by contractors, and the youths are then brought in to maintain the schemes until the arrival of settlers. Each Brigade works 900 acres to be completed within 30 days and is paid \$4.50 per acre. On completion of the work, or on the arrival of the settlers, the Brigades move on to other areas. Individual earnings are approximately \$135 per month of which \$1.70 per day is deducted for food and board. The Brigades are considered successful and FLDA plans to form four new Brigades for the Ayer Tawar complex in Johor. It does not appear that thought has yet been given to the possibility of employing youths for secondary clearance or planting where the Brigade idea would also be applicable.

From FLDA's point of view, the Brigades are serving three purposes; providing employment, giving training, and cutting costs. Officers at headquarters are aware of the danger of exploiting youth labour at rates far below those what would be paid to contractors and, under the present arrangements, the youths are getting approximately \$50 or \$60 per month in excess of living expenses, and from this

they are encouraged to save towards future settlement. Compared with youth scheme incomes the FLDA Brigade participants are well paid. It appears that the success of the existing schemes will prompt FLDA to create more and more opportunities of this kind and, should FLDA be involved in the Project area, it is likely that similar employment opportunities, even if of a temporary nature, will be created for children of settlers on Johor's existing schemes.

3.3.5 Civilian Youth Conservation Corps etc.

FLDA's experience shows that young men will work on a migratory basis, given adequate management input and salaries. The limited social problems that FLDA has so far experienced may also be due to the promise of future settlement opportunities for which the Brigades offer a training. Section 3.2 (youth schemes) suggested that rather than relying on income from cash crops, youths might undertake contract work, although the agronomic constraints of the main crop were recognised as a possible handicap.

Other ideas have been put forward for the employment of young people in Civilian Conservation Corps in forestry, land clearance, soil and water conservation, public health control, fire-breaks and roads. Greater current expenditure for these purposes may be thought desirable; but if the main purpose behind this suggestion is creation of additional employment for the now unemployed, the device compares poorly with, say, greater public investments in accelerated new land development. Both require finance and management: but land development can be financially profitable to government and, for management, greater use can be made of managing agents. Land development offers long term additional employment opportunities.

Unless youth corps for conservation etc. can be organised as FLDA is doing, with elements of training, and with the prospect of future opportunities for permanent employment, there is a danger in creating employment of a temporary nature which may only delay frustrations rather than solving them. The social problems involved in isolated groups of young men, mobile and living perpetually in a communal atmosphere might be exacerbated by prolonged exposure to this type of organisation without hope of something more concrete at the end. While Civilian Youth Conservation Corps may seem an attractive idea in terms of short-term job creation, its value in the long term is likely to be far less than other practicable developments.

3.3.6 Conclusion

While Chapter 2 makes the point that education is itself a resource and cannot be wasted, and that training of a vocational nature should not necessarily be geared to the market needs of the area in which that training is situated, there is sufficient evidence from Dusun Tua to show that very careful market research is needed before training opportunities are created. The raised expectations of Dusun Tua participants compare unfortunately with the frustrations of many recent graduates from the same Centre who have found that their skills are unwanted. Vocational Training agencies have expressed themselves willing to react to demand and will provide what courses are deemed necessary in the light of project proposals (Project, Vocational Training, June 1970). Agricultural Training, both for management and participants will almost definitely be needed in quantity.

Rather than develop training facilities which emphasise the development of disciplines, or other characteristics thought to be desired by employers but have little regard for actual market trends, it is suggested that attention

be given to the expansion of agricultural training facilities within the State, and possibly within the Project Area. The facilities should be sufficiently flexible to give training opportunities for participants on land development schemes, particularly youth, as well as the training of personnel for lower grade, management positions. More highly qualified agricultural staff will continue to be recruited from the College and Schools of Agriculture.

The use of young people in civilian conservation corps, or for other purposes should be considered only in the light of much more detailed work. The employment of young people for certain kinds of contract work by FLDA appears successful, largely because the youths are getting a reasonable income and training through experience, and have the promise of priority in settler selection. Where long-term employment prospects are available, the use of groups of youths on contract work may be considered as a possibility otherwise it should be left to further examination. And in addition, attention should be given to the extension of types of contract work that FLDA and other agencies might put to young people. The Selangor Youth Scheme experiment mentioned in the section (3.2.2) showed that land clearance can be efficiently, and safely, carried out by youths. In its search for cheaper land development, FLDA might look more to youth on its existing schemes than to outside contractors.

3.4 Conclusions

3.4.1 Introduction

This section summarises and collates the main points of the preceding sections, together with the results of the field work interviews, and suggests implications for the Project area. The main bulk of the findings obtained during the Field Work is contained in the Appendix to the Project paper: Youth and Aspects of Land Development and Employment to which this section refers.

While the field work interviews did not pretend to be more than an attempt to obtain some guide towards the aspirations and attitudes of young people towards a number of key issues, the uniformity of responses within different situations has enabled some tentative conclusions to be made despite the small number of interviews - 223 in total. The conclusions given in this section should be seen in the light of the methods used to obtain them and the problems that young people have in applying themselves to hypothetical ideas in relation to their own future.

Perhaps the most significant conclusions from the field work were not only the uniformity of views expressed by young people in similar situations, but also the differences in attitude that existed between groups of respondents in different situations. Attitudes to land ownership, agriculture, income and job aspirations were very much affected by the age of the respondents and their education, length of unemployment, exposure to modern agriculture and training. On the other hand, great similarity ran through all the responses, whatever the situation of the respondents, with regard to mobility, recreational requirements, attitudes towards parental constraints and freedom and desire for training in specific skills.

3.4.2 Job Aspirations

School children and unemployed youths registering at the employment offices saw jobs in government service as the employment that would give most security and regularity of income.

The fact that incomes, and prospects, might be low appeared secondary to the regularity factor. The secondary school fifth form learners expected better government jobs commensurate with their increased education. In both situations interest in industrial opportunities was less evident, but there were some who mentioned it as a first choice. On the other hand, youths with some skilled training as at Dusun Tua, chose industrial jobs first, since they wished to use the skills they had learned. In all cases interest in agricultural employment was non-existent, with the exception of FLDA youths who almost all wanted to be involved in agriculture, preferably as settlers. On the whole, those who had not yet experienced unemployment were unrealistic about job opportunities, but even those who had this experience - the employment office registrants - tended to express their choices within very narrow limits. The school children were particularly optimistic in terms of future employment possibilities.

3.4.3 Agriculture

Except where youths had been exposed to modern agricultural methods, as in FLDA, there was little interest in agriculture, and confusion as to what modern agriculture and land development meant. With the exception of one school where agriculture had obviously been discussed, it was considered a low-status occupation to which no prominence was given in careers guidance. Agricultural Science options during years I to III of Secondary school were being withdrawn in two of the schools visited due to lack of financial support for equipment; on the other hand Industrial Arts courses are subsidised. Almost without exception the respondents, including Indians, were not interested in estate work, the unemployed preferring to remain so rather than become estate labourers. On the other hand, there appeared to be a cut-off point (mainly amongst the employment office registrants) of \$150 above which they would be more prepared to consider agricultural work and movement to the rural areas. It was not clear to what extent the attitudes towards estate work might be modified by guaranteed regular wages of this order.

3.4.4 Land Ownership

The majority of youths in all situations, with the exception of FLDA, where the question was more difficult, were not interested in land ownership if given the alternative of a regular salary at, say, \$150 per month. Even as an alternative to unemployment, little interest was shown. Reasons appeared to be that their experience of smallholders incomes was unfavourable, capital and training were required to make a success of land ownership, and most importantly the promise of land would not negate the low status position of agriculture. In the case of FLDA youths, their own desire to participate as settlers in land development programmes was a mixture of positive preference for agricultural work, experience of modern agriculture, the security offered by land settlement organisations and the promise of land. The latter being seen largely as part of the security 'package'. For the youths on youth settlement land development schemes, their original reasons for joining were primarily to obtain employment; land ownership became the all-important goal in the light of their insecure positions once on the schemes - low incomes, uncertainty about their contractual obligations and the date the land would become theirs.

3.4.5 Incomes

School children were less realistic about their income aspirations than other groups, the third form students were thinking in terms of \$200 per month; fifth form students \$400 after further education or training. Unemployed youths with little variation according to the length of time unemployed, talked in terms of \$120 to \$200 per month and rationalised this as being a figure which would provide them with a reasonable standard of living and would also enable them to contribute towards their family responsibilities. However, many unemployed youths thought that they would eventually have to take less than the amounts stated, although, when pressed, some thought it would not be worth working for less than \$100. At \$150 or more they would be more prepared to take work that was outside their experience or which they would otherwise refuse, for example agricultural employment. Surprisingly, the Dusun Tua trainees, while very optimistic about their job chances, were much more realistic about incomes and considered any regular salary acceptable so long as it was sufficient to clothe and feed themselves.

3.4.6 Mobility

Almost without exception, the respondents claimed a willingness to move away from their home areas, both because they realised they must be mobile in order to get work, and because they positively wished to exercise their independence. Nearly all said that there were no parental constraints to their mobility and, so long as they could visit their homes occasionally, were happy to leave their relatives. This mobility however, was constrained by their preference for urban or rural living - for the town lovers Penang was by no means too far, while Penggerang was unthinkable. While there might be some doubts as to the extent to which people would actually be prepared to move if given the opportunity, a sufficient number of the respondents had already applied to East Malaysia, or to northern areas of West Malaysia to warrant some faith in their claims.

3.4.7 Training

Again almost without exception, the respondents considered vocational training as the key to future success; many of those still in school had applied to the Vocational School in Johor Baharu (with very little idea that their applications might be rejected); the unemployed considered their job chances might be considerably increased by training, but did not know of what kind, or where they could get it. The number of youths interviewed who had been to or applied to Dusun Tua (and the enormous back-log of applicants quoted by the Ministry of Youth and Sports) illustrates the degree to which the young consider themselves ill-equipped competitively unless they can offer training, of whatever kind, as an additional qualification. Their understanding of the type of training that might be most useful to them, or the means of obtaining it, was slight.

3.4.8 Urban versus Rural Living

With the exception of FLDA respondents who were almost unanimous in preferring rural life, the majority of respondents in schools, at employment offices and at Dusun Tua, hoped to get employment in towns. Aspects of town life which attracted them were electricity and tap water, good communications, sports facilities, shops and meeting places, better health and educational facilities. Cinemas and restaurants were unimportant factors since these are outside the financial scope of most young people. Most emphasis

was placed on sports facilities, especially football and badminton, and meeting places such as coffee shops. The FLDA youths already had access on the scheme to most of the items considered to be urban luxuries, and this may have been a large contributory factor to their satisfaction with rural life.

3.4.9 Youth Scheme Participants

Interviews with youth scheme participants suggested that their main reasons for applying in the first place was to secure employment and prospects. Land ownership was somewhat secondary but still an important factor in their decision to join. All had rural backgrounds and considered it obvious for themselves to undertake agricultural work which, in the main, they enjoyed. Access to, rather than residence in, urban areas was important and their requirements from a community were much the same as both the committed town dwellers and the FLDA youths - sports facilities, meeting places, electricity, water and transport. Dissatisfaction with the social structure of youth schemes was secondary to the economic disappointments of promises unfulfilled and low incomes stretching over a considerable time. Despite this, most would take the same decision again in relation to joining youth land schemes, largely because they considered their low educational attainments did not fit them for other types of employment, and because they thought the schemes offered them the only agricultural prospects they were likely to get.

3.4.10 Implications for Job Creation

The predominant theme running through most of the respondents' future aspirations was the search for security and the regularity of an income that would appear month by month without being affected by outside factors. As far as many youths could see, government service was the only means of obtaining this regularity, while at the same time presenting a high status alternative to other types of employment. Industrial work appealed to some but did not have the same surety that government service presented. Since government jobs are mostly found in towns, urban communities presented not only additional attractions to rural life, but the kinds of job opportunities that are more likely to fulfill the security goal. What they wanted from an urban setting other than job opportunities are facilities that are by no means impossible within a rural setting. Long term prospects - promotion, income increases - are of secondary importance to the major factors of regularity of income and job security. Sometimes jobs that have offered high, but sometimes spasmodic returns, have been turned down in favour of low-paid jobs as office peons.

However, even if agriculture were to be organised in such a way that it gave the factors considered important, it is still considered to be an inferior way of life to clerical or industrial jobs. This would appear to be largely a matter of ignorance as to new forms of agriculture offering alternatives to the old small-holding techniques with semi-skilled farmers and low incomes. The FLDA respondents wanted jobs in agriculture because they could see that modern methods work. At present schools are not encouraged to present agriculture as an important industry with expansion possibilities above those of industry. Agricultural Science streams find it difficult to function in lower school due to lack of finance, while the Industrial Arts sections, which introduce young people to machines, and technical skills, are financially supported. It appears that neither are young people given the experience, nor encouraged, to find out more about new types of agriculture which might provide

the security they seek. If the education system is not to produce a majority of young people who want clerical and industrial jobs, with little chance of getting them, it must do more to examine its role in relation to agriculture.

There are, however, many young people who want opportunities in agriculture and for whom, at the present moment, the main openings are through estates, which they do not want, or a few isolated youth schemes. The latter, if better organised, with earlier benefits, may provide a partial answer to their desire for secure agricultural employment. They are valuable in providing an alternative in a situation where there are few. The Federal Land Development Authority provides the kind of environment that some young people seem to want, but from which they are presently excluded. The role of FLDA in relation to the unmarried youth should be re-examined. In addition, if young people are willing to alter their aspirations if sufficient incentives are given, there may be a place for the public sector estate if it can promise regular incomes and conditions of work and facilities that are comparable with FLDA scheme conditions.

The biggest demand, however, will be, and is, for non-agricultural jobs, close to or in urban areas. Master villages, with plenty of service job opportunities, will provide much of what is wanted since the desire is not so much for sophisticated entertainments as for some degree of scale and density, the ordinary facilities of urban life that urban dwellers take for granted, and facilities for sports and meeting places which form the basic entertainments of youths with limited incomes.

3.4.11 Youth Schemes

Youth schemes should not be dismissed; rather they should be modified to solve the problems that existing schemes face, and they should be seen as a part of a total land development programme rather than as a special and separate solution. The Government is proposing an expansion of youth land development schemes to a total of 15,000 acres per annum during the Second Malaysia Plan period. The proposals are (October 1970) for a Pahang-type organisation of youth schemes which, it is suggested, needs to be modified before any thought should be given to inclusion within the Project area. This area could have an important role to play in experimental agriculture and organisation. While the social problems attributed to youth schemes exist, they are not so serious as could be expected; they are certainly secondary to the major problem of finding a workable economic base for the schemes. Within the development of the South East Johor area needs to be considered the organisation of a scheme in which youths, who are unmarried at the time of entry, may take part, which is part of a complex of schemes or organisations offering different opportunities and possibly served by a Master Village in which all the communities can combine, and where the emphasis is on the speedy development of the economic main crop rather than on piecemeal attempts at reliance on annual crops or other subsidiary projects while the main crop matures. If it is felt that this implies an FLDA type organisation then perhaps FLDA should do the job, or some other national land development authority established with a charter that includes the unmarried young.

Schemes of permanent settlement and land ownership, however, must provide for youths growing older, marrying and having families. Their shape cannot be very different from that settlement schemes intended for settlers who already have families.

If special attention is to be given to the

employment of youths, preference should be given to direct employment as in FLDA contract work brigades or public or joint public/private estates, in which paid employment can be combined with in-service training, especially in the new agricultural activities in the Project Area.

3.4.12 Contract Work Brigades

FLDA has already established that it can successfully employ the children of settlers in contract work brigades for the maintenance of schemes before the settlers arrive. It is considering the expansion of this idea to meet the growing unemployment and under-employment problem amongst the young people on its schemes. That the Brigade idea has worked is largely because the youths are paid well (in comparison with other schemes for youth) and they know that participation in the Brigades increases their chances of becoming settlers themselves at a future date. There seems no reason why FLDA should not expand the Brigade idea still more to other kinds of contract work presently given to outsiders. The development by other agencies, for example, State Governments, of civilian youth corps for conservation work etc. is, however, of doubtful value. The use of public finance for youth corps should be compared with its use for more rapid land development. Unless joining a youth corps can be a preview, or training, to prospects of more permanent employment, the social problems likely to be created will outweigh the benefits.

3.4.13 Training

Note should be taken of the assurance by a number of training agencies, most specifically MARA, the Ministry of Labour and the Ministry of Education, that they will be able to establish specific training courses to meet specific needs of the project area once they can be told what these needs are. The demand from young people is for more training opportunities to fit them for skills that will be needed: Dusun Tua graduates are finding that the skills they have been given during their course are not necessarily those that are required. While it is agreed that ideally training should not be so geared towards the particular needs of one area that it hinders mobility, it is suggested that the young consider it more important to be immobile and employed than free and jobless. The kind of three month discipline-orientated training that Dusun Tua is providing for the Development Corps does not provide qualifications that are considered necessary; the Pioneer Corps vocational training gives a better chance in the employment field but is a long and expensive course for the standard of training given. What does seem to be needed is more and better agricultural training facilities, not only for young people already committed to youth schemes or to jobs in the Department of Agriculture as Field Assistants, but for youths who might someday be interested in agriculture, or who wish to hire themselves out to smallholders or help parents. In all the projects proposed in the Project Master Plan, the demand for skilled or semi-skilled agricultural personnel will exist. Johor's proposals for the expansion of the Ayer Hitam Agricultural Training Centre under the SMP are very modest in comparison with other proposals. A similar centre, or extension, should be considered immediately to cater both for the young people who place so much emphasis on training, and for the needs of new land development within Johor. No attempt should be made to emulate the Dusun Tua para-military and non-directional type training within the project area.

HOUSEHOLDS FORMATION, EMPLOYMENT AND
INCOMES ON SETTLEMENT SCHEMES

4.1 Introduction

One of FLDA's objectives is defined as "settling selected landless persons on land (hitherto undeveloped) and providing economic holdings of main crop land" (p.233, Treasury, 1971).

FLDA's basic policy aims to establish the size of the holding and the charges levied on the settler so as to provide the settler with a minimum target income during the yielding period. Until 1970, the settler was charged with all those costs, except for management, which are directly attributable to the scheme, but not with the costs of facilities which are generally provided to the rural community as a whole. From 1970, the settler has been charged with a part of the management costs, the proportion depending on the crop prices (see below). The 1970 IBRD report on the Second Jengka Triangle Report stated that the Government's policy was that; "settlers should receive an average annual income of not less than \$3600 after meeting all charges and loan repayments". (page 21, IBRD, 1970). The average income referred to is the income during the mature period, and not the income over the whole period during which the settler is on the scheme.

The holding or the acreage per settler has been revised periodically with the aim of providing this order of target income. For example the 1969 Annual Report of FLDA stated that in that year the "question of an 'economic' size of rubber holding for FLDA settlers was revised in the light of long-term price projections. Taking into consideration the forecast of low prices and the requirement that FLDA settlers meet loan repayments out of their incomes, it was concluded that the size of rubber holdings in future FLDA schemes should be raised to ten acres. Official Government approval was obtained through the National Development Planning Committee". (p.13, FLDA, 1969). The same FLDA Annual report went on to say that "the organisation of oil palm cultivation in FLDA scheme is somewhat different from that of rubber. Whilst in rubber schemes settlers are allocated individual and separate holdings, in oil palm schemes there is no specific identification of the settler to a fixed plot of land. Settlers participate as cooperative holders" (p.14, FLDA, 1969). This is not strictly true at present since a cooperative is generally defined as an organisation in which each of the shareholders has one vote in the running of the organisation; but the essential point to note for the purposes of this chapter is that each settler has an economic share of ten acres on oil palm schemes now being developed.

Under the World Bank loan terms 533-MA, it was agreed between the Government, FLDA and the Bank that the settlers on Jengka should be charged for all management expenses in Jengka. Subsequently, in view of lower price prospects for rubber and oil palm, this was revised. It was agreed that a management cess would be charged to all FLDA settlers, the cess varying according to the produce prices received.

Therefore, the basic principle underlying FLDA settlement schemes is that settlers are allocated an acreage to work of such a size, and charges are levied in such a way, as to give the settler an income from the main crop during the mature period of at least \$300 per month. FLDA recognises that this acreage does not necessarily give full-time employment to the settler and his dependents over the whole life of the scheme. Thus one of the

problems that has emerged on several FLDA schemes is that of underemployment and unemployment.

The purpose of this chapter is to identify the nature of this problem more precisely than hitherto, and some of its implications for land development organisations in West Malaysia, to examine the likely incomes resulting from various combinations of prices, acreages and charges, and to set out some of the assumptions on settler selection, employment and household size that have been made in the Master Plan and SV 6 Part 2, FLDA Programme.

Section 4.2 to 4.4 examine the criteria for settler selection on FLDA schemes and the household size and composition resulting from the criteria. Section 4.5 examines the charges levied by FLDA, the income streams that the settler is likely to receive from the main crop given various acreages, prices, yields and charges, and the need and scope for repaying the income. Finally, Section 4.6 examines the year-by-year demand for labour from the two main tree crops, the possible need and scope for subsidiary employment on the schemes, and draws out the implications of some of the analysis for employment and underemployment on schemes and for the planning of land development in the Project Area.

4.2 Settler Selection and Likely Settler Intake

The settler enters the development scheme approximately two years after initial felling and about one year after the planting of the main crop. FLDA develops a scheme area in accordance with the provisions of the Land (Group Settlement Areas) Act of 1960 as amended in 1965 and it enters into two agreements with a settler.

Upon entry to the scheme, the settler signs the first part of the agreement with the Authority. This binds him to abide by the rules laid down by the Authority and carry out work on the scheme as instructed by the representative of the Authority, normally the scheme manager. During this 'development' period the settler is paid at a rate of \$2.90 per day for maintaining the crop. If the settler does not work for 24 days in a month his income is made up to a minimum of \$69.60 by a subsistence loan. These loans are debited to the settler's account and must be repaid later.

The individual settler is also charged with the agricultural field development costs, with the house and house lot development costs and with a management levy which varies according to the price of the crop (Section 4.6). These costs together with the subsistence loans are accumulated and bear interest at the rate of 6.25 percent per annum and are at present expected to be repaid over years 5-21 for oil palm and over years 9-25 for rubber. (Year 1 being the year of clearance - Section 4.5). The actual repayment period will depend upon the yields and prices obtained and on FLDA's policy on repayments.

At the end of the fifth year after oil palm planting or the seventh year after rubber planting, the settler signs the second part of his agreement. This is the 'supplemental' agreement. Under this, the settler is registered as 'an occupier in expectation of title'. In respect of the ten acres of the crop and a house on a lot of about a quarter of an acre. On rubber schemes the present practice is to allocate a specific

plot of land to the settler, whereas on oil palm land the settler receives the right to a share of the proceeds from the scheme as if he were the sole owner of ten acres of the crop. When the settler has paid off his loan to FLDA, FLDA will 'revest' to the State Government the planted area with the recommendation that it should be alienated either to a co-operative or to the individual settler for a period of not less than ninety-nine years.

Section 4.1 above stated that one of FLDA's objectives is to settle landless persons. At present those owning more than two acres of land are not eligible for the schemes. Settler selection is in two stages (Supporting Volume 6 Part 2 Federal Land Development Authority Programme). To be eligible the applicant must be a Malaysian citizen, married, own less than two acres of land, have no criminal record and be aged between 18 and 35. If these requirements are satisfied, the applicant is interviewed and awarded a number of points on the basis of various "characteristics". The maximum number of points that a settler can be awarded is thirty, with the "characteristics" having the following values:

	Maximum number of points
Age of settler	10
Number of children	5
Experience/capabilities	6
Land ownership	5
Education	4
	<u>30</u>

Before 1969 the eligible age group for applicants was between 21 and 45 years, but on the basis of an assessment made by the Settler Development Section of the Authority in 1969 it was decided that the criteria for settler selection should be modified (page 11, FLDA, 1969), and in 1969, the National Operations Council approved a suggestion that only applicants in the 18 to 35 years age-group should be considered for selection, with the exception that for ex-servicemen the upper limit would be 40 years.

In an attempt to identify the likely characteristics of settlers in South East Johor, a sample of the applications for the Ayer Tawar and Bukit Aping schemes was examined. In 1970, 4,500 applicants for these schemes were interviewed by the Johor Regional Office. About one-half of these applicants will be offered places on the Ayer Tawar schemes and on schemes in Pahang. For the purposes of this study, a sample of 400 applications from the Districts of Pontian and Johor Baharu was examined. An analysis of the ages of, and points attributed to the applicants from these areas is shown in Table 4.1. Just over one-half of the applicants received more than twenty points. The majority of these successful applicants were aged between 25 and 29 years.

This sample of "successful" applicants was then analysed further to discover the number of children of each applicant, (Table 4.2). The average number of children of these 219 applicants, by age of applicant, was as follows:

Age-group (years)	Average number of children
20 - 24	1.7
25 - 29	2.5
30 and over	4.0

These results are broadly consistent with those derived in a less detailed analysis of a wider range of characteristics of all outstanding

FLDA applicants called for interview from Johor, in February 1970. (Appendix Table).

4.3 Household Composition - A Survey

If it is assumed that settlers coming on to schemes in the South East Johor regions have the same characteristics as this sample of 219 applicants, it should then be established how the settlers' households will change through time. This question could be answered by applying demographic data (fertility and survival factors, ages of marriage of children etc) for West Malaysia to these applicants in order to arrive at the sizes and other characteristics of the households in five and ten years from the year of intake. An objection to such an approach is that the national demographic data is likely to hide variations between urban and rural households and also variations between groups or rural households (between Malays, Chinese and Indians, between FLDA and non-FLDA, etc). It was therefore decided to use a more direct approach for the purposes of this study.

TABLE 4.1 FLDA Applicants - From Pontian and Johor Baharu Districts - 1970 - By Age and Number of Points

Number of applications analysed:	
Pontian District	107
Johor Baharu District	<u>290</u>
	<u>397</u>

Age-Group of Applicants (Years)	Number of Applicants in Group				Total Number of Applicants
	Number of Points Attributed to Applicants				
	Less than 15	15-19	20-24	25-30	
Less than 20	-	1	-	-	1
20 - 24	-	8	40	4	52
25 - 29	-	27	128	15	170
30 - 34	9	100	31	-	140
35 and over	9	24	1	-	34
Total	18	160	200	19	397

TABLE 4.2 FLDA Applicants with 20 Points or More From Pontian and Johor Baharu Districts - 1970 - By Age and Number of Children

Age-Group of Applicants (Years)	Number of Applicants with 20 Points or More					Total Number of Applicants
	Number of Children					
	0	1	2	3	4 or more	
20 - 24	4	13	19	7	1	44
25 - 29	5	23	50	36	29	143
30 and over	-	-	1	8	23	32
Total	9	36	70	51	53	219

A convenient parameter for measuring changes in the composition of the household is the age of the head of the household. The "head of the household" is not of course an unambiguous concept, but given the method of selecting settlers, it seems to be the most convenient control variable. Thus

the approach used in this study was to examine, using the data collected in the sociological field studies, the composition of households on FLDA schemes and in other rural situations in Johor. The composition of the households was analysed according to the ages of the heads of the households, the latter being grouped in the same five-year age groups as those used in Malaysian statistics.

This information, gathered from the studies carried out by the Project, was then checked and compared with data given in published sources. Unfortunately very little published information on household composition and formation in Malaysia has been obtainable. No provision was made in the 1957 Census and the Household Budget Survey of 1957/58 and at the time of writing no suitable data have become available on household composition from the Department of Statistics' Population Research papers nor in the Socio-Economic Survey. Nor is anything yet available from the 1970 Census.

The basic source of information on household composition used in this report is therefore the primary data collected in the course of the sociological field studies (R 1-4) carried out by the Project. The number of households covered in detail by these studies was 482. The sample is extremely small but the picture obtained from the various kampongs, estates and FLDA schemes is sufficiently consistent for some reasonably firm conclusions to be drawn at least on the nature of Malay rural households. But no statistical tests of significance nor sampling errors have been calculated and the results should be treated with caution.

4.3.1 Household size

The household sizes according to the ages of the heads of the households are shown by ethnic group and for all ethnic groups in Table 4.4. The Sociological Field Study (SFS) data is supplemented in Table 4.4 by data on about 800 rural households in Johor State taken from the 1967-68 Socio-Economic Sample Survey of Households - Malaysia (MSSH). Primary data from the MSSH was analysed for this report. Household size seems to have increased since 1957 but the difference could be accounted for by differences in coverage. The information collected from the MSSH and SFS relates to predominantly rural households, whereas the 1957 information is for the whole of Johor State, including the urban areas where household size was, and probably is below the national average.

The table does, however, reflect a basic difference between Malay and Chinese households. Whereas the Malay household or family is essentially a nuclear one (Djamour, 1965) the Chinese family structure is an extended one, and, as a result, the Chinese household tends to be larger.

4.3.2 Household formation

According to the MSSH (Table 3.0.0 - West Malaysia), the majority of men in West Malaysia get married between the ages of 22 and 32 whereas women get married earlier, most of them being married between the ages of 17 and 27 (see Table 4.5). No split is available between urban and rural areas but, as far as ethnic differences are concerned, there is some evidence that Malays and Indians marry earlier than the Chinese (Table 4.6). (Similar tendencies are evident in Singapore, where the average ages of marriage in 1966 were as follows:

	Years	
	Male	Female
Chinese	27.5	23.7
Indians	29.3	22.2
Malays	26.6	19.3

Source: The Population of Singapore 1966. Demographic Structure, Social and Economic Characteristics.

There is however some disagreement between the MSSH and the Family Survey (FS) Report which was prepared by the National Family Planning Board in 1966/67. The mean age at first marriage of Malay women in West Malaysia was between 16½ and 17½ years according to page 25 of the FS whereas the MSSH data (Table 2.0.0) seems to indicate an average age of marriage of about twenty years. The difference may be accounted for by remarriage but the information on page 74 of the Family Survey suggests that this would not account for the whole of the difference. In this report reliance has been placed on the MSSH data.

Table 4.6, which summarises the data on household composition for the 482 SFS households, seems to indicate that most males and females have left the household by the age of 25. About sixty-five percent of the households in Table 4.7 are Malay, about nineteen percent are Chinese and about sixteen percent are other ethnic groups (mainly Indian). The table is therefore more representative of Malay households than any other.

West Malaysian age-specific fertility and survival rates (pp. 64/65 of Research Paper No.4 by the Department of Statistics) suggest that the Malay girl will, on average, have had about 1.6 children before she is 25 years old, and that between the ages of 25 and 29 she will have a further 1.2 children. The same age-specific fertility rate is applicable to the age-group 30-34 and so, by the time that she is 35 years old, the Malay woman will have had about four children. Table 4.6 suggests, however that by the time she is 35, the Malay woman will have had about six children. The difference is probably accounted for by the fact that fertility rates in rural areas are probably higher than for West Malaysia as a whole, and the SFS data includes data on 189 FLDA households which are larger than the rural average. Table 4.7 shows that the rural Malay household is at its maximum size when the father is about 45 and the mother is about 35.

4.4 Household Composition and Growth in The Project Area

The FLDA applicants who are likely to be selected for schemes if the present criteria for settler selection remain in force will be those with 20 or more points and the majority of these will be between 25 and 30 years of age. The average sizes of the households of those FLDA applicants analysed are similar to the averages for all households in the SFS/MSSH analysis, (Table 4.3).

TABLE 4.3 Average Size of Household by Age-Group of Head of Household and Study

Age-group (years) of the head of the household	Average size of the household (Number of persons)	
	- of FLDA applicants	- of households in the SFS/MSSH analysis
20 - 24	3.7	4.0
25 - 29	4.5	5.0
30 - 34	6.0	6.0

Since the majority of the households in the SFS analysis were Malay households, it seems reasonable to use the data derived from this analysis to project the growth and composition of the households on FLDA schemes in the Project Area. About two-thirds of new land development in the Project Area in the SMP period will be under FLDA schemes and a high proportion of later development seems likely to be under settlement schemes of this kind.

TABLE 4.4

Household Size According to the Age of the Head of Household

AGE OF HEAD OF HOUSEHOLD (YEARS)	MALAYS			CHINESE			OTHERS			TOTAL						
	MSSH(1) Ave. No. of House- holds	SFS(FILDA)(2) No. of House- holds	SFS(NON- FLDA)(3) No. of House- holds	ALL MALAYS Ave. No. of House- holds	MSSH(1) Ave. No. of House- holds	SFS(NON- FLDA) No. of House- holds	ALL CHINESE Ave. No. of House- holds	MSSH(1) Ave. No. of House- holds	SFS(NON- FLDA) No. of House- holds		TOTAL OTHERS Ave. No. of House- holds					
19	2.4	5	-	2.4	5	-	4.7	3	-	3	2.0	3	2.0	3	2.9	11
20-24	3.9	34	-	4.1	38	4.0	4.0	10	8.0	1	4.4	11	3.3	15	4.0	9
25-29	4.6	38	5.5	4.8	61	4.9	5.4	19	6.0	2	5.0	21	5.3	14	4.9	10
30-34	5.9	67	6.1	6.0	125	5.9	6.3	17	6.6	7	6.4	24	6.2	17	5.5	11
35-39	6.8	58	7.6	7.3	127	7.9	10.1	16	6.8	7	9.0	23	7.0	21	7.4	11
40-44	7.3	56	8.5	7.7	106	7.3	7.8	11	9.1	9	8.4	20	7.0	21	10.0	6
45-49	6.8	57	8.8	7.4	111	7.0	8.2	13	11.0	3	8.8	16	7.6	18	8.3	7
50-54	5.2	34	7.5	6.4	72	7.2	6.3	18	3.0	1	6.1	19	6.3	26	7.5	8
55-59	5.4	45	8.7	6.0	68	6.1	5.8	24	7.0	4	6.0	28	6.2	20	5.9	10
60-64	6.2	30	10.0	6.4	45	6.6	4.3	15	10.0	7	6.1	22	3.6	5	5.3	3
65 and above	3.9	48	-	4.3	66	5.3	4.4	22	8.7	7	5.3	29	6.6	5	6.4	7
TOTAL	5.8	472	7.7	6.4	824	6.4	6.2	168	8.1	48	6.6	216	6.1	165	6.5	82
1957 Census - Johor State(4)				5.2	82.5						5.5	69.3			4.1	21.1

(thousands)

(thousands)

(thousands) (thousands)

Sources and Notes:

- (1) MSSH - Primary Data - Round 1, Sample 1, - Rural Households, South Zone (Malacca and Johor States)
 - (2) Sociological Field Studies (FLDA) - Almost entirely Malay
 - (3) Sociological Field Studies (Non-FLDA) - Malay - dominated 'Settlements'
 - (4) Table 19, Report 6, (State of Johor), 1957 Census
- MSSH - Socio-Economic Sample Survey of Households - Malaysia
SFS - Project Sociological Field Studies

TABLE 4.5

Married Persons as a Percentage of the total in each Age-Group - West Malaysia

Age Group	Male	Female	Total Percent
0-14	-	-	-
15-19	1	17	9
20-24	26	59	43
25-29	67	85	76
30-34	88	91	89
35-44	94	88	91
45-54	93	73	83
55-64	87	49	69
65 and above	74	20	47

Source: MSSH 1967/68 - Table 3.0.0 (West Malaysia).

TABLE 4.6

Married Persons as a Percentage of the total in each Age-Group -
South Zone and West Malaysia

Age Group	Malays		Chinese		Indians		Others		All Ethnic Groups	
	South Zone	West Malaysia	South Zone	West Malaysia						
0-14	-	1	-	-	-	-	-	-	-	-
15-19	11	14	2	3	14	12	8	10	8	9
20-24	50	54	24	27	48	47	83	55	39	43
25-29	81	83	68	66	83	78	94	85	76	76
30-34	92	92	87	85	95	91	100	84	90	89
35-44	91	91	92	91	89	90	96	90	91	91
45-54	83	83	86	85	82	80	57	79	84	83
55-64	67	67	71	71	67	67	60	78	69	69
65 and above	56	50	40	43	44	50	100	55	47	47

Sources:

MSSH - Tables 2.0.0 (West Malaysia) and 2.1.0 (South Zone - Johor and Malacca States).

TABLE 4.7

Household Composition (In Term Of Ages) By Age Group Of The Head Of Household

Sample:- All SPS (FLDA and NON-FLDA) Households		Ethnic Group(s):- All																													
Number of People In Age Group		By Age of Head of Household and Sex. (Excluding 'Unknown')																													
Age of Head of Household (years)	UP TO AND INC. - 29	30-34		35-39		40-44		45-49		50-54		55-59		60-64		65+		TOTAL													
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F														
0 - 4	0.7	0.6	1.3	0.8	0.8	1.6	0.7	1.4	0.7	0.6	1.3	0.5	0.4	0.9	0.2	0.3	0.5	0.2	0.6	0.2	0.3	0.5	0.3	0.3	0.3	0.6	0.6	0.5	1.1		
5 - 9	0.4	0.3	0.7	0.8	0.8	1.6	1.0	0.9	1.9	0.9	0.8	1.7	0.7	0.8	1.5	0.5	0.5	0.4	0.8	0.5	0.2	0.7	0.3	0.3	0.3	0.6	0.7	0.7	1.4		
10 - 14	0.1	0.2	0.3	0.3	0.3	0.6	0.7	0.9	1.6	1.1	0.7	1.8	0.9	0.8	1.7	0.6	0.9	1.5	0.7	0.5	1.2	0.5	1.0	0.3	0.6	0.9	0.6	0.6	1.2		
15 - 19	0.2	0.2	0.4	0.1	-	0.1	0.3	0.2	0.5	0.7	0.7	1.4	0.6	0.6	1.2	0.7	0.8	1.5	0.8	0.5	1.3	0.5	0.8	1.3	0.4	0.7	1.1	0.4	0.5	0.9	
20 - 24	0.5	0.4	0.9	-	0.3	0.3	0.1	0.1	0.2	0.2	0.1	0.3	0.4	0.4	0.8	0.4	0.3	0.7	0.5	0.2	0.7	0.4	0.5	0.9	0.3	0.3	0.6	0.3	0.6		
25 - 29	0.7	0.3	1.0	-	0.6	0.6	-	0.3	0.3	-	-	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.4	0.2	0.1	0.3	0.1	0.2	0.3	
30 - 34	-	-	-	1.0	0.2	1.2	-	0.3	0.3	-	0.4	0.4	-	0.1	0.1	-	0.1	0.1	0.1	0.2	0.4	0.3	0.7	0.1	0.1	0.2	0.2	0.2	0.2	0.4	
35 - 39	-	-	-	-	-	-	1.0	0.3	1.3	-	0.4	0.4	-	0.3	0.3	-	0.2	0.2	-	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.4	
40 - 44	-	-	-	-	-	-	-	-	-	1.0	0.2	1.2	-	0.3	0.3	-	0.3	0.3	-	0.2	0.2	-	0.1	0.1	-	0.1	0.1	0.1	0.1	0.2	
45 - 49	-	0.1	0.1	-	-	-	-	-	-	-	-	-	0.9	0.2	1.1	-	0.2	0.2	-	0.2	0.2	-	0.1	0.1	-	0.1	0.1	0.1	0.1	0.2	
50 - 54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	0.1	1.0	-	0.1	0.1	-	0.2	0.2	-	0.2	0.2	0.1	0.1	0.2	
55 - 59	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	0.1	1.0	-	0.2	0.2	-	0.1	0.1	0.1	-	0.1	
60 - 64	-	0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	0.2	1.1	-	0.2	0.2	0.1	-	0.1	
65 - 69	-	0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.1	0.5	-	0.1	
70+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	0.1	0.7	0.1	-	0.1
TOTAL	2.7	2.3	5.0	3.0	3.0	6.0	3.8	3.8	7.6	4.6	3.9	8.5	4.1	4.0	8.1	3.4	3.8	7.2	3.9	2.8	6.7	3.7	3.7	7.4	3.0	3.4	6.4	3.7	3.6	7.3	
NUMBER OF HOUSEHOLDS	49		76	87	65	64	47	37	25	32	482																				

SOURCE: Project Sociological Field Studies 1970

TABLE 4.8

Assumptions For Household Size and Potential
Labour Force Used In The Master Plan

Age Group of the head of household in year of intake	In year of Intake	5 years after intake	10 years after intake	15 years after intake	
(Years)	(Percent)	Household size (number of persons per household)			
20 - 24	20	4.0	5.0	6.0	7.6
25 - 29	65	5.0	6.0	7.6	8.5
30 - 34	15	6.0	7.6	8.5	8.1
Weighted average (rounded)		5	6	7	8

Age Group of head of household in year of intake	Number of persons per household in various age groups and potential labour force per household																
	In age group		In age group		In age group		In age group		In age group		In age group		In age group				
	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54			
(Years)	(Percent)	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
20 - 24	20	0.2	0.2	1.2	0.8	0.2	0.2	1.2	0.8	0.1	-	1.2	0.8	0.3	0.2	1.1	1.0
25 - 29	65	0.2	0.2	1.2	0.8	0.1	-	1.0	1.1	0.3	0.2	1.1	1.0	0.7	0.7	1.2	1.1
30 - 34	15	0.1	-	1.0	1.1	0.3	0.2	1.1	1.0	0.7	0.7	1.2	1.1	0.6	0.6	1.4	1.4
Weighted average participation rate ¹ (Percent)		.19	.17	1.17	.85	.15	.07	1.06	1.03	.32	.24	1.14	.98	.61	.59	1.21	1.13
		66	43	95	50	66	43	95	50	66	43	95	50	66	43	95	50

Number of persons per household "activity seeking work" -	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54		
	.12	.07	1.11	.43	.10	.03	1.01	.52	.21	.10	1.08	.49	.40	.25	1.15	.57

Total assumed (rounded:-)	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54	15-19	20-54
	1.7		1.7		1.9		2.4							

	In year of intake	5 years after	10 years after	15 years after

¹ From page 79 of the MSSH (Department of Statistics, 1970).

It further seems reasonable, for the purposes of Master Planning, to use the data from the SPS analysis to project the growth and composition of all 'new' households in South East Johor. These assumptions suffer from a number of weaknesses - for example that the criteria for settler selection will not change, that family planning will have little or no impact, but they do give some guidance as to the likely growth of households and the nature of that growth during the next ten to fifteen years.

The first basic assumption made is that the intake of households into the Project Area will be headed by men of the following ages:

Age-group (years)	Percentage of total intake (from Table 4.2)
20-24	20
25-29	65
30-34	15
	100

Given this assumption and working from Table 4.6, assumptions for use in Master Planning, about household size, potential household labour force and the number of children within various schooling age-groups can be derived. These assumptions are shown in Table 4.8.

At the time of settler intake the household size is assumed to be five, rising by one every five years to a maximum of eight after fifteen years.

The potential labour force per household is calculated by applying the participation rates for the rural population as given in the MSSH. Between 1962 and 1967 participation rates seem to have remained fairly constant for West Malaysia consequently the 1967 rates have been applied to the age distribution assumed for each household.

Table 4.9 shows the number of children of

various schooling age groups per household. These numbers have been used in Supporting Volume 8 to calculate the number of schools needed in the Project Area and the dates at which they will probably be needed.

4.5 Income and Charges on FLDA Schemes

4.5.1 Oil Palm Schemes

Table 4.10 shows the settler's account for an oil palm holding. The incomes shown are derived from the Supporting Volume 6, Part 2 and are based on an fob price for palm oil of about \$340 to \$420 per ton. The fresh fruit bunches (ffb) yield is assumed to be ten tons per acre per annum in the peak year.

On these assumptions, the average monthly income received by the settler from his work on oil palm from the time that he arrives on the scheme to the end of the 20th year of the life of the scheme is about \$170. On an oil palm scheme the settler pays for all field development costs as incurred, that is for land clearance, and preparations,

planting material planting crop maintenance prior to settler arrival on scheme and other material costs. The cost of his house and site preparation for it are also borne in full. On mature schemes all production costs are charged directly except the following:-

Oil palm processing and transport costs
Management and administration costs,

Oil palm processing and transport costs are charged at the rate of \$21.92 per ton ffb, whereas the costs of management and administration are charged at a rate which varies with the price of palm oil. At the prices assumed here no charge is levied. The settler also pays a replanting reserve charge of \$5.06 per ton.

In addition he pays interest on the costs incurred during the immature period and on the outstanding amount of such a loan at the rate of six and a quarter percent per annum. The nominal interest rate paid by FLDA to the Malaysian Government on loans for oil palm schemes is five and a half percent per annum. but the effective rate of

TABLE 4.9

Assumptions About Children Per Household in Various School Age-Groups

Age Group of the head of the household in year of intake	(Years) (Percent)	Number of Children Within Each Household			
		In year of intake	5 years after intake	10 years after intake	15 years after intake
- Of Primary School Age - (6-11 years inc)					
20 - 24	20	0.5	0.6	1.3	2.1
25 - 29	65	0.5	1.3	2.1	2.1
30 - 34	15	1.3	2.1	2.1	1.6
Weighted average (rounded):-		0.6	1.3	1.9	2.0
- Of Lower Secondary School Age - (12-14 years inc)					
20 - 24	20	0.2	0.2	0.2	0.7
25 - 29	65	0.2	0.2	0.7	1.0
30 - 34	15	0.2	0.7	1.0	0.9
Weighted average (rounded):-		0.2	0.3	0.7	0.9
- Of Upper Secondary School Age - (15-16 years inc)					
20 - 24	20	-	-	0.04	0.20
25 - 29	65	-	0.04	0.20	0.56
30 - 34	15	0.04	0.20	0.56	0.48
Weighted average (rounded):-		0.01	0.06	0.2	0.5
- Of Sixth Form Age - (17-18 years inc)					
Assumed to be two-thirds of upper secondary		0.01	0.04	0.15	0.30
		In Year of intake	5 years after	10 years after	15 years after

TABLE 4.10

FLDA Settler's Account (1) - Ten Acres of 94A FLDA - 1972/91

	YEAR																				Total	Present Value (1972)	64 Per-cent Per Annum					
	1 (1972)	2	3 (1975)	4	5	6	7	8 (1980)	9	10	11	12	13	14 (1985)	15	16	17	18	19 (1990)	20								
Field Development Costs	750	3800	1715	2378	827																9470	8478	1600	1425	67			
House and Houseplot	20	56	1524																									
Subistence Credit			67																									
Sub-Total - Development Costs (2)	770	3956	3306	2378	827																							
SALES REVENUE -																												
- Yield - PFB (Tons) (\$)	20	55	70	85	100	100	100	100	100	100	100	100	100	98	96	94	92	90	88	86	86	1374	682					
- Yield - O11 (Tons) (\$)	3.2	9.35	12.6	16.15	20	21	21	20.58	20.16	19.74	19.32	18.90	18.48	18.06	17.64	17.22	16.80	16.38	15.96	15.54	15.12	281	137.53					
- Kernels (Tons) (\$)	0.7	2.06	2.8	3.61	4.25	4.25	4.17	4.08	4.00	3.91	3.83	3.74	3.66									57.81	27.27					
- Prices - O11 (\$/Ton)	420	410	400	390	385	380	376	369	365	361	358	354	347	344														
- Kernels (\$/Ton - FOB)	370	368	366	364	362	360	358	357	355	353	351	350	348	345	343	341	339	337	335	333	331	344	340					
- Revenue - \$ - FOB	1605	4591	6065	7612	9239	9510	9417	9329	9258	8982	8710	8465	8200	7957	7700	7459	7217	6975	6733	6491	6250	124097	61555					
- Less Duty (7 1/2 Percent)	120	344	455	571	693	713	706	694	674	658	635	615	597	577	559	541	523	505	487	469	451	9291	4610					
- Less Transport and Processing Charges At \$21.92/Ton	438	1206	1534	1863	2192	2192	2192	2148	2104	2060	2017	1973	1929	1885	1841	1797	1753	1709	1665	1621	1577	30117	14939					
- Less Distribution Costs	78	228	308	395	485	505	505	495	485	475	464	454	445	434	424	414	404	394	384	374	364	6666	3283					
- Less Government	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	1993	1056					
- Less Replanting Reserve At \$5.06/PFB Ton	101	278	354	430	506	506	506	496	486	476	466	455	445	435	425	415	405	395	385	375	365	6952	3448					
- Less Maintenance Costs (Mainly Fertilizer)	550	680	770	860	950	950	950	938	926	914	902	890	878	866	854	842	830	818	806	794	782	13924	7051					
Total Production Costs and Charges	1413	2862	3547	4245	4952	4992	4985	4979	4973	4877	4765	4686	4490	4495	4400	4282	4164	4046	3928	3810	3692	68943	34366					
Surplus of Sales Revenue Over Costs & Charges	190	1729	2518	3367	4287	4518	4432	4350	4285	4105	3945	3779	3710	3622	3500	3377	3254	3131	3008	2885	2762	55154	27189					
SETTLER'S INCOME -																												
- Wages, Credits, Prorata	-	-	202 (3)	841	1017	1729	2518	3367	4287	4518	4432	4350	4285	4105	3945	3779	3710	3622	3500	3377	3254	57024	28717					
- Loan Repayment	-	-	-	-	-	(529)	(1318)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(21347)	(10404)					
- Net After Loan Repayment	-	-	202 (4)	841 (4)	1017 (4)	1200 (4)	1867	2787	3018	2932	2850	2785	2605	2445	2279	2210	1962	1800	1677	1515	1351	35677	18315					
SETTLER'S LOAN ACCOUNT																												
- Loan Brought Forward	770	4674	8272	11167	12692	13485	13799	13343	12677	11969	11217	10418	9569	8667	7709	6691	5609	4460	3239	1941	562	562	562	562				
- Interest at 6 1/2 F.A.	48	292	517	698	793	843	862	834	792	746	701	651	598	542	482	418	351	279	202	121	56	10772	6639					
- Loan After Interest and Repayment	818	4966	8789	11865	13485	13799	13343	12677	11969	11217	10418	9569	8667	7709	6691	5609	4460	3239	1941	562	562	562	562	562				
- Loan Outstanding in Year 20																												

(1) From Appendices C and D of the FLDA Feasibility Study

(2) Includes Wages to Settlers

(3) In This Year, The Settler is Assumed to Have Been on the Scheme for 3 Months

(4) To Give a Minimum of \$70 Per Month Until Harvesting, Then \$100 Per Month

interest, taking into account the interest free periods, is about three and a half percent per annum. The rate of interest paid by the FLDA settler to FLDA therefore falls between the rate of 3-3½ percent per annum paid by the Authority to the Government and the 'commercial' rate in Malaysia of about eight percent per annum. An increasing proportion of the finance for FLDA development is provided by the World Bank and the current effective rate of interest on these loans is about 6-7 percent per annum.

Whether or not the rate paid by FLDA is to be regarded as a 'subsidised' rate depends on the policy objectives in the light of which the interest rate is being considered. If it is assumed, however, that the interest rate charged to the settler will continue to be six and a quarter percent per annum, it is useful to consider the charges and phasing of income at this interest rate. Table 4.10 compares the charges paid by a settler with the actual costs of those items for which FLDA makes a charge. Other costs incurred are passed on directly. For purposes of comparison, the series of charges and actual costs over years 1-20 have been expressed in terms of their approximate present values in year one, using a discount rate of six and a quarter percent.

TABLE 4.11 Present Value in Year One
(\$ Thousands)

Processing and transport charges and costs:-	<u>of charges</u>	<u>of actual costs</u>
- mill	6 -6½	4(1)
- operating and transport	8½-9	8(1)
Management costs	-	2 -2½(1)
Replanting Reserve charge	3½(2)	1½-2(2)

(1) From "Oil Palm Profitability and the South East Johor Project" (Working Paper)

(2) See this section.

Table 4.11 indicates that the settler pays more than the total actual costs incurred in developing the scheme and producing the palm oil. The excess in the mill charges and the replanting reserve charge together more than outweigh the gain to the settler through not paying management costs. The management charge is levied according to the following scale:-

<u>Palm oil price</u> <u>(\$ per ton - FOB)</u>	<u>Management levy (\$ per ton ffb)</u>
440 and below	Nil
441 - 460	2.0
461 - 480	3.5
rising to ...	
above 560	9.5

The oil prices assumed in this report are below \$440 and therefore no levy is payable. In addition, of course, he pays export duty on the palm oil. At current rates the present value of the export duty paid over 20 years is about \$4,600 - equivalent to some fifteen percent of net income received plus debt repayments (or twenty-five percent of net income received alone). The management and administration costs assumed in the oil palm costs paper may be on the low side, but even if they are raised from \$40 per acre per annum to \$50 per acre per annum, they would still not fully offset the excess on the mill charges and the replanting reserve charges taken together.

The mill charge of \$9.20 per ton of fresh

fruit bunches is equivalent, on the basis of FLDA's standard ffb yield and a discount rate of six and a quarter percent per annum, to a mill capital cost of about \$300,000 for each ffb ton per hour capacity, assuming full utilisation. This is at least 50 percent higher than the costs actually experienced during recent years (Figure 7 of the Oil Palm working paper). The charge for the ffb transport and recurrent processing costs seems to be more or less equivalent to the costs actually incurred.

The replanting reserve charge is intended to yield \$1,200 per acre at the end of a production period. It is suggested that FLDA should consider making a proportion of the payment optional, at least after a time, and that it should review the method of charging.

The charge is a form of compulsory saving, whereby the settler will end the period of debt repayment not only out of debt but having accumulated assets in cash as well as in land and house. (But it is not clear whether the proceeds of this charge will be used by FLDA for replanting or for planting other crops on behalf of the settler or whether they will be handed over in cash to the settlers themselves to invest or to spend as they like). (The optimum date for replanting the earliest FLDA oil palm schemes, - Kulai and Pasir Raja in Johor will of course depend on price and yield forecasts, but it is highly unlikely to be earlier than 1985). It is reasonable to suppose, however, that in 15-25 years' time a well-established cooperative society or a Farmers' Association should be able to borrow from private sources a substantial proportion of the resources when new planting becomes desirable. If they are prepared to borrow a proportion in the future, it is unnecessary to accumulate the full amount required during the current production period, to be reserved for so specific a purpose, so far in the future. Encouragement of saving for general purposes may be desirable; but that is a different matter.

The second schedule to the Agreement with the Settler shows that the replanting reserve charge is calculated to yield \$1,200 per acre at the end of a production period of 20 years, the fund being accumulated at an interest rate of five and a half percent per annum. But the actual amount charged varies with output, which seems to be unnecessary. The charge could be simply a monthly charge per planted acre. For ten acres of oil palm this would mean a monthly charge of about \$34 per month. Such a charge, if accumulated at an interest rate of five and a half percent per annum, would yield a sum of about \$12,000 at the end of year 25, about 20 years after the first oil yield.

On the basis of the ffb yields shown in Table 4.10, assumed continuation of the charges at present levied, and on the assumption that the settler will receive, in some form, about \$1,200 per acre at the end of year 25, the effective interest rate paid on the fund is less than one percent per annum. The second schedule of the Settler's Agreement states that "in any given year any surplus resulting from the application of the above formulae shall be used to reduce the charge for the subsequent year". This adjustment would not need to be made if the charge were set as a fixed monthly charge per planted acre.

The effect of exemption from any compulsory payment into the replanting reserve and of charging actual processing and distribution costs, could be to raise the settler's net income (currently received) by at least thirty percent per annum. Even if the settler paid about \$40 per acre per annum for the management and administration costs incurred, but was charged the processing and distribution costs as incurred and given the option of not paying the replanting reserve

charge, his net income (currently received) could be raised by something like eight to ten percent.

In Table 4.10, the price assumption for oil and kernels combined was about \$370 per ton fob (average at a discount rate of six and a quarter percent per annum). If the combined price is assumed to be about ten percent higher the net income rises by about thirty percent. If the price falls by ten percent the net income is of course about thirty percent lower.

4.5.2 Rubber Schemes

Table 4.12 shows the settler's account for rubber if he has a ten acre share. The incomes shown are again derived from the Sv 6 Part 2 FLDA Programme and are based on an fob price for rubber of fifty cents per pound (110.2 cents per kilogram). The peak yield is assumed to be 1,620 pounds per acre.

On these assumptions, the average monthly income received by settler from his work on the rubber scheme from the time that he arrives on the scheme to the end of year twenty is about \$170 - about the same as on an oil palm scheme. But whereas on the rubber scheme the settler still owes about \$9,000 at the end of year 20, on the oil palm scheme he only owes about \$560.

On a rubber scheme costs repaid by settlers and facilities provided are similar to those described for oil palm schemes. Management costs are however recovered at varying rates for rubber prices of sixty-six cents or more. (If the rubber holding is ten acres the levy is imposed according to the following scale:

Price/lb RSS1 fob	Management levy/lb
Below 66 cents	Nil
66 - 70 +	1 cent
71 - 75 +	2 cents
rising to	
above 90	6 cents

see page 4 of FLDA Budget Estimates, 1971). In addition the settler pays

- (i) a research cess of one cent per pound which finances, or goes towards financing, the research, marketing and extension work of the Rubber Fund Board;
- (ii) an ad valorem export duty which rises progressively with the price, but which at a price of fifty cents per pound is two cents per pound; and
- (iii) a replanting cess of 4.5 cents per pound on exported rubber.

These cesses and duties account for about fifteen percent of the sales revenue when the average fob price received is fifty cents per pound. At a discount rate of six and a quarter percent per annum, they account for twenty percent of an FLDA Settler's received income plus debt repayment, (thirty percent or more of the net received income alone). Although the actual tax burden will be less than the apparent burden if the supply elasticity is positive and the price elasticity of demand is not zero, since such elasticities imply some shifting of the tax to the consumer (see Tan Hui Heng). The research and replanting cesses are intended to be specific purpose taxes whereas the export duty is a general tax, not linked with specific expenditure.

The research cess is a specific purpose tax since it finances the considerable research activities of the Rubber Fund Board, and therefore gives specific purpose benefits which are recognizable (though it can be questioned whether too much or too little is spent on rubber research relative to research on other crops or even other types of Government expenditure). The research cess is about two percent of sales revenue at a fob selling

price (fob) of fifty cents per pound.

The replanting cess is also a specific purpose tax but the specific benefits to individual payers of the cess are less closely matched to the amount they pay. The rubber replanting cess is payable by the FLDA settler since he is classified as a smallholder and all rubber smallholders have to pay the cess of 4.5 cents per pound drc. If replanting is carried out in year twenty-five the present value (in year one) of the cost of replanting and of maintaining the new trees in the immature period using a discount or interest rate of six and a quarter percent per annum is probably less than \$200, (The present value in year 25 of the cost of replanting and maintenance would be about \$1,000 using an interest rate of six and a quarter percent per annum. The present value of this in year one (again using an interest rate of six and a quarter percent per annum) is about one-fifth of \$1,000, or about \$200) per acre. A further sum would be required to provide an income during the immature period of six years. If an income of \$240 per acre per annum is assumed to be required (equivalent to about \$200 per month for ten acres), the present value in year one of such an income received during the years 25-30 inclusive is about \$250 per acre. Thus the present value in year one (again using an interest rate of six and a quarter percent per annum) of the total sum required is about \$450-\$500 per acre or about \$5,000 per settler. The present value in year one of the replanting cesses paid from years eight or nine to twenty-five (at six and a quarter percent per annum) is in fact about \$4,000. Thus if the Rubber Fund Board merely provided a revolving fund paying out the same amounts as it receives, the cesses would provide a sufficient sum to cover replanting costs and to provide a good income during the immature period. In fact however the Rubber Fund Board's Fund 'B' provides only \$750 per acre to smallholders for replanting, plus some extension services in the supervision of replanting or new planting schemes. These services cost about \$75 per acre planted. The present value in year one of \$825 received in years 25-30 is less than \$200 using an interest rate of six and a quarter percent per annum. For ten acres the settler therefore receives less than \$2,000 in present value terms compared to payments into the fund of about \$4,000, it present levies and payments are maintained throughout.

It should be emphasized that the current level of cess is levied on all smallholder producers, the vast majority of whom are obtaining yields substantially below those projected for future FLDA plantings (the current national average is 750 pounds per acre). As average yields rise, the levy per pound needed to provide a given sum for the fund will fall. If the fund is to be used on a revolving basis - if expected income is to be approximately balanced against expected payments, it must be expected that a lower replanting cess will be levied in future, or that replanting grants will be raised.

Thus as on oil palm schemes, FLDA settlers not only repay the costs of developing the present scheme but they also have to set aside a large proportion of their income to pay for the replanting of the same scheme twenty or more years later. Again as on oil palm schemes, the settlers appear to be given a share of the profits, rather than acknowledged landowners taking all the surplus above costs incurred. But the general tax element on FLDA rubber schemes seems to be lower than that imposed on FLDA settlers on oil palm schemes. The net incomes received on the two types of schemes are similar (over twenty-five years) because of the higher profitability of oil palm.

4.5.3 A Comparison of Rubber and Oil Palm Incomes and Problems of Phasing

Table 4.13 compares the incomes on FLDA rubber

TABLE 4.12

FYDA Settler's Account - Ten Acres Of Rubber - 1972/91

YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	Present Value At:- Cent Per- cent Per Annua	
	(1972)	(1975)	(1980)	(1985)	(1990)	(1995)	(2000)	(2005)	(2010)	(2015)	(2020)	(2025)	(2030)	(2035)	(2040)	(2045)	(2050)	(2055)	(2060)	(2065)			
Field Development Costs	\$780	3070	2030	1314	1413	1160	930	843													11540	9726	
House and Houselet	\$20	56	1524	-	-	-	-	-													1600	1423	
Subsistence Credit	\$-	68	-	81	-	255	342														746	525	
Total Development Costs	\$800	3126	3622	1314	1494	1160	1185	1185													13886	11674	
SALES REVENUE -																							
Output (Lbs. Of Dry Rubber)	\$								5500	9000	11300	12750	13500	14400	15300	16200	16200	16200	16200	16200	162750	69942	
FOB Revenue (At 50 cents/lb)	\$								2750	4500	5650	6375	6750	7200	7650	8100	8100	8100	8100	8100	81375	34971	
Less Export Duty (2 cents/lb)	\$								110	180	226	255	270	288	306	324	324	324	324	324	3255	1399	
Less Research Cess (1 cent/lb)	\$								55	90	113	128	135	144	153	162	162	162	162	162	1628	700	
Less Replanting Cess (4.5 cents/lb)	\$								247	405	509	574	608	648	689	729	729	729	729	729	7325	3148	
Less Processing and Distribution (7 cents per lb)	\$								385	630	791	893	945	1008	1071	1134	1134	1134	1134	1134	11393	4896	
Less GAC	\$								116	116	116	116	116	116	116	116	116	116	116	116	1392	628	
Less Maintenance Costs	\$								300	300	300	300	300	300	300	300	300	300	300	300	3600	1623	
Total Costs and Charges	\$								1213	1721	2055	2266	2374	2504	2635	2765	2765	2765	2765	2765	28593	12394	
Surplus of Revenue Over Costs and Charges	\$								1537	2779	3595	4109	4376	4696	5015	5335	5335	5335	5335	5335	52782	22577	
SETTLER'S INCOME -																							
Wages, Credits and Profit	\$								202	1040	835	870	835	835	835	835	835	835	835	835	57402		
Less Loan Repayment	\$								(337)	(1597)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(21916)	(9553)	
Net Income	\$								202	1040	835	870	835	835	835	835	835	835	835	835	35486	16492	
SETTLER'S LOAN ACCOUNT																							
Loan Brought Forward	\$								800	3976	7847	9651	11748	13642	15680	17845	18960	19808	19467	18684	17852	16968	16029
Interest At 6 1/4 Per Annum	\$								50	249	490	603	734	853	980	1115	1185	1238	1217	1168	1116	1061	1002
Repayment	\$								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Loan After Interest and Repayment	\$								850	4225	8337	10254	12482	14495	16660	18960	19808	19467	18684	17852	16968	16029	15031
outstanding loan in Year 20	\$																				9022	9022	2851

and oil palm schemes. The data are derived from Tables 4.10 and 4.11. Before comparing the two types of crops some items in the table require explanation. The net income figure halfway down Table 4.13 shows the net income that could be paid to the settler every month over the periods specified (20 and 25 years). The income on rubber schemes is considerably lower than the income from oil palm schemes if the development costs are repaid over twenty years because of the longer immature period for rubber.

The net income figures are those payable on the basis of present charges and taxes and of the assumed yields and prices given in the Table. On the basis of a life for the crops of twenty-five years the net income would be about thirty and twenty percent higher for oil palm and rubber schemes respectively if prices were ten percent higher than those assumed in Table 4.13.

A paper prepared within the Government in 1970 showed that the replanting cess is a heavy burden on the rubber smallholder (in the case of estates the cess is collected through Schedule IV tax and returned unconditionally on the basis of production). It recommended (i) that the replanting grant should be increased for holdings of less than ten acres, (ii) that for estates no further replanting grants should be given and (iii) that for smallholders the cess should be reduced to three cents per pound. As far as smallholders are concerned, this is probably the minimum revision that should be made, but these recommendations are endorsed as constituting a step in the right direction.

Export duties and research and rubber replanting cesses are outside the direct control of FLDA. Accepting this FLDA is tending to 'subsidise' the settler on a rubber scheme

TABLE 4.13

A Comparison Of Incomes For FLDA Settlers
On Rubber And Oil Palm Schemes

	Revenues and costs on a dollar per month basis using an interest rate of six and a quarter percent per annum from year three ⁽¹⁾ to:-			
	The end of year 20		The end of year 25	
	<u>Oil Palm</u> ⁽²⁾	<u>Rubber</u> ⁽³⁾	<u>Oil Palm</u> ⁽⁴⁾	<u>Rubber</u> ⁽⁴⁾
Sales Revenue	550	313	555	370
Less:-				
Production costs charged directly	102	21	104	23
Charges for other items - not charged directly	133	44	136	51
Export Duty and rubber research cess	41	18	41	22
Replanting charges	30	28	31	33
Repayment of development costs	81	80	70	70
Equals:-				
Net income	163	122	173	171
Management and administrative costs at \$50 per acre from year two:-	49	49	49	49
Actual costs of other items	110	36	108	43
Assumptions:-				
Prices ⁽⁵⁾	\$370/ton	50cents per lb.	\$370/ton	50cents per lb.
Peak yield	10 ffb tons/acre	1,620 lbs. per acre	10 ffb tons/acre	1,620 lbs. per acre
First year of yielding	5	9	5	9

- (1) These are the revenues and costs converted to a constant monthly sum over the stated periods from the third quarter of year three. The "net income to the settler" figure is therefore the constant sum which could be paid to him each and every month and still enable him to repay all the stated costs and charges together with interest at the rate of six and a quarter percent per annum.
- (2) Derived from Table 4.10.
- (3) Derived from Table 4.11.
- (4) Derived from Tables 4.10 and 4.11 and Supporting Report 6 Part 2.
- (5) For oil palm schemes, the price is the average price for oil and kernels combined.

by paying the management costs and to slightly 'tax' the settler on an oil palm scheme, by more than offsetting the management and administrative costs by the differences between the other charges and costs.

In the Draft Project Report, it was suggested that FLDA should review some of the charges levied on the settlers (especially on oil palm schemes) and that the Authority should consider giving the settlers the option of taking a higher subsistence loan in the early years as well as giving them the option of paying into a replanting reserve fund.

The reasons for suggesting a review of charges on oil palm schemes has already been stated. But in addition there seems to be a good case for re-phasing the income receivable by FLDA settlers on both oil palm and rubber schemes. The opportunities for earning additional income to that provided by work on the main crop are limited in the early years of the scheme. The credit available in the rural sector is rarely available for expenditure on consumption goods, except from moneylenders and dealers. The effective rates of interest on money borrowed from these sources are very high compared to the rates of interest on credit provided by the commercial banks. (The cheapest credit available in the rural sector is probably that provided by the Rural Cooperative Credit Societies. But even here, at least until recently, the rate of interest was above eight percent per annum and the credit is limited to "productive purposes". (based on unpublished papers from the Department of Cooperatives, Ministry of National and Rural Development))

From evidence of the sociological field studies, FLDA settlers often cannot afford the cost of education for their children especially at the Lower Secondary Level, because of the cost of transport, school uniforms, etc and the Draft Project Report suggested that serious consideration should be given to subsidising school transport, books, etc. Such subsidies should of course be extended to benefit all school children in the rural areas.

In addition FLDA should give the settler the opportunity of taking a higher minimum income in the early years either by raising the task rate or by giving larger loans. Table 4.13 showed that over a twenty-five year period a constant income of about \$170 a month could be paid, if charges and taxes continue to be levied at the present levels and if projected yield and price levels were obtained. But the projected income stream could be rephased in a number of ways as shown in Table 4.14.

TABLE 4.14 Alternative Phasing of Expected Settler Incomes Over First 25 Years of Scheme

Method	Income (\$ per month)			
	Rubber		Oil Palm	
	Immature	Mature	Immature	Mature
Present structure	70	100-280	70	100-250
Minimum of \$100 in immature period	100	210	100	190
Constant	170	170	170	170

This comparison shows that \$100 per month could be paid in the immature years with very little risk of the later income below this. The prices assumed are fairly pessimistic (\$370 per ton for oil/kernels and fifty cents per pound for rubber), the immature periods assumed are long (four and eight years from the year of clearing for oil palm and rubber respectively), and the life of the crop is unlikely to be less than that assumed here (25 years). In addition there are additional safety valves in the form of the high taxes and saving funds collected by the Treasury or FLDA.

Under the present system of charges and taxes, the settler could still be paid a constant income of \$100 a month over the life of the crop if the prices were about fifteen and twenty percent lower for palm oil and rubber respectively than the low prices already assumed.

4.6 Employment on FLDA Schemes

At the end of 1969 the acreage planted by FLDA was about 257,000 acres - see page 8, FLDA 1969. This was split almost equally between oil palm and rubber. It is envisaged that the large majority of land to be developed by FLDA within the next five to ten years will also consist of oil palm and rubber. The main source of employment provided on FLDA schemes will therefore continue to be oil palm and rubber cultivation.

The labour requirements of these crops vary between estates (because of differences in yields, and the type of work organisation) and as far as the settlers are concerned, they could also vary or be varied on FLDA schemes depending on the extent to which tasks such as distribution and internal transport on the schemes are sub-contracted.

The Working Paper on oil palm (R9) suggests that, for yields rising to a peak of ten or twelve ffb tons per acre, an oil palm scheme gives full time work to weeders and harvesters on the basis of about ten planted acres per worker. If other activities such as processing and distribution are included, this falls to about nine acres per worker. The labour demand over the life of the scheme is fairly constant, although if all operations are included, the labour requirement falls slightly as time goes on. The seasonal variation in the labour requirement is small and does not significantly affect the above conclusions.

On rubber schemes the labour requirement for crop maintenance and tapping can vary considerably depending on the tapping system adopted. On the basis of the most likely yields assumed in this report, it seems to be fairly constant at about ten acres per worker per annum except that towards the end of the immature period (about the fifth and sixth year after the settler's entry onto the scheme) the acreage which one person can handle rises to about fifteen.

The problem has been recognised of unemployment on FLDA schemes arising from the difficulty of variations in the labour requirements of the main crops when the labour force per household is given. A paper (Tan Sri Taib, 1967) stated that "While during the first eighteen to twenty-four months after they move into a scheme, the settlers' full time labour is required for the full twenty-five or twenty-six working days of each month, from the third year till the maturity of the main crop the labour requirement for maintenance in their own block or lot of the main crop will decline progressively. This means that if the settler's income during the immature period is to be increased or at least kept constant, other avenues of work or income must be provided". The paper then went to list various possible sources of additional employment, such as work on nearby FLDA and non-FLDA schemes and work on subsidiary crops or businesses.

But in addition to the above problem, unemployment or underemployment is also likely to arise on FLDA schemes because of growth in the labour force per household. As the settler's

family grows in size and grows up, the number of people looking for work in the family also grows. The size of the initial labour force per household and the rate of growth in that labour force will depend on the settler selection criteria.

If, for example, the settler is aged about twenty-seven years on entry to a scheme, the number of people in his family looking for work, including the settler himself, will average between one and a half and two. If on the other hand the settler is aged about forty-two on entry there will be about two and a half people looking for work in each household. From then on the labour force remains fairly constant at about two and a half to three workers per household, so that if the main crop (on the present acreage basis) gives full employment for the head of the household only, an additional one or even two jobs is required per household if there is to be full time employment and if older settlers are to be selected. If on the other hand, preference is to be given to younger settlers as at present, there is likely to be less unemployment and underemployment on FLDA schemes for the ten to fifteen years after intake, since the average number of additional jobs required will be between a half and one.

The likely extent of subsidiary employment on the same FLDA scheme in the same phase of development is not known - it will, in any case, obviously depend on the ways in which the schemes are run. Possible sources of such employment are retail shops, restaurants or coffee shops, and other types of service facility (barbers, repair shops for bicycles, radios, sewing machines, etc.). Although the facts are not known precisely, it is reasonable to suppose that the extent of this employment is likely to be correlated with the disposable incomes from the main crop. Under the present loan arrangements on FLDA schemes, the disposable incomes of the settlers will not grow rapidly until the main crops come to maturity.

Thus although it is not possible to be very precise about the extent and phasing of unemployment and underemployment on FLDA schemes, it is clear that four factors are crucial:-

- i) the settlers age at intake;
- ii) the phasing of the income from the main crop; and
- iii) the employment off the scheme;
- iv) the desire of children of working age to remain with their parents.

The acreage of the main crop allotted to each settler will affect the level of unemployment rather than its growth whereas the above four factors will affect the level and growth of the labour force in the household and, the growth in employment additional to that provided by the main crop.

With fixed acreages per settler there is no easy method of avoiding the emergence of unemployment on FLDA rubber or oil palm schemes. There is no system of intercropping which would lead to a rising demand for labour as the size of the settler's household grows and at the same time give comparable incomes to mono-crop cultivation. Rephasing of income (more in the earlier years) would help to generate more jobs sooner, through the expenditure of that income on and around the scheme. Areas nearby could be held back for development later by FLDA thus providing more jobs later when the households on the earlier schemes have grown. This would initially spread the infrastructural costs (such as access roads, schools, etc.) over fewer schemes and therefore would raise the costs of development. Some of the river valleys in Tanjong Penggarang might serve this function. Mixing FLDA schemes with public or private sector schemes would provide more opportunities for matching the labour demand and supply in the Project Area and

this mixing has as far as possible been embodied in the Master Plan. But with FLDA schemes taking up two-thirds of the agricultural programme for the SMP, and probably a high proportion later, the opportunities for this type of integration are limited. Encouraging dependants to find work on other FLDA schemes has already been introduced by FLDA - youths are already given the opportunity of participating in FLDA Youth Brigades. These were formed in 1969 to carry out agricultural maintenance works in new schemes.

Varying the acreage per household over time would of course be some solution, but this contradicts the settlement objective of FLDA schemes. There is, in brief, no easy solution to this problem. FLDA has an element of underemployment built into the schemes because of the fixed acreage per household. But this is not necessarily undesirable if it is considered in the light of present and prospective national unemployment and underemployment and the long waiting list for FLDA schemes (Supporting Volume 10).

4.7 Summary

The purpose of this chapter is to:

- (i) set out some of the assumptions on settler selection, employment and household size that have been made in the Master Plan;
- (ii) examine the likely incomes on settlement schemes from the main crops of rubber and oil palm;
- and (iii) examine the likelihood of unemployment and underemployment on settlement schemes and discuss the problem in the context of planning the Johor Tenggara Area.

FLDA's present settler selection criteria are aimed at those who are landless, married and aged between 18 and 35 years, with preferences being given by a point system within these three constraints to those aged between 25 and 30 years of age with the largest number of children. In order to derive the likely intake of settlers into the Johor Tenggara Area, an analysis of applications outstanding for FLDA schemes in Johor State was undertaken in 1970 and 1971. This analysis was then combined with a further analysis of the size and composition of households in rural areas of Johor State, to derive the following assumptions for the planning of Johor Tenggara:

	Number Per Household			
	In	5	10	15
	year	years	years	years
	of	after	after	after
	intake	intake	intake	intake
Persons in Household	5	6	7	8
Labour Force	1.7	1.7	1.9	2.4
Children of:				
- primary school age	0.6	1.3	1.9	2.4
- secondary school age	0.2	0.3	0.7	0.9
- upper secondary school age	0.01	0.06	0.2	0.5
- of sixth form age	0.01	0.04	0.15	0.3

These assumptions have been used to derive the year-by-year infrastructural facilities required in the Project Regions and thus to arrive at the cost of supplying housing, educational facilities, water supply and social 'infrastructure' in the Regions (S.V.8).

The basic FLDA objective is to provide a target income to the landless through land development of \$300 a month in the yielding period, and land holdings and charges are adjusted periodically in attempts to give this target income. A settler

who remains on an FLDA scheme until the oil palms or rubber trees begin to yield enters into two agreements with FLDA, and at the end of the repayment period for the crops he either owns an individual plot or is a cooperative shareholder in the scheme.

In the period before the crop starts to yield, the settler receives a minimum income of about \$70 a month, which together with other development costs incurred by FLDA he repays to FLDA over the yielding period of the crop. Any part of the loan which is outstanding bears interest at 6.25 percent per annum, which is between the rate at which the FLDA borrows from the Government and the commercial borrowing rate in Malaysia.

On the basis of the present structure of duties, taxes, FLDA charges and costs, the income receivable by the settler from 10 acres of the main crop, after deducting loan repayment, is equivalent to a constant \$170 a month from the settler's entry. This assumes an interest rate of 6.25 percent per annum and average oil-kernel and rubber prices of \$370 per ton and 50 cents a pound respectively. The incomes obtainable from the two crops are similar over a 25 year period despite the fact that oil palms are, at the assumed prices and yields, more profitable; the reason for this is that the FLDA charges for certain development items on oil palm schemes are above the costs incurred and because the tax element on oil palm is higher than on rubber. If the settlers were charged for costs, including the management costs, as they are incurred by FLDA, but if at the same time they were exempted from paying all cesses, duties and the replanting reserve charge, their net disposable income would be 30 percent higher on oil palm schemes and 5 to 10 percent higher on rubber schemes.

How these differences arise is shown below;

Income per month at an interest rate of 6.25 percent per annum for a 'scheme life' of 25 years.

	Oil Palm	Rubber
Income with the present duties, cesses, FLDA charges and costs	170	170
Add back:		
- the excess of FLDA charges over costs	28	8
- export duties and rubber research cess	41	22
- the replanting charge and cess	31	33
Deduct:		
- Management costs	(50)	(50)
Income without payment of any duties or cesses or replanting charges but after deducting all costs, including the costs of management:-	220	183

This chapter has recommended that FLDA should review and revise its charges on oil palm schemes, including the replanting reserve charge, and that the Government should review and revise the replanting cess levied on smallholders' rubber output. The Government should also consider revising duties levied on oil palm and rubber exports, with a view to raising incomes in the rural sector and encouraging investment in agriculture.

It has also been recommended that FLDA should revise the phasing of the settlers' income and, specifically, should give the option of a minimum income in the pre-yielding years of at least \$100 a month. Such re-phasing by increasing the expenditure on and around the scheme in the early years, would almost certainly lead to a faster build-up of secondary activities on the schemes. Such a build-

up would tend to reduce the underemployment on FLDA schemes, although, with fixed acreages per household, the emergence of unemployment and underemployment on the schemes is difficult to avoid.

This is because the work provided by oil palm and rubber cultivation is fairly constant over its life, whereas the work-force per household increases over time. The number of people in each household looking for work and the rate at which this number increases through time depends very much on settler selection. If the settlers are less than 30 years of age when they first enter the schemes, the number of people from each household looking for work is between 1.5 and 2 for the first 10 years, whereas if the settler is aged 35 or over on entry, there are likely to be at least 2 'surplus' workers per household if it is assumed that 10 acres of the main crop can be looked after by 1-1/4 workers.

Varying the acreage per household over time would conflict with the settlement objective of FLDA schemes: thus there is no easy solution to this problem. But it needs to be emphasised that the question whether or not building underemployment into FLDA schemes is desirable, can only be decided in the light of the national employment and income distribution policies.

APPENDIX A

EDUCATION AND HEALTH

1. INTRODUCTION

As part of the work on social development, a set of Guidelines on the Provision of Social Services was prepared in 1970, for use by the Consultants. (R 7) In addition to describing the criteria for provision used by the relevant Ministries and analysing the existing situation in Johor with regard to certain types of services, the Guidelines included brief notes on factors which should be taken into consideration when designing new services to meet the needs of the Project Area. These factors were derived from the evidence supplied by the Sociological Field Studies and from discussions with officials in various government departments. Although the Guidelines were intended as a Working Paper for use by the Consultants, it has been considered useful to reproduce an edited and shortened version as an appendix in order to show the principles which have guided the planning of education and health provisions. For details regarding the recommended spread of these services see Supporting Volume 8, Settlements, Communications and Services.

Sections 2 (Education), 3 (Health) and 4 (Family Planning) of this Appendix are reproduced from the Guidelines. For additional information regarding Welfare Services, Employment Services and Rural Development and Adult Education, see the original Project paper. The final two sections of this Appendix summarise two project papers on Malaria and Nutrition.

The sections on education, health and family planning, when dealing with the system as a whole, and presented in a pattern which is more or less uniform, covering: general description, organisation in Johor, criteria for provision in Johor, existing provision in Johor 1970, planning procedures, provision in FLDA schemes, staffing, factors to be considered in relation to a new land development area.

The section on education (2) deals with primary education (subsection 2.2), secondary education (3), vocational schools (4), technical schools (5), transport (6), school meals (7), school aid (8).

The section on health (3) deals with hospitals (subsection 3.1), main health centres and subcentres (3), in industry (4), travelling dispensaries (5), static dispensaries (6), dental services (7), water supplies (8).

The section on family planning (4) deals with the subject according to the pattern explained earlier.

The section on Malaria (5) considers incidence in W. Malaysia and Johor, the malaria eradication programme, and recommendations.

The section on nutrition (6) considers levels of nutrition, home economics, school health programmes and subsidies.

2 EDUCATION

2.1 General

A Federal responsibility with the Ministry of Education responsible for primary, secondary and tertiary education as required under the Education Act of 1961. Under Minister and Director General - Deputy Director General responsible for the overall administration of the Ministry, with particular responsibility for Divisions of Finance, Establishment, Development, Administration, National Language, Religious Instruction, Scholarships and Training, Unified Teaching Service. Chief Education Adviser gives advice to Minister and Director General on all

educational matters but has particular responsibility for Division of Inspection of Schools, Teacher Training, Comprehensive Education Schools Examinations, Technical Education, Registration and Planning and Research. At State level, administrative machinery operates through the State Education Office headed by Chief Education Officer (CEO) working to the Director General through either the Deputy Secretary or the Chief Education Adviser. CEO attends State Development Committee meetings.

A particular Ministry concern for the 1970's is the implementation of Bahasa Malaysia as teaching medium for all students, including higher education, by 1983. English is a compulsory second language, with Chinese or Tamil if parents of 15 or more children in any one school request it.

2.2 Primary Education.

a) General - primary education has been available for children from 6 to 12 years in 4 mediums of instructions: Malay, English, Tamil and Chinese. Beginning in 1970, all children entering Standard I English Type Primary School will be taught in Bahasa Malaysia.

The syllabus, as devised by the Federal Syllabus Committee and ratified by Parliament, includes lessons on local environment, jobs, health education and civics and visits outside the school are encouraged.

Primary education is free in all assisted schools, but parents must provide text books, over and above those provided by the Ministry, sports fees, bus or taxi fares and school uniforms (approximate total \$40 per annum). Schools are assisted at a rate of \$4 per head over and above salaries.

Although education is not compulsory, 98 percent of children aged 6 years enter Standard I. The drop out rate during the six years of primary education, according to statistics provided by the Ministry of Education, is very small i.e. 97 percent of those commencing Standard I in Malay medium primary schools in 1961 completed Standard 6 six years later. However, the annual average dropout rate from Standard VI to Form 1 and Remove (Secondary) is 31 percent, i.e. only 69 out of every 100 children go on to secondary school (Baharuddin and Shaharuddin, 1969).

Primary School
Enrolment by medium of instruction Malaysia 1967

	Children	Percent
Malay medium	108,579	43
English medium	55,770	22
Chinese medium	67,791	27
Tamil medium	16,104	7
	248,244	

(Source: School enrolments 1967-77 E.F.R.D. 14.4.69)

b) Organisation in Johor - primary education administered by District Education Officers (DEO) under CEO. Education districts follow those of other administrative districts in State. The DEO is normally based in his district; in the case of Kota Tinggi, the DEO operates from headquarters in Johor Baharu to overcome problems of accessibility to the Penggerang Peninsula. DEO's are responsible for teacher welfare, school inspection, staffing and forward planning. They may be required to submit evidence and plans for projects suggested by the Education Department for inclusion in 5 year plans, or may propose development according

to needs expressed in their areas. The State Department will investigate DEO's suggestions before putting them to the Ministry.

c) Criteria for provision in Johor - a primary school will be established where there is a sufficient population between 6 and 12 years within a three mile radius. While theoretically a class will be established where there are thirty children of one age, the Department will normally build three-classroom schools, although some village schools have been constructed as two classroom schools. Maximum expansion for any one school is ten classrooms or 1,000 pupils. Ideally the pupil teacher ratio should be 1:35 but most schools operate on a ratio of 1:45 or 1:50. Same criterion applies to schools on private estates (a Ministry responsibility) and FLDA schools.

d) Existing provision Johor 1970 - Primary schools, excluding private schools = 751. Total enrolment = 250,000 pupils.

e) Existing number of primary schools in Kota Tinggi district as at 31.1.69 (Johor Education Department, 1969).

Malay medium	27
English medium	2 (Penggerang and Kota Tinggi)
Chinese medium	15 (Ministry maintained)
Private Chinese (aided)	2 (some assistance)
Tamil medium	8 (on estates Ministry maintained)

Total population of these schools as at 31.1.69 is 9,498 pupils. The smallest Malay medium school in the Kota Tinggi district had 41 pupils; the largest 647. The two English medium schools have populations of 158 (Penggerang) and 955 (Kota Tinggi). All Malay and English medium primary schools have a Religious Teacher, 50 percent of whose salary is paid by the State Government from its Social Welfare budget. Excluding these teachers the teacher/pupil ratio differs from school to school (Malay medium) by such margins as 1:20-1:45. Similar discrepancies in teacher/pupil ratios apply to Chinese and Tamil schools.

Existing number of primary Schools in Kluang District as at 31.1.69
(Johor Education Department, 1969)

Malay medium	35	(average teacher/pupil ratio = 1:32)
English medium	1	(Batu 3, Jalan Mersing - 257 pupils)
Chinese medium	24	(Sizes 17 to 1,212 pupils; average pupil/teacher ratio = 1:32)
Tamil medium	21	

f) Planning procedures - average time planning to completion is two years. Primary school needs are assessed by District Education Officer and checked by State Department; the site is selected and negotiated; plans are submitted to Ministry under 5 year plan; at same time the JKR is asked for estimates and will invite tenders; modifications by Ministry; re-submission of plans by State; Ministry approval; JKR construction. Delays occur at site selection (physical and ownership problems), Ministry level and at JKR stages. Latter due to 1) insufficient capacity; 11) lack of tenders for small projects in rural areas. JKR delays up to three years have been known on some educational projects in Johor. Two to three years advance warning is necessary for implementation of new educational development plans. Primary schools built to standard plans designed by the Ministry.

g) FLDA - premises, staff, and staff quarters are provided by Ministry of Education. FLDA informs the Ministry and State CEO of development plans and co-ordinates with them regarding provision of schools for its schemes; District Education Officer

is brought in to assess primary school needs on the basis of information provided by FLDA. Only number of settler families available. Education Department bases provisions on two children of primary school age per settler family - this achieves 85-90 percent accuracy. Two years prior planning notice required. Same criteria for provision used as for State as a whole but the number of families to be settled during various phases of FLDA schemes has always warranted construction of six classroom schools. These can be expanded to 10 classroom schools i.e. two sessions, total 1,000 pupils. Recent interviews with Johor Education Department also suggest that the Department would like 12 classroom schools in one session. Some Treasury constraints on the actual number of classrooms built - usually 6 for 2 sessions (this does not apply to FLDA alone). Same planning procedure applies as in f) but fewer delays occur since the site is provided and FLDA schemes tend to be given priority by all departments concerned. Schools are usually built in time for the first wave of settlers and families but FLDA settlement targets are sometimes put back to take into account delays in provision of services by other departments. Where premises are not completed on time, FLDA provides temporary accommodation. Ayer Tawar primary school planned for first wave of settlers by 1971.

Note: Some problems have been experienced regarding provision of staff quarters on FLDA Schemes:-
i) delays and ii) bachelor quarters unsuited to family life when teacher marries - may result in problems of recruitment to other schools. On the other hand, some thought that teachers may not want to live in settler-type houses because of the problems of status.

h) Staffing - There is very little evidence of acute difficulties in recruiting staff to primary schools but some problems occur in rural areas. No financial incentives are given for work outside towns. Government teachers appointed before 1957 liable for automatic transfer. Teachers in the Unified Service recruited after 1957 are free to move at will after completion of five years contract period. Any vacancies may be filled by temporary unqualified teachers on lower salary scale. On the whole it would appear that staffing shortages will not impede extension of primary school facilities to rural areas but the provision of teachers' quarters by the education department is an added incentive.

1) Factors to be considered in relation to new development areas:-

- for primary education, accurate information is required on family size, ethnic composition of settlers, timing of settlement;
- evidence that settlers are unwilling to move into a new scheme unless they can be assured that primary education facilities are immediately available;
- construction delays at all stages but particularly site selection and acquisition and JKR construction but FLDA schools are usually given priority;
- although subsidised, primary education involves parents in considerable expenditure and there is a correlation between reduced income and absence from school; uniforms and transport costs are particularly high;
- Johor Malay medium primary school children are required to attend religious instruction in the afternoon, often in the same school premises. It is not then possible to organise 2 session schools. (No State contribution is made to accommodation costs, although State provides 50 percent of R.I. teachers salaries).

- Some economies of scale: small three class-room school necessitates multiple-teaching; lacks facilities uneconomic use of staff.
- Education Department would like to see 12 classroom schools in one session for approximately 600 pupils (300 families) despite problems of accessibility.

2.3 Secondary Education.

a) General - government secondary education is presently available in two mediums of instruction, English and Malay. Children transferring from English medium primary to English secondary go straight to Form 1; transfers from Malay, Chinese and Tamil medium primary to English secondary must spend one year in Remove class where emphasis is placed on learning English. Malay medium primary to Malay medium secondary - straight to Form 1. Chinese and Tamil medium primary to Remove. Some private Chinese and Tamil secondary schools are Government assisted, others are entirely independent.

Promotion through primary and secondary school is automatic until Form 3 when pupils sit for the Lower Certificate of Education. Those who fail (about 45 percent) have to leave or are allowed to repeat if they are not over the age limit. At Form 5 pupils sit for Malaysia Certificate of Education. Those achieving a sufficient aggregate of grades in all exams may continue for two years in Form 6 and sit for the Higher School Certificate, a pass in which may enable them to go on to University.

The drop-out rate at the end of primary school is high - approximately 34 percent primary school population. High drop-out rates occur again at the end of Form 3: approximately 50 percent of pupils in Form 3 do not go on to Form 4.

In 1969 the number of children between 12+ and 15+ in school represented 55.8 percent of the total population of that age in the country (Baharuddin and Shahrudin, 1969).

In 1968, the Year 4 survival rate for all Malay and English medium secondary schools was 50 percent of Form 3.

Fees are payable at all secondary schools except Malay medium - approximately \$109 per year for Years 1 and 2 (excluding uniforms and transport); \$164 for Year 3 (including L.C.E. exam fees). Monthly fees for Years 4 and 5 - \$10 and M.C.E. exam fees \$75 approximately.

For Malay medium schools, expenses are the same as for English medium, with the exception of school fees which are free. For English medium schools, partial remission of fees is available for 10 percent of enrolments on 31 January of any one year; and free places for a further 10 percent of enrolments on the same date. Assessed on basis of need.

The secondary school syllabus includes some vocationally orientated work - home science for girls and woodwork, metal work etc. for boys (Industrial Arts). Agricultural Science may be introduced in Lower Secondary School but, since it receives no financial assistance, schools are often unable to provide this option.

b) Organisation in Johor - all matters relating to Secondary school education are administered direct from the department in Johor Baharu. The State Organiser of Secondary Schools is responsible for planning and administration under CEO. District Education Organisers have no responsibilities in this respect.

c) Criteria for Johor - a secondary school will be established when there are sufficient children within a commuting distance of between 5 and 8 miles. Thirty children to a class is a rough

planning guide. No secondary school would be built with less than eight classrooms but it might start operating with 60 or more pupils. The maximum number of classrooms for any one school is 18, i.e. 1,200 pupils in two sessions. (Some parents wishing to send their children to English medium schools may have to send them distances of up to 20 miles at considerable financial sacrifice.) Ideally, with subject teaching, a teacher/pupil ratio of 1:20 would be desired. Actual ratios are between 1:35 and 1:45, with a predominance of the latter.

d) Existing provision Johor as at 31.1.69
(Johor Education Department, 1969)

Number of Schools	Medium	Pupils
36	Malay	
44	English	
15	English (Private)	
9	Chinese (Private)	
Total 104		75,554 (all schools)

e) Existing provision Kota Tinggi district as at 31.1.69 -

Number of Schools	Medium	Site	Pupils
1	Malay	Kota Tinggi	473
1	English	Kota Tinggi	929
1	Malay/English	Sungei Rengit	426

N.B. Hostel accommodation is planned for Kota Tinggi to enable students from very remote areas to attend secondary school. No date specified.

None of the Kota Tinggi district schools have a Sixth form course. Pupils passing sufficient number of subjects at MCE and wishing to stay on at school must travel into Johor Bahru. For example, in 1969, Sekolah Menengah Laksamana, Kota Tinggi, sent nine boys and girls to the Sultan Ibrahim Girls School or Maktab Abu Bakar. Pupils from the Sungei Rengit school stay in hostels in Johor Bahru during term time. (Two are provided by the Education department - 1 for boys, 1 for girls) Sixth forms will be provided where 30 pupils from any one school attain the necessary aggregate of marks at MCE to qualify for sixth form courses.

Existing Provision Kluang District as at 31.1.69

Number of Schools	Medium	Site	Pupils
1	Malay	Batu 2, Jln. Mersing	717
4	English	Paloh	372
		Peti Surat	1899
		Batu 3,	868
		Jln. Mersing	
		Kluang	624
3	Malay/English	Ayer Hitam	233
		Yong Peng	994
		Rengam	1203
1	Private English	Kluang	56

f) Planning procedures - as for primary education.

g) FLDA - where feasible, secondary schools (Malay medium) will be built to serve a complex of FLDA schemes. One such school has been built at Bukit Besar to serve the Kulai complex. The Education Department is presently considering the feasibility of another such school for the Ayer Tawar complex. If accepted, the school should be ready by 1974 or 1975. Non FLDA children may enrol for these schools although it is not envisaged that many will do so.

h) Staffing - difficulties of recruitment in rural areas apply to secondary schools to a greater

degree than to primary. Recruitment of qualified science teachers presents the greatest problem - although the Report of the Higher Education Planning Committee 1967 recommended that 60 percent of pupils going on to Upper Secondary School should be in science and vocational streams, the shortage of teachers in these subjects, particularly physics and chemistry, may slow implementation of the recommendations. Additional problems are presented by the change to Bahasa Malaysia, particularly in science subjects, since the supply of science teachers able to teach in this medium is very limited at present.

1) Factors affecting new development areas:-

- Forward planning requires accurate data relating to numbers of settler dependents in secondary school age group, ethnic background and timing of settlement;
- recruitment of specialist teachers, particularly for sixth form work;
- access to secondary schools from remote areas and deterrents to enrolment when large transport costs are added to school fees, exam fees and other expenses;
- factors affecting high drop-out rates at the end of primary school education and again at Form 3 including distances from school, expense of secondary education; desire for additional help on smallholdings etc., uncertainty of what advantages further education will bring;
- FLDA settlers, or others, should also be assured of the availability of secondary education before moving on to a new scheme, or given an indication of future plans for the provision of secondary education in their area.
- attention to vocational aspects of education should be applicable to immediate environment of school therefore Education Department will need clear indication of whether new areas are to be agricultural, industrial, tourism etc. if it is to ensure that school periods devoted to vocational subjects are to be most constructively utilised;
- although careers guidance is carried out in some schools, it is important to give attention to expanding this, to define special responsibilities for teachers involved and to encourage a realistic approach to job opportunities. A recommendation should be made to the Ministry of Education that Agricultural Science in Forms 1-3 should be subsidised in order to offer a viable option to the already subsidised Industrial Arts subjects.
- Education policy is to build Lower Secondary Schools for expansion as and when needed to Upper Secondary schools, not to meet demands of accessibility and smaller units, but to cope with a gradual influx of rural pupils into the Upper Secondary streams. Facilities common to Lower and Upper Schools are: General Science Laboratories, Libraries, Domestic Science Rooms. Peculiar to Lower Secondary - Workshops for Industrial Arts; to Upper School - Pure Science Laboratories.
- Low teacher/pupil ratio of approximately 1:45 will necessitate appropriate planning. (Lower School teachers - college trained; Upper - University graduates).

2.4 Vocational Schools.

Vocational schools provide some continuation of basic scholastic subjects but with emphasis on practical skills such as woodwork, metal work, electronics. Students go direct from these schools into jobs and are not expected to undertake further training.

At Form 3 pupils with grade B certificates in L.C.E. may continue in Secondary Vocational Schools for 2 years. There is one in Johor at Johor Baharu. In 1969 out of a total national enrolment in Forms 4 and 5 of 88,367, 4,400 were in vocational and technical schools (the latter being Grade A L.C.E. students wishing to continue in technical streams to Polytechnics or University).

The Johor Baharu Vocational School enrolment (1970) was approximately 450 in Engineering and Commercial subjects. In addition there are in Johor two Domestic Science Vocational Schools for girls (at Johor Baharu and Muar) but these are not yet recognised by the Ministry as conforming to Vocational School standards. The Johor Bahru School is presently undergoing expansion and modification to bring it into line with Ministry of Education requirements regarding syllabus and standard of achievement. The present enrolment is 77 with plans for expansion to 160. Girls graduating from the Domestic Science Schools are expected to find jobs in hotel catering, school tuck shops, hairdressers etc..

The Johor Education Department would like Vocational Schools established in Muar, Kluang, Batu Pahat and possibly, Segamat by 1975. Information from the Ministry of Education indicates that only plans for the Muar School have been accepted so far with an enrolment of 640 by 1975.

Planning of vocational education is a direct Ministry responsibility in consultation with State CEO's.

2.5 Technical Schools.

A Technical School aims to give a more concentrated academic education plus technical skills such as carpentry, woodwork, mechanics, industrial arts and electronics. Completion of a Technical School course is expected to lead to further skilled training: for example, an Engineering Degree at University. At present there are no Technical Schools in Johor but one is planned for 1972 and will be built with a loan from the World Bank. It will have an enrolment of 400 by 1972/3 and will be open to pupils from all States.

2.6 Transport.

All school transport services are in the hands of private companies. Checks on applications for licences and vehicles are made by the police and local authority transport sections. Fares are slightly cheaper than on normal public transport. In the Kota Tinggi district parents outside Kota Tinggi itself sending their children to the English medium primary school in Kota Tinggi pay between \$8 and \$10 per month for use of the school bus. Services are generally reliable. Where no bus service is available, taxis will be used to run children to and from school, again at reduced rates. Transport does not seem to be a problem in remote areas but the costs are high when considered in relation to all other costs incurred in sending children to school. There are no plans to provide free school transport.

2.7 School Meals.

Some school meals are available from stocks distributed to the Central Welfare Council by the Catholic Relief Services of the U.S. from Aid supplies. The Welfare Council's Johor Branch releases stocks to the Education Department for distribution but is itself responsible for all financial costs involved in transporting the stocks from Kuala Lumpur and to the individual schools. To date only 17 schools in Johor are receiving supplies (rolled oats, skimmed milk and bulgar wheat) a total of 7,145 pupils. All these schools are on FLDA schemes. FLDA headquarters recommends which schools should receive meals and the Education Department administers the programme. The Central Welfare Council could handle larger supplies

but is prevented from doing so through lack of finance for additional transport costs and storage facilities. It is also doubtful whether the Education Department's two lorries could handle an expansion of the programme. School meals have some significance for nutritional levels within the project area (Project, Nutrition).

2.8 School Aid.

a) General - This is a responsibility of the State Welfare Department which awards cash grants to low-income families for the purchase of text books, transport fees and payment of exam fees and, in some cases, school fees. Pupils attending sixth forms may also be eligible for help with hostel accommodation. School aid is a State responsibility.

b) Organisation - application by families direct. Heads do not have responsibility except to vouch that an applicant is a pupil at their schools. The Welfare Department does not investigate applications but depends on the recommendations of Penghulus, taking into account the number of children in a family and total income.

c) Criteria - aid can be given to families where total household income is below \$200 per month and where there are five or more children. Priority within this framework will be assessed according to lowest income and largest family.

d) Existing Provision in Johor - 1968 State allocation was \$230,000 of which \$224,184 was spent on a total of 6,811 families or 12,000 pupils at an average rate of \$20 per head per year. Approximately 60 percent of applications are granted but this probably represents only about 20 to 30 percent of those really in need.

e) FLDA - the Welfare Department administers a special fund of \$36,000 provided by the State Government for school aid on FLDA schemes. The FLDA regional office receives applications for school aid from settlers and assesses the amount due to each. These are passed to the Welfare Department for administration. This aid is given for secondary school pupils only.

f) Factors to be considered for new development areas - school aid plays a vital role in the education of children from low income families in all areas. Particularly relevant in a new area if the area is not to be equipped with upper school educational facilities during initial development phases since there may be demands for school aid payments for hostel accommodation and travelling expenses. Recommended emphasis on the value of school aid and the scope for increases.

3 HEALTH

3.1 General.

A Federal responsibility but measures against obnoxious trades and public nuisances remain a local authority (local council) responsibility. Subjects within the Minister's portfolio include hospitals; clinics and dispensaries; medical profession including dental, pharmaceutical, nursing, midwifery and other para-medical staff; public health; maternity and child welfare; leprosy; mental deficiency; rural health services; control of foods, drugs and poisons. Under the Minister is the Director General who is also the Director of Medical Services.

West Malaysia is divided into 49 Health districts of which seven are in Johor (co-inciding with Administrative Districts, with the exception of Mersing and Kota Tinggi which are amalgamated for health purposes). Each State has a Chief Medical and Health Officer who is responsible directly to the Director of Medical Services.

Expansion of the rural health services has been based on a formula contained in the Ministry's guidance manual "Organisation of Rural Health

Services in Malaya" 1963. Formula - rural health units to provide administrative framework for a population of 50,000. Each unit to consist of the following:-

- 1 Main Health centre to serve as administrative centre and to provide medical services for 10,000 (including 1 midwife clinic)
- 4 Health Sub-centres serving 10,000 each (including 1 midwife clinic in each)
- 20 Midwife clinics cum quarters serving 2,000 each

This general framework is now being reconsidered in the light of an evaluation of the rural health services being undertaken by a newly established Ministry Operations Research Unit advised by WHO. Details of changes are unlikely to be announced before the end of 1971.

Planning in each state is co-ordinated by the Chief Medical and Health Officer (CM&HO) with the State Development Committee; at district level by the MOH with the District Development Committee. The guidance manual on rural health services planned for 1 doctor (MOH) to be in charge of each Health Unit assisted by one Public Health Inspector, per 50,000 population. Dental Officer attached to each unit to work administratively with the MOH but under the technical supervision of the Principal State Dental Officer. District MOH to have responsibility over unit MOH's. All finance to be borne by the Federal government.

RHS operating and capital expenditure costs based on 1963 prices:-

Operating expenses	\$7 per head rural population
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Capital expenditure:-

1 Rural Health Unit	\$1,300,000
1 Main Health Centre	\$ 360,000
1 Health Sub-Centre	\$ 160,000
1 midwife clinic cum quarters	\$ 15,000

Provision of ancillary medical services, e.g. dental, maternity and child welfare, family planning, public health services etc. to be accommodated within this general framework. By 1970 two million rural people had been affected by the extension of services but development has not always been carried out strictly according to the general plan. Shortfalls in the provision of services have been due to lack of finance, shortage of staff, JKR deficiencies.

3.2 Hospitals.

(Information based on Memorandum submitted to Ministry of Health by Dato Paduka Dr. Abdul Wahab, CM&HO, Johor, July 1969)

a) General - Under the rural health service development plans, hospitals provide the nucleus for radially situated rural health units built on the periphery of existing hospitals (Dr. L.W. Jayesuria, 1967). Most States have a General Hospital where specialist treatment is available, and a number of District Hospitals for routine treatment - plus a few sub-District hospitals. The 1969 Ministry of Health budget included \$21 million for hospital development - unusually large - devoted mostly to a new Teaching Hospital, Seremban hospital and General Hospital, Kuala Lumpur. This had deflected finance away from hospital development within some States.

b) Organisation - not the responsibility of District MOH's. Hospital organisation is the responsibility of the Deputy Chief Medical and Health Officer, under the CM&HO, and all plans for future development, together with overall responsibility for day to day administration, come within his brief.

c) Criteria for provision - the average Malaysian bed/population ratio is 4 beds per 1,000 population while in Japan it is 7 per 1,000. While a higher rate for Malaysia would be desirable, it would appear that attempts must first be made to achieve the national average in all States - some of which are presently grossly under-served.

d) Existing provision in Johor - on the basis of the Malaysian bed/population ratio, Johor should have 5,600 beds for a population of 1.4 million. At present the total is 2,703 in the eleven hospitals (1 General, 7 District and 3 sub-district) i.e. less than half the number of beds required. Dr. Wahab's memorandum suggests that hospital development in Johor has almost ceased due to the heavy emphasis on developing the rural health service and points out that the increasing health demands of the rural people being developed through the Rural Health Services (RHS) must be met by adequate hospital facilities. The memorandum mentions over-crowding in all hospitals, and uneven provision of staff between them. Plans for the extension of all hospitals in the State have been included in the Second Five-Year Development Plan.

e) Existing provision in Kota Tinggi district - The Kota Tinggi hospital has 159 beds and serves a population of 55,890 from an area of 1,366 square miles. Bed/population ratio is 2.8:1000 and a further 65 beds are required to meet the four per thousand requirement. Serious illness and operation cases are transferred to Johor Baharu General Hospital. Patients from points in Tanjong Penggerang cannot travel to Kota Tinggi and must undertake the 3 or 4 hour land and sea journey to Johor Baharu. In his memorandum, Dr. Wahab recommends that Sungei Rengit be made the target for hospital development in this area (see 1) this section) and a start has been made with implementation of plans for a sick-bay attached to the Sungei Rengit Health Sub-centre to be completed by 1971. Plans for the extension of Kota Tinggi hospital have been included in the Second Five-Year Development Plan.

f) Existing Provision in Kluang District - the Kluang hospital has 267 beds for an estimated population (mid 1968) of 127,000 = bed/population ratio of 2.1 per 1,000. To reach a target of 4 beds per 1,000 the hospital will need an additional 242 beds to service the existing population. Plans for a small extension to this hospital are included under the SMP but will not alter the situation substantially.

g) Planning procedures - hospital expansion or construction, like any other development in the Health Service, may be suggested by the District MOH in consultation with the Health Department, taking into account the population criterion, the framework of the RHS and existing priorities. Plans are submitted to the Ministry under the next five-year development plan. Individual projects are vetted by the Ministry's Development Division and submitted to the Treasury. Subsequently, additions to the five-year plan may be submitted and will be examined in the same way and priorities may be changed on further application to the Ministry. It takes approximately 1 year to obtain Ministerial approval and a further 1 or more years for construction. (In the case of hospitals, considerably longer.) Forward planning should be seen in terms of at least 2/3 years but it should be emphasised that the Ministry of Health is not considering new hospitals as a general principle and is concentrating on modifying and extending existing hospitals. The Ministry of National and Rural Development, both at State and Federal level, plays an important part in determining priorities for the RHS.

h) FLDA - it is unlikely that any complex of FLDA schemes could support a hospital for at least 10 years and there is presently no discussion on

matter. However, it might be feasible to establish small sickbays of two or three beds on a complex of schemes under the supervision of a trained nurse and a visiting doctor - to be attached to a health sub-centre e.g. Bukit Besar.

i) Staffing - doctors and nurses in Government service may be posted at short notice to any part of the country so problems of recruitment specifically to rural areas do not apply. However, there are staff shortages throughout the country. Two Johor hospitals have only one doctor, others have two or more and are meeting their establishment requirements. Nursing staff is short in all instances and shortages of Hospital Assistants are being met by centralised training within the State. Areas of particular shortage - surgery, anaesthetics, traumatology. Where existing establishments are met, the Health Department is concentrating on persuading the Ministry to increase establishments to meet the growing demand for hospital services (approximately threefold in 10 years).

j) Factors to be considered when extending services to new development areas:-

- recommendations for hospital development in Johor contained in Dr. Wahab's memorandum, with particular attention to the recommendations for the Kota Tinggi district. That is:
- expansion of Kota Tinggi and Kluang hospitals to provide 4 beds per thousand population, taking into account the growth of population associated with the development of Johor Tengah and Tanjong Penggerang
- further development of Sungei Rengit health sub-centre into either a Main Health Centre or an independent upgrading to a Sub-District Hospital.
- siting and availability of specialist treatment with special attention to transportation of serious cases to Kota Tinggi or Johor Baharu hospitals;
- staffing
- general Ministry policy to restrict building of new hospitals - concentration on expansion of existing ones.
- possibility of extending the sick-bay idea e.g. to FLDA complexes.

3.3 Main Health Centres and Health Sub-Centres.

a) General - for information regarding the Rural Health Service and Health Centres and Health Subcentres, see 3.1.

b) Organisation - planning and co-ordination by CHAMO with the State Rural Development Committee on advice submitted to him by District MOH's. District MOH co-ordinates his plans with District Development Committee. District MOH's are under technical guidance of the Principal MOH for the State. Johor has only four MOH's instead of the required eight due to lack of staff. The MOH for Kota Tinggi is also responsible for Mersing and Johor Baharu. His department is divided into four divisions:- Rural Health Service, Maternity and Child Health Services, Public Health Works and Administration - total 400 staff. The MOH is entirely responsible for all health matters within his area and for future planning within five-year plans. He has supervision over MOH's in charge of rural health units (where this applies).

c) Criteria - ideally:-

	1 Health Unit to serve	50,000
comprising :	1 Health Centre	10,000
	4 Health sub-centres each	10,000
staffing :	1 doctor as team-leader	50,000
	1 Public Health Inspector and	
	5 Public Health Overseers	
	1 Public Health Nurse	50,000
	1 Dental Officer	50,000

d) Existing Provision in Johor - (source: statistics provided by CMAHO Johor as at 1.5.70)

No Main Health Centres (Unlike every other State in W. Malaysia)

31 Health Sub-centres (largest number of any State including Perak and Selangor)

In August 1969 the CMAHO estimated that for a rural population in Johor of 954,000 full implementation of the RHS blueprint would necessitate:-

19 Main Health Centres
76 Health Sub-centres
380 Midwife clinics cum quarters

The present provisions cover less than half of the required health services for the State. Plans are at present in progress for up-grading four Health Sub-centres to Main Health Centres at Parit Jawa (Muar), Ayer Baloi (Pontian), Parit Raja (Batu Pahat), and Kota Tinggi. Upgrading requires additional staff and provision of more staff quarters.

e) Existing provision in Kota Tinggi District - One Main Health Centre to be completed in 1970 at Kota Tinggi itself (upgraded from Sub-centre); health sub-centre at Sungai Rengit to have sick-bay by 1971; health sub-centre to be completed in 1971 for the Kulai complex of FLDA schemes. (Total population of Kota Tinggi district = 55,890).

For Tanjong Penggerang with a present population of 12,273 the Sungai Rengit health sub-centre and sick bay should theoretically provide sufficient facilities but problems of communication within the peninsula hinder the free movement of people to and from the centre. There is no resident doctor on the peninsula and presently one travels weekly from Johor Baharu Health sub-centre at Sungai Rengit is in charge of Hospital Assistant.

One Public Health Inspector with three Public Health Overseers operate from Kota Tinggi - problems of access to southern part of Penggerang peninsula.

f) Existing provision in Kluang District - No Main Health Centre. Health sub-centres at Simpang Rengam and Paloh.

g) Planning procedures - as for hospitals

h) FLDA - the first health sub-centre for a complex of FLDA schemes was completed at Bukit Besar for the Kulai complex in 1970. No plans have yet been made for a similar centre for the Ayer Tawar complex on its completion. Medical facilities for the schemes are provided by the Ministry of Health, including buildings, on advice from the FLDA headquarters. Where there is no health clinic on site, schemes are served by mobile clinics operating from District Hospitals. Complaints have been voiced by settlers (Project, Sociological Field Studies: FLDA) that the timing of these clinics is irregular and often inconvenient. Transport problems to and from static clinics have also been mentioned.

1) Staffing - Staff are in very short supply. The MOH for Johor South covers an administrative area which is far in excess of what is advisable, given the range of his responsibilities. Every District Health Office is greatly under-staffed - particular problems being encountered in the field of dentistry, public health and public health nursing. Future planning must take these staff

shortages into account.

j) Factors to be considered for new development areas:-

- decision regarding working size for a Rural Health Unit and the viability of the present rural health services to be based on work of an operation research team reporting end 1971;
- adaption of RHS blueprint to meet the needs of the development area with special attention to the timing of provision given the planning procedures for health services;
- use of health centres for and by ancillary workers e.g. dentists, family planners, health educators etc. - how far is this being achieved and what recommendations can be made for most effective utilisation of facilities;
- development of Main Health Centre at Kota Tinggi and administrative implications for development area;
- consideration to be given to mobile health clinics operating from Kota Tinggi Sungai Rengit, and Kluang during initial phases of development.
- possibility of extension of sick-bay idea to other health sub-centres within Project Area.

3.4 Midwifery.

a) General - the plans for the Rural Health Service envisaged each Unit as having 20 separate midwife clinics cum quarters to serve a total population of 40,000; the remaining 10,000 to be served by midwife clinics at each of the Main and Sub-centres. These midwives to form a very important function as front-line workers using a community development approach and their jobs eventually to include family planning, health education and preventative medicine. Traditional kampong midwives (bidans) retain an important place in village life and many women still prefer to use their services rather than those of a Government midwife (Project Sociological Field Studies: FLDA). Sometimes both bidan and government midwife will be called in together. Bidans are increasingly being given training in modern techniques or promoted after training to government midwives and sent back to their own kampongs. Such training is provided within individual States.

b) Organisation - as for 3.3 b). Technical supervision provided by the Sister in charge of Maternity and Child Welfare Services based at the Health office.

c) Criteria - as stated in RHS blueprint i.e. 1 midwife per 2,000 population.

d) Existing provision in Johor - 132 clinics (in December 1968), exceeding number in every other state including Perak and Selangor. However, this represents only 35 percent of the midwife clinics cum quarters required to meet the criteria mentioned in c).

e) Existing provision in Kota Tinggi district 10 clinics of which 3 are in Tanjong Penggerang. Kota Tinggi district has also approximately 10 bidan clinics. New midwife clinics cum quarters are planned for the district as follows:

Pasir Gogok	1970	} Tanjong
Sungai Kapel	1972	
Kg. Jawa	1973	} Penggerang
Kg. Semanger	1974	
Kg. Taiheng	1975	

Given the criterion for provision, by 1975 the peninsula should be served by enough clinics for the existing population.

f) Existing Provision in Kluang District - Midwife clinics cum quarters (other than attached to health sub-centres) at Ayer Hitam FLDA, Kg. Machang, Kg. Gajah and Kg. Kahang, Batu 28.

g) FLDA - Almost all FLDA Schemes are equipped with midwife clinics - accommodation built by FLDA to standard specifications; staff provided by Ministry of Health. All schemes in Johor are covered with exception of Sungai Tirim and Parit Haji Idris (not yet settled). In approximately half the schemes, the settler population is below 2,000 - with an average number of births per scheme (according to Field Studies) 6-10 per month. Some question as to whether one clinic per scheme is justified - are midwives encouraged to actively carry out other roles as mentioned under a) in this section? FLDA headquarters and Ministry of Health co-ordinate development plans, which are fed to state officers for implementation. Eventually all FLDA midwives will be trained as Family Planning advisers. Importance of midwife's job as a front-line health worker (community development worker) should be emphasised.

h) Staffing - shortages. Reliance on kampong bidans for additional services. Government attempts to train some in modern practices through state organised courses. Midwives given some training in ancillary roles during basic training but difficulties involved in persuading many of them to see their multi-purpose role in the community. The Ministry of Health must release midwives for training given by the National Family Planning Board as part of a long-term aim to integrate family planning services with the Health service through midwife clinics. Midwifery training centres are sited at 4 towns in Johor catering for both Division I (fully trained) and Division II (partly trained) midwives.

i) Factors to be considered when extending services:-

- how feasible is a midwife/population criterion of 1:2,000 if a midwife is to carry out multi-purpose duties as envisaged? (Some Ministry of Health research being done into this);
- is one midwife clinic per FLDA scheme desirable and is a midwife's multi-purpose role fully understood by FLDA staff?
- Also, account to be taken of the following evidence from the Project Sociological Field Studies: Kampongs and Estates, and FLDA:-
 - i) continuing reliance on bidans in preference to Government midwives;
 - ii) youth of midwives (particularly on FLDA schemes) stated as a reason for mistrust, therefore attendance at her ante-natal clinics but bidans to be in attendance during delivery;
 - iii) possibility of extending FLDA midwife's role on lines of Health Visitor working in conjunction with Assistant Development Officers (women) on FLDA schemes.
- spread of midwife clinics cum quarters in Tanjung Penggerang area taking into account existing plans for extension of provision.

3.5 Travelling Dispensaries.

Travelling dispensaries must be differentiated from travelling clinics staffed by nurses and doctors - dispensaries may be in the charge of hospital assistants, and are responsible for dispensing drugs and treatment of simple illnesses, with referral of more serious cases to health centres and hospital out-patients departments. Presently visits are made to 32 sites within Johor by travelling dispensaries but there are no plans

to extend this service since the RHS does not make provision for this type of service within the general blueprint. Travelling dispensaries need not therefore be considered within the project area. (Attention will need to be given, however, to mobile clinics, staffed by a doctor or trained nurse. Johor has only one fully equipped mobile clinic at present, based at Johor Baharu and serving kampongs and FLDA schemes within easy reach.) At present, travelling dispensaries in the Kluang District operate from Health Sub-centres at Simpang Rengam and Paloh.

3.6 Static Dispensaries.

Within Johor there are eight, of these one is at Kuala Sedili and another at Penggerang. Staffed by hospital assistants and functioning as very simple clinics for treatment of mild illnesses and dispensing of drugs. Penggerang Dispensary has one hospital assistant and 1 assistant travelling to surrounding kampongs. It is not intended to open further static dispensaries since the full implementation of the RHS plans do not include this kind of provision. Therefore no application to the project area. Kluang has one static dispensary at Layang Layang.

3.7 Dental Services.

a) General - guide lines for rural dental service were included in the Ministry's Manual 1963 on "Organisation of Rural Health Services in Malaya". Acute shortage of staff was recognised and dental services confined to school children, expectant mothers and emergency cases. The service is run in conjunction with the Health Service, utilising its facilities. Fluoridation, begun experimentally in Johor, is to be extended throughout W. Malaysia; more attention is to be given nationally to dental education through school health programmes and special campaigns.

b) Organisation in Johor - responsibility of the Principal Dental Officer under the CMAHO. Main dental clinics in each area under dental officers - also responsible to District MOK's responsible for co-ordinating all health services in their areas.

c) Criteria for provision - treatment of all primary school children, expectant mothers and emergency cases. Every Rural Health Unit (50,000) should have one Dental Officer and all dental services should be integrated with RHS. In view of acute shortage of staff, no population criterion is feasible. Some attention given to ensuring best treatment for a few rather than mediocre treatment for the many.

d) Existing provision Johor -

- 8 Main Dental Clinics
- 1 Main School Dental Clinic
- 10 School dental clinics staffed by full-time nurses
- 1 Central school dental clinic, Batu Pahat
- 31 Dental clinics in Health sub-centres
- 1 Mobile dental clinic based at Johor Baharu
- 1 Riverine service operated from Kota Tinggi
- 1 Visit yearly to Islands off Mersing
- 1 Hospital dental clinic Johor Baharu.

concentration on primary school children - inspection given first at Standard II and then six-monthly throughout primary school, but shortage of officers in Johor (1 to 20,000 school children including secondary) has meant that only 60 per cent of total primary school population covered. Ratio of dentists (including private) to total population in Johor = 1:50,000. Six private

dentists in whole state but some dentistry by unqualified practitioners. Fifteen Dental Officers in State between them examined 88,000 patients in 1968. Treatment is free but dentures etc. chargeable, except to poorest patients.

e) Existing provision Kota Tinggi - inaccessibility of Tanjong Penggerang has prevented spread of services from Kota Tinggi centre. A dental officer from Johor Baharu travels by boat to the health sub-centre at Sungei Rengit once a month. There are no school dental clinics in the Kota Tinggi district; clinics held at Ulu Tiram Health sub-centre once fortnightly and at Sungei Rengit sub-centre once monthly. Dental technicians' laboratories are provided in all districts except Kota Tinggi. A riverine dental service is operated from Kota Tinggi to schools along the rivers. Kota Tinggi district is badly served by dental services in comparison with other districts due to: i) lack of health sub-centres on which to base work and, ii) inaccessibility of much of the area, iii) shortage of staff.

f) Existing provision Kuala Lumpur district - dental clinics are sited at the health sub-centres at Simpang Rengam and Paloh; the Sekolah Tengku Mahmood and the Chong Hwa Primary School have school dental clinics for use by other schools in the area.

g) Planning procedures - since dental services depend almost entirely on provisions under the general health service and rural health service, plans for five years development periods follow those of the health service. Where a new health centre or sub-centre is built clinics will be included and staffed as adequately as possible within the limitations of the available resources.

h) FLDA - Schemes are served by travelling clinics and the mobile dental van. Again only school children, expectant mothers and emergency cases. Complaints regarding timing and regularity of clinics (Project, Sociological Field Studies: FLDA) - consideration might be given to school dental clinics based on a complex of schemes. The Chief Dental Officer, Johor, would like to see this but he has not the staff to implement; he suggests that FLDA might recruit its own dental staff for such clinics, to be incorporated later into regular dental service.

i) Staffing - lower than any other service. No provision for training dentists in Malaysia although a Dental School is planned for the University of Malaya. Most Officers receive training in Singapore or Australia but there is the possibility of recognising qualifications from India, Korea etc. One dental training school for nurses is in Penang where nurses are trained to give simple treatment to children up to 12 years. Total dental staff, Johor (1968) including van drivers etc. - 104, of whom 15 are Dental Officers and 22 Dental Nurses. Kota Tinggi has no Dental Nurse - 1 officer is assisted by 3 attendants.

j) Factors to be considered for new development areas:-

- any recommendations will be constrained by acute staff shortages;
- development areas might best be served by mobile dental services;
- particularly during early phases, fully equipped road or riverine services to be considered;
- Fluoridation of all water supplies to new areas;
- suggestion that FLDA might establish school dental clinics and recruit its own staff to release more resources for extension of dental services to other parts of the state;

- consideration to be given by managers of FLDA and dental officers of the timing and regularity of mobile clinics, not only on FLDA schemes but throughout rural areas;
- dental education as important part of home economics work, school health programmes, adult education;
- need for at least one private dentist in the Kota Tinggi district;
- amount of money available for dental education is very small - 1970 - \$1,000 for Johor.

3.8 Water Supplies.

a) General

(Information regarding Johor Bahru, Kota Tinggi and Mersing health districts only). Thirty percent of the population in this area have access to piped water; the rest are supplied by 1,900 wells, a register of which is maintained by the District Health Office showing type of well and dimensions, quantity of water by seasons, use of well water and quality. Chlorination is the responsibility of Public Health Inspectors and carried out by Public Health Overseers. Some wells are chlorinated fortnightly. In times of epidemics - typhoid, cholera etc. all wells are chlorinated. In other cases, if an unusual number of vomiting and diarrhoea cases occur, the Public Health Inspector will inspect water supplies and take samples. It is difficult to gauge the extent of water-borne diseases caused by unhygienic water supplies, but the Field Studies and interviews with various doctors and nurses would suggest that gastro-enteritis and other stomach ailments are common amongst kampong people. At one FLDA scheme in Johor, the nurse recorded 66 cases of diarrhoea in March 1970 and thought this was typical of any month. Some FLDA schemes have their own separate water supplies, others are connected to main JER supply systems. Settlers are told to boil drinking water but not all do so and children will drink indiscriminately. While epidemics of serious water-borne diseases are rare it is suggested that there are sufficient cases of gastro-enteritis etc. to warrant particular attention to the siting, maintenance and treatment, including sterilisation, of water supplies for Project development.

b) Factors to be considered in the development areas:-

- treated water supplies are recommended for all Project Area developments.
- where wells are used, attention should be given to siting of wells and latrines to reduce health hazards; with adequate inspection of wells by Public Health Inspectors (there is some shortage of personnel in this field and account should be taken of this); chlorination of wells when necessary, and, on FLDA schemes, management to make more careful checks on chlorination than would appear to have been done in the past;
- implications of health education for reducing water-borne infections.
- fluoridation of main water supplies to promote dental health.
- pollution of rivers and streams by industries (e.g. oil palm factories, tin mines), sewage, residues from insecticides and weedicides and refuse.

4 FAMILY PLANNING

4.1 General.

Family Planning in Malaysia is the responsibility of two organisations - the National Family

Planning Board (government sponsored) and the Federation of Family Planning Associations (voluntary). The former is responsible to the Prime Minister through the Economic Planning Unit and while it undertakes central planning of all new clinics and staff, it coordinates its work with that of the Ministry of Health. Not only does the Board use the facilities of the Ministry but plans are in hand to integrate family planning with the work of the midwifery service.

The Government's objective is to reduce the rate of population growth to 2 percent by 1985 i.e. a crude birth rate of 25 per 1,000 and a crude death rate of 6 per 1,000, mainly by the addition of 45,000 contraceptive acceptors. Detailed statistics of new acceptor rates are maintained by the Board which is advised by the Centre for Population Studies, University of Michigan. The statistics are, however, not so clear regarding contraceptive use over time. Swedish Aid contributes contraceptive supplies (mainly oral) and these are distributed by the Board through its own clinics or purchased at a low rate by the Family Planning Associations for distribution through their clinics.

The Board's programme in West Malaysia has been phased through initial establishment of clinics in urban areas to increasing development in rural areas. The ultimate aim is to integrate family planning service with the Health Service through midwife clinics and, to this end, training is by the Board given to government midwives. The Board's 200 employees (as at June 1970) are paid and trained by the Board and liable to transfer like any other Government medical officer. The Board's choice of main clinics is determined by the siting of District Hospitals; its sub-clinics by the siting of health sub-centres and its travelling clinics by ease of access and existing travelling health clinics.

In addition to the work of the government sponsored organisation, each State has a Family Planning Association partially supported by the Federation but relying heavily on the sale of contraceptives and donations raised within the State. The Associations are mainly concerned with urban clinics although increasingly work is being carried out in the rural sector. The Family Planning Associations work closely with the Board at national level: it has been suggested that the Board be left to carry out family planning services and the Associations should concentrate on motivation but such a division of function has not yet been implemented and at present both organisations run clinics.

Supplies cost patients of both Board and Association clinics \$1 per month for oral contraceptives but charges are sometimes waived in cases of hardship.

4.2 Organisation.

a) Organisation Johor -

National Family Planning Board (NFPB): a regional office is sited in Johor Bahru at the General Hospital staffed by a Family Planning Assistant and an Assistant Information Officer. Overall policy for the State is decided by the Head Office (considerable centralisation) and the regions main functions are implementation of policy, motivation and forward planning of satellite clinics.

Family Planning Association (FPA): paid State organiser working to a voluntary committee. Branch committees in different areas of Johor. Autonomy within States and extension of services a matter for individual committees.

b) Criteria for provisions -

NFPB: aims to reach 36 percent of women of

child-bearing age by extension of services through ante-natal and post-natal clinics, maternity and gynaecological wards, mother and child "well baby" clinics and the work of Government midwives at village level. Integration of family planning with the health service through midwife clinics commencing in 1970. Will set up clinics where there are hospitals, health sub-centres and maternity and child health clinics, therefore criteria must be seen in the light of what is necessary for the health service as a whole. No problem is envisaged in keeping pace with developments in the health service since considerable government financial support is available for family planning.

FPA: motivation through talks and visits. If sufficient number of women show interest (approximately 30) they will arrange for a doctor to visit the kampong. Subsequent visits and by FPA staff with yearly visits from the doctor unless enough women need his help to warrant a special session. Criteria is therefore willingness to participate in sufficient quantities to make the clinic worthwhile.

c) Existing provision Johor -

NFPB: main clinics attached to hospitals at each of eight Health Districts plus main clinics at Tangkak and Labis. Staff at these clinics run between them a total of 49 satellite clinics based on health sub-centres. There is very little extension into kampongs although an information van will go into the kampongs for motivational work. No figures are available for the number of women within easy reach of clinics and participating in them. Targets for monthly acceptors are being exceeded and it is stated that motivation is becoming easier, but figures do not show how many acceptors continue with their course of pills. National survey suggested that 84 percent of acceptors were continuing after one year (NFPB Acceptor Survey). One Mobile clinic operates from Johor Baharu. Total number of new acceptors 1969 - 12,103.

FPA: Twenty clinics held in conjunction with Maternal and Child Health clinics and nine organised on private estates. Total number of new acceptors 1969 was 2,046; total attendances from new and old acceptors was 31,213.

d) Existing provision in Kota Tinggi area - NFPB operates services from Kota Tinggi hospital: weekly clinics at Tanjong Lembu, Kuala Sedili and Ulu Tiram. No spread of services into Penggerang peninsula. Outstation clinics held at static and travelling dispensaries. FPA has recently started a clinic at Sungai Rengit after some successful promotional work - once monthly, staff travel out from Johor Baharu.

e) Planning procedures -

NFPB: estimates of need and location of satellite clinics are made within states after discussions with District MOH's, Matrons and Doctors. This is fed to Headquarters which agrees within one month. Implementation of new projects can take place within 1-2 months, should the main clinic have sufficient staff to man additional satellite clinics within its district. Dependence on facilities provided by Health Service. New main clinics planned and implemented by Board itself.

FPA: Original motivation or invitation leads to an assessment of clinic potential then ratification by committee and finally - implementation (1-2 months in total).

f) FLDA - presently settlers can get NFPB advice and supplies through NFPB clinics run in conjunction with health service clinics; in the case of the Teok Wah Heng and Bukit Batu schemes the FPA has established clinics on the invitation of the managers. The NFPB carries out some pro-

motional work on FLDA schemes but does not usually set up separate clinics. FLDA has accepted the importance of family planning on schemes and a special programme has been devised between FLDA and the Board by which the latter runs special courses for FLDA midwives. The FLDA Settler Development Officer (women) applies to Ministry of Health for release of midwives for training and all will eventually be trained. Settler Development Officers are aware of importance of family planning in their work. The Board and FLDA are considering the possibility of giving FLDA staff responsibility for dispensing pill supplies cheaply by Board. Fifty cents per month to be deducted from pay slips of accepting women and revenue to be pooled for welfare projects on scheme.

g) Staffing -

NFPB: there appears to be no problem since the Board can pay higher salaries than those available to doctors and nurses in the hospital and rural health service. Staff are mainly recruited from the Ministry of Health and trained by the Board. These are in addition to those midwives to be given supplementary training by Board and remaining in general health service.

FPA: works mainly on voluntary effort but this is difficult to obtain. In Johor no difficulty has been encountered in obtaining voluntary services from doctors (expenses only paid) and the Association can presently call on five. Financial constraints on increasing present complement of State Organiser, 2 midwives, 2 Field Clerks, and 1 office clerk. Staffing is a limitation to the expansion of the service.

h) Factors to be considered in new development areas:-

- greater resources of Government NFPB would suggest concentration on their efforts; but consideration should be given to the FPA's very useful motivational role;

- Project Sociological Field Studies have suggested a number of factors to be taken into account: family planning acceptance and commitment to monthly revisits are largely dependent on distances to be travelled to nearest clinic; some political and religious opposition and ignorance of biological factors; small family means 4 or 5 children; more children means more bread winners; unhappiness with side effects of pill amongst those who have tried it and desire to be offered more alternatives - careful consideration should be given separately to each objection to family planning;

- the Association would seem to be more effective in motivational terms and will rely not only on brief conversations and literature, but on lengthy discussions with Penghulus, Ketua2 Kampong, as well as with women.

- speed of implementation of family planning services by Board in development areas will depend largely on implementation of Health facilities, a mobile clinic might be considered to fill in during the time-lag; also implementation will depend on the speed with which government midwives can be released from service to undergo the Board's training courses.

5 MALARIA

5.1 Introduction.

The preceding sections in this chapter deal with the criteria used by government for the provision of education and health services generally. This section on malaria and the following section on nutrition deal specifically with two subjects which have historically proved to present problems for migration, land clearance and the development of human potential. Project working papers were prepared on both these aspects of health in order

to examine the measures that government is taking to deal with them and the extent to which malaria and nutrition might be considered constraints to the development of the Project area. This section summarises the Paper on Malaria

5.2 Incidence of Malaria in West Malaysia.

The establishment in 1960 of a Malaria Eradication Programme pilot project and the extension of the programme throughout the decade has resulted in the systematic collation and analysis of statistical data on the incidence of malaria within West Malaysia from the submissions of the various State health departments. Despite problems associated with accurate reporting of the disease, analysis of the available figures combined with Malariometric (blood sample) surveys shows not only that malaria ranks amongst the fifteen major reasons for patient contact with the health service, but is also one of the five main reasons for hospital admissions within the country. While it does not rank as an important cause of death, malaria is a debilitating disease which renders a patient anaemic and prone to other diseases which may in their turn prove fatal. The results of sample blood surveys (Huehne, undated) suggest that nearly 490,000 persons in West Malaysia are harbouring the malaria parasite and may be prone to attacks of the disease during any one year. Successful urban malaria eradication programmes at a cost of nearly \$7 million annually have virtually eliminated malaria from towns and the disease is now almost entirely found in rural areas. However, not only is the problem a rural one, it is also exaggerated on areas of new land development. Since the beginning of the nineteenth century a correlation has been observed between the opening-up of new land for rubber and the increase in malaria admissions to government hospitals (Lim Chong Yah, 1967). An FLDA scheme at Lubok Merbau was so heavily infected with disease both at the contract clearance stage and after settlement that its success was in jeopardy (Stephenson, undated). In Johor, the malaria rate has risen since 1966 largely as a result of increased land development. In 1969 eleven FLDA schemes in the Kota Tinggi and Johor Baharu districts, with a total population of 22,182, accounted for 15 percent of the total malaria hospital admissions for the State of Johor with a population of 1.3 million. The high proportion cannot be accounted for by better referrals from on-the-spot scheme medical personnel alone. Despite the specific allocation by the Ministry of Health of approximately \$20,000 annually for malaria control work on Johor FLDA schemes, the amount has not been sufficient to combat the disease in the peculiar circumstances of newly cleared land where Anopheles maculatus malaria vector thrives on sunlit, constantly refreshed, water.

5.3 Malaria Eradication Programme.

The Malaria Eradication Programme (MEP) has been given a budget of approximately \$85 million to be spread over 14 years. Its brief is to concentrate on rural areas and, by moving systematically through the country, to eradicate malaria from West Malaysia by 1978. No exact date has yet been given for the introduction of the programme to Johor but it is not expected to commence before 1975. The MEP's initial operations in the northern states of the peninsula have successfully reduced the parasite rate through six-monthly residual house spraying with DDT insecticides - the main method to be used by the Programme. On present showing, however, it is unlikely that the MEP will successfully eradicate malaria from Malaysia by the target date, although it will probably control the disease considerably. Similar programmes in Thailand and Ceylon have met with problems of re-infection. Although eradication is technically possible it can only be achieved at enormous cost and it is doubtful whether the

budget available for malaria control in Malaysia could be extended sufficiently to meet a long-term goal of complete eradication.

5.4 Incidence of Malaria in Johor.

The MEP estimates that the cost of malaria to the national economy in terms of lost work days and treatment is approximately \$5,560,000 annually. Attempts to assess the cost of malaria to Johor State alone were frustrated by the lack of reliable data. It is unlikely that the medical records maintained at the Health Department in Johor reveal anything like the true incidence of malaria within the State, although the Department thought that 80 percent of the cases were shown in their figures. Comparison of the parasite projections (Huehne, undated) from the malariometric surveys carried out by the MEP with the actual number of malaria cases recorded at all branches of the health service in Johor during 1969 showed an enormous difference between the two and suggests that medical records reveal only a small proportion of the actual number of cases, many people administering self-medication or being so used to attacks of the disease that they do not bother to seek medical attention. More reliable information was, however, available on the FLDA schemes in Johor where blood slide samples were carried out on the same eleven schemes which produced 15 percent of the total State hospital admissions for malaria. The percentage of positive slides amongst settlers and their dependents was as high as 25 percent on one scheme in the Kota Tinggi area. The average percentage over all eleven schemes was 7.6 percent (Office of Chief Medical and Health Officer, Johor, 1969). Theoretically all persons showing positive blood slides may suffer one or more attacks of malaria annually with an average of three lost working days per attack.

While the Department of Health receives an additional \$20,000 (approximately) for anti-malarial work on FLDA schemes in Johor this represents little more than \$1,000 per scheme per annum and, from the evidence produced from existing FLDA schemes, appears to be insufficient to meet the peculiar malaria risk of new land development areas. In addition, although in the past, it has been possible for the Health Department to bear the labour costs for anti-malaria work on FLDA schemes from its general anti-malaria vote for the State as a whole, thus leaving the entire \$1,000 per scheme for equipment, it appears that it may be unable to continue this practice. The late arrival of the MEP in Johor and the doubtful likelihood of it achieving eradication rather than control, the evidence that new land development schemes are high risk areas and that schemes in the Kota Tinggi area are particularly prone, and the inability of the present budget for FLDA scheme malaria control to meet the problem suggest that unless additional resources are made available for anti-malaria work the disease will represent a constraint to human and economic development within the Project area. In view of this the following suggestions are made on the basis that some kind of holding operation of malaria control is needed before the arrival of the MEP in Johor:-

5.5 Conclusions

a) Administration of anti-Malaria Control Measures

Administration of anti-malaria control measures for the State as a whole and including FLDA schemes should continue to be in the hands of the Department of the Chief Medical and Health Officer under technical guidance from the Malaria Department of the Ministry of Health and the MEP.

b) Relationship between MEP and State Health Department

The MEP includes provision for the appointment of one malariologist in every State to work with

the Programme as it reaches a particular area. It is suggested that the appointment of a malariologist for Johor should take effect as soon as possible, regardless of the timing of the MEP arrival in the State. Failing that, the appointment should coincide with the development of new land. The malariologist would be responsible to the Chief Medical & Health Officer for advising him on anti-malaria holding measures under the guidance of the MEP. However, should it not be possible to appoint a malariologist until the MEP reaches Johor, it is suggested that note be taken of the MEP's desire to be consulted at the planning and subsequent stages of new land development schemes.

The MEP has sent teams twice to Johor to take blood slides on FLDA schemes and it is suggested that information obtained from these and subsequent tests should be utilised by FLDA and the State Health Department in assessing the extent of the problem and the additional finance required to solve it.

c) Resources

Resources for anti-malarial work in the State are becoming increasingly scarce as more resources are deflected to the MEP in the North. In view of this the following alternative might be considered:-

i) The Health Department could continue to submit its estimates for malaria-control work on FLDA and other land development schemes to the Ministry of Health based on the number of schemes and the number of houses and settlers to be covered. It is not expected that there would be very much difficulty in obtaining additional finance proportional to the number of new schemes but this finance would continue to cover only the cost of residual sprays and some drugs.

ii) Given information regarding the extent of malaria in new schemes and the finance required to institute proper control, FLDA could influence the Ministry to increase the annual vote of \$87,000 for all FLDA Schemes to an amount not only covering new schemes but also more comprehensive techniques, especially during clearing.

iii) While the money allocated for FLDA schemes in the State can be divided between individual schemes at discretion, money allocated to the State under the general anti-malarial vote cannot be borrowed or re-channelled into additional expenditure on FLDA schemes, despite the fact that these schemes may be the areas of greatest need and also constitute a risk to the State's malaria position as a whole. It is suggested that this point might be examined both at State level and by the Ministry in order to achieve greater flexibility in budgeting.

iv) Particular attention should be paid to anti-malaria work during the land-clearance stage of development schemes and the following alternative strategies should be considered:-

- contractors to be made responsible for carrying out anti-malaria measures along lines recommended by the MEP; the extent of this responsibility should be stated clearly in contract agreements with individual contractors and the contract price should take into account the additional expenditure on control measures;

- the organisation with overall responsibility for Project Area Development, FLDA or any other land development agency to consider making a direct payment to the relevant Health Department through the Ministry for extensive anti-malarial work during the clearing stage of land development schemes; the work to be carried out by the Health Department's staff and to follow the MEP recommendations for anti-malaria measures on new development schemes (for details see Project paper Malaria);

- the organisation with overall responsibility to press for increased funds to be set aside by the Ministry of Health for all anti-malarial work for its land development schemes: the increases requested should be sufficient to ensure that the relevant Health Department is able to co-operate with the organisation by providing anti-malarial services during clearance stages as suggested by the MEP.

While all these suggestions might be considered, it is recommended that immediate consultations between the Ministry of National and Rural Development and the Ministry of Health be held on the need for greater expenditure on malaria control for new development areas. As a rough guide it might be advisable to aim at doubling the average amount available to each scheme to roughly \$2,000 or approximately \$8 per head. Even this is a minimum requirement and is less than the per head anti-malaria expenditure of two thirds of the private estates in Johor (Project paper Malaria) remembering also that well-established private estates are not subject to the same risks. In addition consideration should urgently be given to the need for increased anti-malaria control measures during clearance stages of development.

d) Methods of control.

- Control techniques should follow the recommendations made by the Director of the Malaria Eradication Programme,

- careful planning and attention to the entomological aspects of mosquito control must be a fore-runner to anti-malarial work and effective co-ordination between all State Departments, the FELDA regional office, other relevant agencies and MEP must be instituted to cover this point.

e) Development schemes by agencies other than FELDA

Finance for additional anti-malarial control work on schemes developed by agencies other than FELDA will have to be considered in the context of the State's anti-malarial vote. It is presumed that the Health Department will adopt a flexible attitude to the defrayment of its resources, dividing available revenue to where it is most needed and taking into consideration the special circumstances surrounding the opening-up of new lands.

6 NUTRITION

6.1 Introduction.

During the course of Project work it was not possible to conduct any original research on the subject of nutrition since this would have necessitated a clinical analysis of children's weights and measurements by expert nutrition workers, the Project consultants did not have this specialism. However, evidence from conversations with doctors and educationalists in Johor suggested that material from nutrition surveys carried out elsewhere in West Malaysia is directly applicable to the situation in the state. Consequently a paper was produced (Project, Nutrition) which examined the evidence from these studies and drew together information from the various government departments which have recently taken action having a bearing on nutrition levels, particularly amongst rural people. The Sociological Field Studies included some information on nutrition, mainly based upon the observations of the field workers. A consumption survey carried out by the Project as part of the analysis of possible markets for food products, to some measure confirmed the dietary patterns revealed by nutrition surveys elsewhere in West Malaysia. Piecing together the evidence from all these sources, the paper suggests that while the situation is by no means desperate, there is a significant lack of some of the components of a healthy diet which could affect the growth of human potential, and therefore, the development of the Project region. Where individuals are removed from their kampongs to new deve-

lopment areas they may be temporarily deprived of some of the free sources of nutrition which grow naturally on jungle fringes or waste land. It is possible, therefore, that settlers on new land development schemes may be initially worse off than they were previously with regard to dietary sources, particularly when this coincides with periods of least income. The administration by FELDA of supplementary foods through the World Food Programme represents some recognition of this fact, as does the home economics work of its women Settler Development Officers. Over and above this, however, it is arguable whether any additional resources should be made available to new development areas when levels of nutrition over the country as a whole are equally poor. The summary contained below examines what is being done as a whole to improve levels of nutrition amongst rural people.

6.2 Levels of Nutrition.

A small number of nutrition surveys have been carried out in Malaysia since 1950 (see Bibliography, for sources), some under the sponsorship of the Department of Nutrition at the Institute of Medical Research. These surveys are fairly uniform in their findings and demonstrate protein-calorie deficiencies, deficiencies in Vitamins A, B₁ and B₂ and iron, particularly amongst children under five Toddler mortality rates, acknowledged to be clear indicators of malnutrition, are approximately ten times as high in West Malaysia as in developed countries like Japan and the United States, and are significantly higher amongst the rural Malays. (Ministry of Health Statistics). Although no specific studies have been carried out in Johor, health workers in the state have suggested widespread protein-calorie malnutrition and anaemia, particularly in young children, and the observations from the Sociological Field Studies and home economics surveys carried out by the Johor Agricultural Department suggest that dietary patterns in the state are similar to those of the rural populations covered by the surveys mentioned above.

6.3 Home Economics.

The low dietary levels can be partly explained by lack of income, partly by custom and partly by ignorance. Attempts to ameliorate the effects of the latter two are concentrated in the expansion of home economics work by a number of Ministries and in an experimental Applied Nutrition Programme based on an area in Selangor whose demonstration effect will, it is hoped, illustrate the value of cooperative effort amongst various health and education departments. Home economics work is presently a function of the Ministries of National and Rural Development, Youth and Culture, Agriculture and Education (the latter through courses in Home Science at school and through vocational training for school leavers). In addition, the Women's Institute and, as already mentioned, the FELDA Settler Development Division, are concerned with providing instruction in Home Economics. All these departments have plans for increasing their home economic activities and, within Johor, there has already been a sizeable increase in the number of workers and teachers in this field. While the value of the home economics approach is accepted, to obtain maximum results from the concerted efforts of the different agencies it is suggested that machinery for co-operation be established within Johor. Such coordinating machinery might take the form of home economics and applied nutrition sub-committees of the State Development and District Development Committees established on the same lines as the committee structure established for the Applied Nutrition Programme in Selangor. Such a structure would form the dual purpose of fulfilling the immediate need for coordination of existing activities

designed to improve levels of health and nutrition within the State, and would also anticipate the arrival of the Applied Nutrition Programme in Johor, should it be decided to extend the programme to the State in the future, possibly in conjunction with the extension of the School Health and Malaria Education Programmes whose staff may be expected to undertake multi-purpose activities.

6.4 School Health Programmes.

The School Health Programme which is being launched initially through the training and orientation of teachers, midwives and public health overseers will, when fully implemented, have an important impact on levels of nutrition and health through a coordinated programme of school medical examinations, health education, involvement of schools in community health activities and attention to the physical environment of the school. The essence of the programme is a joint effort by the Ministries of Health and Education working through a National Joint School Health Council. Similar joint committees have been established at State level but, at the time the paper on Nutrition was written (July 1970) Johor had not yet established such a structure, although tentative discussions had begun. In addition, it suggested that the Education Department in Johor should encourage its primary schools to apply for and use the new health education syllabus available from the Ministry of Education.

6.5 Subsidies.

Aspects of nutrition improvement through education and example would appear to be receiving considerable attention at present and all the departments concerned are expanding their activities as quickly as staff capacity and finance allow. Apart from stressing the need for coordinating these activities, no further recommendations are made on this subject. Neither was it in the scope of the paper (R 6 in references) to examine the effect of income on nutrition and to project improvements in the latter as a result of changes in the first. However, the question of subsidies was examined, particularly in relation to FLDA schemes. School feeding programmes have begun in West Malaysia in a small way through the United States Aid programme and joint services of the Catholic Relief Service of Malaysia, the Central Welfare Council and the Ministries of Education and Social Welfare. The Ministry of National and Rural Development has decided to play a larger part in the programme and discussions are taking place with a view to including an integrated programme in the Second Malaysia Plan. Expansion of the present programme (a national total of 100,000 primary school children are covered by the existing scheme) cannot take place without greater government intervention since the resources of the Central Welfare Council, the distributive and administrative agency, are stretched to capacity. At present, the bulk of the children receiving school meals are on FLDA schemes. In Johor, all the 17,000 children covered by the programme are on these schemes. It is not clear to what extent the decision to include the schemes is a function of ease of administration, and because some choice had to be made to include a very small proportion of primary children and FLDA seemed an easy way of involving a cohesive group, or whether the problems facing new settlers temporarily devoid of traditional sources of supplementary foodstuffs have been recognised. If account is also taken of the supplementary foodstuffs available to FLDA settlers under the World Food Programme then this group receives a larger dietary subsidy than any other in Malaysia. Until some detailed research is carried out on the nutritional status of FLDA settlers, particularly their children, it will be impossible to judge whether these subsidies are sufficient to meet the needs of newly settled migrants. In the interim, it is suggested that direct subsidies make an important

and immediate contribution to nutritional health and, as such, should be expanded where possible. If the programmes are too small for general application, then restriction to development areas may make sense. In general, however, there is no justification in a situation where levels of nutrition are low throughout the country to concentrate educational and experimental resources into new development areas, except where the development agency is itself able to make a contribution, as FLDA is doing with its Settler Development section.

APPENDIX B

APPENDIX B

This table analyses FLDA application from Johor outstanding in February 1970. Applicants called for interview are classified by occupation, age group, mean number of children and ethnic group.

	Batu Pahat	Johor Baharu	Kluang	Kota Tinggi	Mersing	Muar	Pontian	Segamat	TOTAL
Number of applicants from each district	797	389	130	191	28	1038	159	370	3,102
as percent of total	26	13	4	6	1	33	5	12	100
Occupation (percent of applicants from each district)									
'agricultural work' (kerja kampong/kerja sendiri)	12	3	2	12	21	10	8	18	10
barber	1	-	1	1	4	1	-	-	1
bud grafter	2	-	2	-	-	5	-	-	2
carpenter	5	-	3	3	4	5	-	-	3
clerk	-	0+	-	1	-	-	-	0+	0+
contractor	-	1	-	-	-	-	-	-	0+
driver	-	3	3	3	-	-	1	1	1
fisherman	2	1	-	14	14	1	6	-	2
gardener	5	2	6	2	4	-	10	-	2
labourer	23	53	55	36	21	28	43	33	33
mandor	3	3	3	2	-	1	-	1	2
mason	0+	1	1	-	-	-	-	-	0+
padi planter	2	-	1	-	4	-	-	-	1
peon	-	-	-	-	-	-	1	-	0+
policeman	-	1	-	-	-	-	-	-	0+
rubber tapper	43	33	21	26	29	51	31	45	42
shopkeeper	1	1	1	-	-	-	-	2	0+
telecoms	-	-	-	-	-	-	-	0+	0+
Age (percent of applicants from each district)									
18 - 22	3	7	10	10	4	8	4	10	-7
22 - 27	28	34	30	38	43	29	34	42	32
28 - 32	45	41	44	31	39	42	43	38	42
33 - 37	24	18	16	21	14	21	19	10	20
Children (mean number per applicant)									
	2.85	2.90	2.87	2.27	2.68	2.59	2.48	1.82	2.59
Ethnic group of applicants called for interview (numbers)									
Malay	797	387	130	190	28	1038	159	368	3,097
Chinese	-	-	-	-	-	-	-	1	1
Indian	-	2	-	1	-	-	-	1	4

APPENDIX C

APPENDIX C

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