

**SOUTH EAST JOHOR PROJECT TANJONG PENGGERANG AND
JOHOR TENGAH REGIONAL MASTER PLAN**

FOR
THE GOVERNMENT OF MALAYSIA
AND
THE STATE OF JOHOR

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PROGRESS REPORT

No. 6

AUGUST 1970

● HUNTING TECHNICAL SERVICES — LAND USE AND AGRICULTURAL CONSULTANTS ●

BINNIE AND PARTNERS
CONSULTING ENGINEERS ●

OVERSEAS DEVELOPMENT GROUP
UNIVERSITY OF EAST ANGLIA
SOCIO ECONOMIC STUDIES ●

SHANKLAND COX OVERSEAS
PLANNING CONSULTANTS

SOUTH EAST JOHOR PROJECT TANJONG PENGGERANG AND
JOHOR TENGAH REGIONAL MASTER PLAN STUDY
FOR THE
GOVERNMENT OF MALAYSIA & THE STATE OF JOHOR

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PROJECT MANAGEMENT

1. STAFF: additional to Report No.5

<u>Post No.</u>	<u>Name</u>	<u>Designation</u>	<u>Chargeable Dates</u>
6	D.A. Holmes	Soil Surveyor II	to 14.8.70
10	L.E. Palmer	Irrigation Agronomist	{ 1- 6.6.70 12.8.70
14	J. Potts	Economic Geologist	to 19.7.70
32	T. Jewitt	Scientific Advisor	17-31.7.70
34	M. Mansell- Moullin	Hydrologist	1-10.7.70
SIC 4-8	W.J. Payne	Livestock Consultant	1- 7.6.70
	D.J. Meadows	Coconut Specialist	4-12.7.70

Note:

With the approval of the Economic Planning Unit, Dr. Potts was retained to undertake the Limestone Exploration at Gunong Sumalayang.

SPECIALIST CONSULTING FIRM

J. Kirke Traffic & Civil Engineer 1-27.6.70

2. ADMINISTRATION AND FINANCE

a. Housing & Offices: Satisfactory

b. Transport: 2 x SWB Land Rovers (ex-military),
1 x Pochay Boat (20') and
1 x 40 HP Outboard engine (with spares)
have been transferred to the Economic
Planning Unit for further disposal.

- c. Staff: Position Satisfactory
- d. Funds: The tenth deposit of local funds has been received. Approval of sterling payment to 30.6.70 has been given.
- e. Accounts: The tenth and eleventh Statements of Dollar Costs were submitted on the due dates with supporting analysis of expenditure ranking for Aid Reimbursement.

3. SCHEDULE OF WORK

The programme of work for the next report period is as set out in the progress chart at cover.

4. SURVEY, MAPS & REPORTS

Compilation of the 1:63,360 Terrain Classification and Soils maps of Tanjong Penggerang is now completed. The Terrain Classification maps have also been fair drawn and masks prepared. With the receipt of the letterpress from the Directorate of National Mapping work on the Johor Tengah series has been carried a step further.

Work on report drawings as required is also proceeding steadily.

Survey work consisting of relative heighting and measurement of rentis lines was carried out to provide a sketch map for the limestone investigation. (See App. C Progress Report No.5) The draft report for this study has been written and the final version will be available for submission shortly.

PROGRESS

SECTION A: NATURAL RESOURCES STUDIES

1. SOIL SURVEY

Soil Correlation and Mapping

The final field correlation trip in the Penggerang Area was carried out during the first week of July.

The reduction of the 1:25,000 scale Terrain Class Maps for the Southern half of the Penggerang Area has been completed and the 1:63,360 scale maps handed to the Drawing Office for final production. Soil mapping of the Penggerang Area at 1:25,000 scale has been completed and reduction to 1:63,360 scale has also been finalized. Final checking of the last mentioned map is well in hand.

Soil Survey

Some final soil checking was carried out in the north of the Penggerang Area. This brought the total mileage of rentis lines surveyed to about 380. In the south of this area a number of soil observation site were located along existing roads, tracks and paths.

Detailed soil surveys were carried out on river valley soils; one on the Sungei Sembrong and another on the Sungei Dengar in the Johore Tengah Area. Each covered an area of 1 sq. mile. A third detailed study was carried out north of the Sungei Pengeli and Kampong Poh Lee Sen. The object of these studies is to check the variation in the alluvial soils and the Harimau Series soils. A total of 230 observation sites were used for this purpose.

2. AGRICULTURE & LIVESTOCK

Crop Husbandry

Evaluation of various enterprises has continued. First-draft papers on mixed farming, cassava cultivation, pineapples and pepper, outlining alternative production organisations for all, have been sent to the Socio-Economic Section for further analyses. Papers on rubber and oil palms, produced by the latter section, have been studied and new yield estimates suggested for both crops. The revisions for rubber were made necessary by the new data emanating from the RRI conference on the effects of new stimulants and from further examination of the yield potentials of new clones. Revised yield estimates for oil palms were made following a visit to Chemara Research Station, where important advances have been made on certain agronomic aspects, particularly relationships between yields and planting density. It is also likely that improved breeding material will become available for new plantings. Other crops to which some attention has been directed are cacao, rambutans and other fruits for canning, and sugar cane.

Mr. D.J. Meadows visited the project for a week from Thailand. He has considerable experience of coconut production, and will make recommendations for possible ways of organising production of this crop, either alone or in conjunction with other crops or livestock enterprises. Unfortunately his report has been delayed through illness.

Apart from rubber and oil palms, agronomic data specific to the project area is limited for most of the crops under consideration. This lack of data will put a constraint on the

rate and scale of diversification in the immediate future. The most important gaps in the available knowledge will be summarised and recommendations made on the lines of research required for the most promising activities.

In connection with research, discussions were held with representatives from MARDI regarding the siting of a research centre in the project area. Two possible sites were tentatively agreed. Close liaison with MARDI will be maintained.

Contacts have been made with a number of organisations and individual research workers in other countries to obtain new data and in some instance sources of improved planting material. We have been offered seed of a number of varieties of sorghum and of some grasses and legumes. Some attention has been given to problems of soil conservation likely to arise under annual cropping system. Expert opinions have been obtained on suitable field lay-outs and farm machinery with a view to achieving maximum conservation combined with the most efficient and economic production.

The Irrigation Agronomist returned from Indonesia on 12th August. Since his return he has carried out a brief investigation (of the literature and in the field) into the tolerance of oil palms to flooding and drought in connection with the use of certain types of land in the project area. Work has also continued on the preparation of the report on climate.

Livestock Husbandry

The report of the livestock Consultant was received and is being appraised. Evaluation of a number of livestock enterprises has continued. Papers on goats, pigs and poultry

have been completed and work on dairy and beef enterprises is progressing. At the end of August, a most helpful discussion was held with Mr. Grof, the Director of the South Johonstone Research Station in Queensland, who was passing through Singapore. Conditions in that part of Queensland are not dissimilar to those in South East Johor. Mr. Grof is an acknowledged authority on tropical pastures in this type of environment.

Fisheries

Frequent visits have been made to many types of fish culture schemes, and one was made to the Tropical Fish Culture Research Institute for consultation with Dr. Prowse.

A planning paper on Inland Fisheries has been completed and a 7-acre fish pond enterprise has been prepared, and sent to the Socio-Economics Section for further analyses.

Conservation

The first draft report on this study has now been received from the Special Consultant.

3. FORESTRY

Inventory

The inventory of the highland areas in the Johor Tengah region is complete and the first volume stand tables will shortly be available from the Commonwealth Forestry Institute.

Sampling in the Tanjong Penggerang region was completed on the 25th August and the remaining inventory teams returned to the Forestry Department. Total rentis distance covered

was approximately 20 miles and this will enable us to give a general picture of the stocking in the heavily logged over forest in the north and the secondary forest in the south.

Existing Industries

It is now clear that Johore (and W. Malaysia as a whole) has greater sawmilling capacity than the forest resource can supply in the long term. Therefore the introduction of a new large capacity modern complex for the project area will have serious repercussions, unless existing industry can play a role. Several alternatives are possible, of which one might be the eventual Jengka solution of MARA/Managing Consultants, with existing industry offered a share.

Forest above 20° slope (approx. 500')

Existing ridge top logging methods are likely to cause erosion and landslips on some of these ridges. Further, no successful recognition techniques have yet been evolved for such forest. Research work in progress on both these problems should be strengthened, and if possible accelerated. Until the results of such research are available this forest should be left unworked.

Safekeeping of Forest Raw Material till Project Implementation

The Jengka project alerted us to the danger of losing much raw material between project presentation time, and eventual implementation. The possibility of forming a small working group with Federal and State Agencies to take steps to avoid this danger, is proposed.

The necessity of considering forest areas outside the project as possible sources of raw material for eventual project-based industries has been discussed.

Particle Board

The EPU could not agree to the expense involved in testing timber from secondary forest species in Penggerang without greater justification, and suggested that trade sources might be willing to do this. Further consideration will be given to this, when the Penggerang sampling results, and the preparation of a volume table for Tiup2 (the common species there) have been completed and studied.

4. MINING & GEOLOGY

The economic geologist's draft project report is now being written.

Work on the Sumalayang limestone deposit was completed in the current report period and the following is a short situation report:

- (1) The object of the investigation is to prepare a detailed geological map and sections of the limestone area at a scale of 1" = 200' to determine the amount of limestone in the area, its structure and the amount of overburden.
- (2) The Geological team commenced field work on July 18th and set up permanent camp on July 20th. A general reconnaissance of the occurrence area was carried out and all rock outcrops recorded. Rentis lines were cut and surveyed, and access tracks for the drilling equipment prepared.

(3) Due to bad terrain and weather conditions it was 10 days before the drill reached the first site, and drilling commenced on July 30th. Drilling was scheduled for completion within 30 days but through the co-operation of the drillers and the local labour force the last borehole was completed on August 24th and movement from site commenced.

(4) Four boreholes were drilled involving a total footage of 939 feet, of which 626 feet were in limestone. Surface geological information was supplemented by pits and trenches. One complete random core recovery has been retained for the Geological Survey Department.

() The drilling was concentrated in the western part of the area where the size and number of outcrops indicated a large limestone deposit. The limestone to the east was investigated and evidence suggests that there is a major fault dividing the two deposits.

(5) The limestone occurs in larger quantities than was first thought, and detailed plans and sections showing estimates of reserves are currently being prepared and will be available together with the detailed Report in late September.

In addition to possible agricultural or industrial uses the possibility of their utilisation as ornamental stone might be considered, when the deposit is exploited. In general all the limestones seen are fine grained with rare beds of medium grain size.

The colour variations between black to almost white are almost infinite. Certain of the lower horizons show attractive black limestones.

5. WATER RESOURCES

Routine operation and maintenance of the hydrological network has continued. In addition four water level recording stations have been set up on the Johore River to study the tidal variation in the section of the river about 10 miles upstream of Kota Tinggi.

Further samples have been taken to enable positions of the chloride fronts to be determined. These samples have been sent to the Department of Chemistry and the results will be correlated with previous results obtained in February/March this year. This will eventually lead to the formation of a set of rules by which the position of the chloride front may be determined, given a few variables, eg. average river flow, predicted tide height etc.

One more sample from the Semberong Kechil has been found to contain arsenic to the extent of 0.04 p.p.m. This is the same as the concentration previously reported.

Work is still in progress on the determination of the effects of clearing on various hydrological factors such as yield and flooding. We are not in a position to give any further definite figures at this stage, however, it is certain that clearing will have a significant effect on the hydrology of a catchment which was previously covered with primary jungle.

Study and costing of schemes to meet the future demands of Kluang, Kota Tinggi, Johore Bahru, industrial area and port, and proposed villages in Johore Tengah has continued.

SECTION B: INFRASTRUCTURE, URBAN, & INDUSTRIAL DEVELOPMENT STUDIES

1. Staff

The resident Engineer, Mr. Kirke, completed his first period on the project on the 27th of June, and will return for his second visit on approximately the 17th of September.

Messrs Graeme Shankland, Senior Partner, Professor Alan Proudlove, and David Grove, Partner will be visiting the South East Johor Project in September.

Inche Ishak bin Ariffin, Counterpart Town Planner, completed his residential role on the Project at the end of August. He will continue to represent the Department of Town & Country Planning at Steering Committees.

A Graduate in Town & Regional Planning, Inche Zainuddin has been appointed by the Ministry of Housing, to take over the Counterpart role from the 1st of September.

2. Data Review

The town planning physical and social surveys, extended to cover Kulai and Kluang have now been completed. Analysis and presentation of the data produced is now at advanced stage.

3. Work Undertaken

Following the preparation of the First Draft Concept Plan, the Resident Planner has continued work on the various physical planning aspects put forward in Progress Report No.5, Appendix B; Land Development and Physical Planning Concepts.

The internal report - 'planning' - is being produced in 3 sections:

Section I

"People, Jobs, Urban & Rural Development 1970-1990 the State of Johore and the Project Regions" will shortly be sent to the client for discussion by the relevant working groups.

Section II

"Regional Planning Considerations" and

Section III

"Settlement Planning", will be completed in draft form within the next two weeks.

SECTION C: SOCIO-ECONOMIC ASPECTS AND INSTITUTIONAL INFRASTRUCTURE

Collin Abraham, Malaysian counterpart sociologist, ended his fulltime participation in the Project on 31st August, on his assignment to the University of Penang. It is assumed that he will be available for advice and work on a part time basis during the remaining period of the project.

Work in months 11 and 12 has continued to concentrate on

- (a) the quantitative economic analysis (project evaluation) of specific "enterprises" and linked production, organised in various ways;

- (b) the examination of various organisations at the field or settlement level, in the light of assessments of social implications and information about possible activities;
- (c) the preliminary study of possible combinations of enterprises, sequences and phasing, and organisations, into alternative strategies, and the practicability of their implementation given availability of factors and administrative and other constraints.

Internal draft reports on the sociological aspects have been completed and are now being discussed.

To provide a context for planning of the project areas, we have attempted, in conjunction with the Resident Planner, to build up impressions of possible economic conditions in the state of Johor over the next 20 years, on alternative assumptions about agricultural and industrial development, urban migration and the influence of the growth of Singapore. The information base for these impressions is fairly thin (it might be strengthened if information were available from the Socio-Economic Survey 1967/1968). But the impressions do confirm previous thinking on various points, of which two may be mentioned.

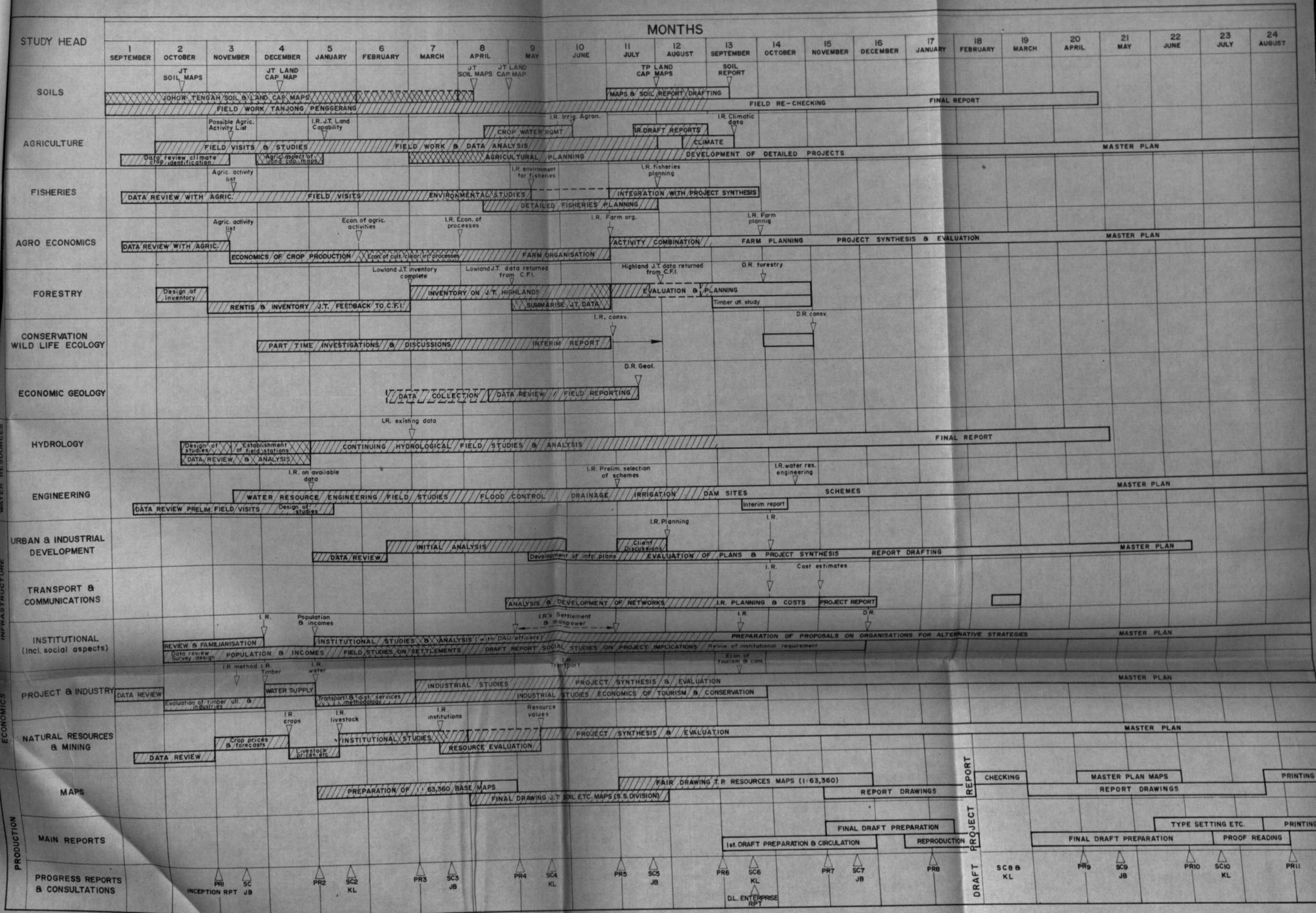
In Johor, perhaps more than in other parts of West Malaysia, it is quite possible that an accelerated programme of new land development over the next 10-20 years will face a shortage of people willing to enter or remain in employment in agriculture, unless they are offered prospects and opportunities which are comparable to those in manufacturing and

service industries in towns. This reinforces the arguments for flexible organisation which can maintain high and rising incomes in agricultural production (see Progress Report No.5, Appendix B pp 32-33) and for provision of something close to urban diversity in the project areas.

Secondly, the future development of the project areas should not be planned in isolation. It is clear that over the next 10 or 20 years, a series of choices will be required (on the priorities for the use of resources including those of the State Government and the provision of public services and infrastructure) between developments in the project areas and developments elsewhere in the State of Johor or in the Southern part of West Malaysia. To make informed choices, based on analysis of alternatives within the State or region, will require much stronger machinery and improvement of information for development planning at State and/or regional levels (see also Progress Report No.5 Appendix B page 36).

PLAN OF OPERATION & MONTHLY PROGRESS CHART

SOUTH EAST JOHOR PROJECT



IN HAND
 DELAYED
 IR — Internal report
DR — Draft report
PR — Progress report
SC — Steering committee