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# MIRI-BINTULU REGIONAL PLANNING STUDY

FOR

THE GOVERNMENT OF MALAYSIA

AND

THE STATE OF SARAWAK

## PROGRESS REPORT

No. 3

OCTOBER 1972

MIRI-BINTULU REGIONAL PLANNING STUDY  
 FOR THE  
 GOVERNMENT OF MALAYSIA & THE STATE OF SARAWAK  
PROGRESS REPORT NO. 3

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I N T R O D U C T I O N

This Progress Report covers the period from 1st August to 30th September 1972. Collection and processing of data and information have continued, necessitating a number of direct contacts with various departments and local authorities. A considerable part of the time has been spent in preparing the Zonation Plan, which will be submitted on the 15th October.

The findings of the Zonation Plan work have been thoroughly discussed within the team; it has led to the formulation of a series of tentative ideas concerning the future structure of the Region and of various development strategies. Some of these will be presented in the Zonation Plan Report, which will also recommend the setting up of Task Forces for further consideration of specific problems.

Preparative work for a briefing of the State Action Committee on the purpose and progress of the Study has also been undertaken.

PROJECT MANAGEMENT

Staffing - additional to Report No. 2

<u>Position and Name</u>	<u>Chargeable Dates</u>
5. R. D. Law, Land Classifier	1. 8. 72 -
* 6. F. A. Sole, Agricultural Economist	to 8. 8. 72
6. R. I'ons, Agricultural Economist	9. 8. 72 -
8. F. Walker, Forest Inventory/Utilisation	to 19. 8. 72
12. T. E. Wetteland, Transport Planner	12. 9. 72 -
13. L. Skule, Physical Planner	to 3. 9. 72
16. J. Stowell, Hydrologist	4. 9. 72 -
21. R. J. Spooner, Director, HTS	2-10. 8. 72
25. S. Hoff, Principal, H & O	5-17. 8. 72
C.1. H. S. Morris, Sociologist	to 28. 8. 72
C.2. J. V. Harbord, Agricultural Planner	22. 9. 72 -
D8-16 N. Hudson, Soil Conservationist	20-29. 9. 72

In Agreement with Government, Mr. F. A. Sole, Post No. 6, was transferred to the Pahang Tenggara Development Authority, and Mr. I'ons was appointed as the Agricultural Economist.

Government Counterparts

The following Officers were attached to the Project on the dates shown.

Chia Pit Chung, Regional Planner	15. 8. 72
Hatta bin Solhee, Rural Sociologist	30. 8. 72

Administration & Finance

- a. Supplies and services - satisfactory
- b. Funds The third deposit and balance of the second deposit have been received.
- c. Accounts The third and fourth Statements of Account were submitted on the due date.

Schedule of Work

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

4. Survey Maps and Reports

The copy negatives of the 1:50,000 scale maps reduced to 1:100,000 scale have been received as requested from the Land and Survey Department in Kuching. These will be cut and reassembled to form new base maps for the Semi-Detailed Master Plan Area, and will then constitute the base maps for all final mapping.

Work is in hand formulating base maps for inclusion in the main reports concurrently with the production of figures for the Zonation Plan Report. The structure of the various reports is at present under discussion. The guidance of the Economic Planning Unit (EPU) is being sought on the number of copies of the various reports that will be required in order that this assessment can be carried a stage further.

PROGRESS

SECTION A: NATURAL RESOURCE STUDIES

Soils

Aerial Photo-Interpretation

The compilation of the aerial photo-interpretation on to the 1:25,000 scale print lay downs and its reduction to 1:50,000 scale was completed in early August. These aerial photo-interpretation reductions were then compiled on to the 1:50,000 topographic maps.

A number of field checks were carried out to verify certain aerial photo-interpretation mapping units. As part of the preparations for the Zonation Plan Map areas with possible agricultural development potential were mapped and after reduction compiled onto the 1:250,000 base map. Draft mapping of the Zonation Plan was completed by the middle of September.

Based on the findings of the aerial photo-interpretation and other available information a number of sample areas were selected for detailed soil studies. In selecting these areas an important consideration was ease of access. Two of these areas have been located south of Niah near the Miri-Bintulu road and a third west of the Batang Suai.

During the period under review a number of field investigations were carried out on the erodibility of soils in the Study Area. Also Mr. N. Hudson, a soil conservation specialist at present lecturing at the Bangkok University, joined the Consultant team for a week to assist and advise, from the erosion hazard aspect, on decisions concerning land use recommendations for various categories of land. A paper, written as a result of his visit is presented as an Appendix to this Progress Report. The recommendations to undertake some run-off and erosion trials to obtain more detailed information will be carried out.

Rentis cutting has been started in the Sungai Kelatok Kanan area north east of Gunong Subis. This area of 16,000 acres will be studied on a semi detailed level. A total of 40 km of rentis lines were cut.

Mr. Lim Chin Pang, Soil Surveyor North Sarawak, was back on project strength as from 1st August.

## Agriculture and Livestock

The Senior Agriculturist made several field trips to different parts of the Study Area with the object of assessing the agricultural potential of specific terrain classes.

A visit was made to Kuching to assist a Government Committee in assessing the suitability of an area in the 1st Division for a beef-cattle breeding scheme.

A later visit to Kuching was necessary to discuss specific problems with the Conservator of Forests. These discussions are further reported under Section 4, Forestry.

Together with the Agricultural Economist a report on the commercial prospects of a beef cattle scheme in Sarawak has been written. Time has also been spent on the preparation of the Zonation Plan.

### B. Agricultural Economics

The handing over of the agricultural economics work to Mr. I'ons from Mr. Sole, which occurred during August, interrupted the flow of work as Mr. I'ons has had to spend some time familiarising himself with the Study and the stage which has been reached in the work. Visits were paid to several Government Departments and Organisations during the course of his introduction.

In addition the following work was undertaken:

(a) Basic data collection relating to the Study Area and the crops which might be produced in future was continued. Particular attention was given to obtaining information on the present production, in the Study Area, of commodities which are currently imported into Sarawak.

(b) Internal working papers on the future demand for pepper, sugar and essential oils were produced.

(c) A preliminary report on the prospects for establishing a beef industry was completed for submission to the Task Force set up by the Steering Committee.

(d) The marketing chain studies for rice and rubber were completed and preliminary work done on beef and poultry products.

(e) Evaluation of the production economics of all the possible crops being considered for the Area was commenced with the assistance of the Counterpart Agricultural Officer and the Agricultural Research Division.

(f) Preliminary preparations were made to conduct a survey of sample farms in the Study Area with a view to gaining an insight into typical organisations on the different types of farms existing at present.

#### 4. Forestry

The Consultant Forester, who left the Study in August, had planned for forest inventory work, starting in September, to be undertaken in the Bakas Proposed Forest Reserve. It was intended that the Senior Agriculturist would administer the work which would be carried out by very experienced personnel seconded from the Forest Department. Accordingly preparations were made for the work to begin and the Forest Department 'readied' their men. However, having learned of the huge timber reserves identified by the UNDP/FAO Team in the Forest Industries Development Project, it was doubted whether such inventory work would be economically justified. A final decision is awaited following correspondence with the Consultant Forester.

In connection with the Zonation Plan for the Study Area the Senior Agriculturist and the Chief Soil Surveyor together had discussions in Kuching with the Conservator of Forests concerning the allocation of land assessed as possibly suitable for agriculture but lying within the Forest Reserves. Also discussed were the problems associated with logged hill forest areas which were assessed as unsuitable for agricultural development. A discussion of these problems is presented in the Zonation Plan.

Close co-operation has been established with the FAO members of the Forest Industries Development Project and very useful discussions were held during separate visits to Miri of two members of the team.

5. Mining

Further information has been obtained on the natural resource bases for a possible mining industry. The potentials in this sector are generally not promising. More detailed studies are needed to decide the feasibility of possible industries.

Mineral reserves, besides oil and gas, are concentrated mainly on limestone, antimony and silica-sand. Some prospecting work has been carried out in the past years but only one licence has been issued.

The lack of precise details of some future development activities of Sarawak Shell Berhad is still of concern to the Consultants. Although more detailed information on the planned LNG-plant has been supplied, and the impact on the local economy has been considered the planning of the regional structure cannot be completed so long as the exact location of this major industrial development is still unsettled.

6. Water resources

The hydrologist returned to the Project Office in early September. Most of the planned work on analysis of existing hydrological data has been completed, and work is in hand to summarise the present position and conclusions.

All hydrological and meteorological equipment ordered in the United Kingdom has arrived, the only outstanding items being standard and automatic raingauges ordered from West Malaysia. Work on establishing hydrological stations has started.

Mr. Then Thiat Khiong, Engineering Assistant from the Drainage and Irrigation Department, Kuching, joined the Study in the Second half of September. He will be based in Miri and will take charge of the hydrological field work during the hydrologist's absence. Arrangements for the loan of some items of hydrological field equipment from the D.I.D. to the Study have been completed.

SECTION B: POPULATION, PRODUCTION, ETC.

Population and Labour

The 1970 census data received from the Department of Statistics in Kuching shows the total population, divided into males and females, within each Census Circle. In order to project the natural growth of the population up to 1990, it has been necessary to supplement this information with investigations into the distribution of community groups within the area. This investigation has been completed with the assistance of the District Officers and their staff, for which the consultants are grateful. Using this information a working paper has been written which shows for each Census Circle the number of males and females and the distribution of ethnic groups in 1970. The natural growth of this population up to 1990 has been projected for each Census Circle.

However, the estimates of the distribution of community groups within each Census Circle are rather uncertain; hence it would be preferable to obtain more accurate data from the Department of Statistics in Kuala Lumpur. An invitation to discuss the processing of the 1970 Census with regard to community groups, age structure and employment structure has been received from the Department of Statistics, Kuala Lumpur, and a meeting will be arranged after the Steering Committee Meeting in October.

A delineation of the urban and semi-urban centres in the Study Area has been completed on basis of air photos, field studies, and the 1970 Census. The private and public service supply in these centres is being investigated in conjunction with the sociology studies.

A survey of under employment and unemployment in the Study Area is now under preparation. This Study will be based on an estimate of the age structure, numbers employed in mining, fishing manufacturing and construction industries as well as estimates of the employment in agriculture, forestry and the service industries.

## 2. Production and Trade

### a) Production

The work on establishing an adequate numerical basis for the production output has progressed although the difficulties in obtaining detailed information have delayed the analysis. Meanwhile the cost structure within certain key-sectors of the local economy has been investigated.

The problems of the availability of relevant data have been resolved. The Chief Statistician in Kuala Lumpur and the Senior Statistician in Kuching have helped to find solutions to the difficulties of making important statistics accessible to the consultants. Already much valuable information has been supplied. The main data that are still required are those on manufacturing. Once these have been discussed and processed, the most important production statistical information will have been obtained. Discussions concerning the final form of presentation of the data are planned for the first week of October in Kuching.

### b) Trade

Some indications as to the present trade pattern have been provided by data obtained during the traffic survey at the end of July. The foreign trade pattern is covered through the published surveys from the Department of Statistics. Attempts to obtain further data on domestic trade from a special local trade survey initiated by the Consultants in June have not been successful as the percentage and quality of the answers did not meet even the most basic requirements. The trade sector will therefore be treated on the basis of information already available supplemented by data that the sociologists might be able to produce from an investigation of the bazaar trade.

## 3. Income and Consumption

Most of the data requested from EPU and the Department of Statistics have been received with only one exception which is caused by processing delays.

The study of the origin and creation of 'Regional Income' is well under way and the first assumptions for the "Gross Regional Product" have been produced.

The consumption estimates will be processed when the preliminary work on the Regional Income has been terminated. The impact of the import and export trade on the local economy has been examined and clarified..

SECTION C: TRANSPORT AND COMMUNICATIONS

During the first week of August the preliminary processing of the O-D survey data was completed by the Regional Planner. From the 6th August and up to 13 September there was no specific activity within the transport sector which was awaiting the arrival of the Transport Planner.

The Transport Planner arrived the 13th September, and used the period up to the 24th September to familiarize himself with the Study.

A field trip was made to Bintulu, Tatau and Sebauh between the 25th and 27th September. The purpose was to obtain an impression of the Miri-Bintulu road, the Kemena and Tatau rivers, and of the centres Bintulu, Kuala Tatau, Tatau and Sebauh. Transport operation and problems were discussed with the District officials.

Work is proceeding on processing the returns from the Traffic Surveys and on organising a transport infrastructure inventory. Analyses of traffic costs, transport operation, future traffic flows and transport infrastructure are being started.

Special transport and location problems of importance to the Study arise from the evacuation of palm oil from the Lambir Subis Area. The consultants have been in contact with the Sarawak Land Development Board (SLDB) and the Public Works Department (PWD), and preliminary investigations have been undertaken. A questionnaire has been submitted to SLDB. PWD has drawn up a preliminary road alignment and provided construction cost estimates for alternative roads from the oil palm estate to Kuala Sibuti.

The counterpart Highway Engineer has been working on road construction costs in connection with palm oil evacuation at the PWD headquarters in Kuching. He is expected to join the team in Miri in the near future.

SECTION D: SETTLEMENTS AND INSTITUTIONS

1. Public Finance and Administration

The influence of the public sector on the regional economy has been studied by the Counterpart General Economist Mr. Hamzah Abd. Drahman, who has been concentrating on a survey of expenditures and revenue of the different organisations within the public sector.

In the Scope of Work it is mentioned that suitable recommendations should be worked out for the future institutional organisations - "in the light of information provided by the government." To comply with these requirements from various sources a first hand knowledge of the administrative organisation of the public sector in Sarawak has been obtained from various sources. A paper on the present organisations will be submitted to the Government for approval and/or amendment, **whon it is** completed.

2. Settlements and Infrastructure

The Physical Planner, who has temporarily left the team, completed an extensive Working Paper on urbanization, the delineation of the Study Area into planning units, the classification of settlements, the infrastructural services and facilities. Also included were a physical planning exercise and a comprehensive working programme for the Counterpart Physical Planner, who has not yet joined the team.

3. Sociological Aspects

The sociologists have continued to familiarize themselves with the Study Area and its population. In addition, they have visited Kuching, Simanggang, and Sibu to collect material relevant to the problems of identifying potential migrants.

In Kuching they discussed these problems with members of the Agricultural Research Station, the Department of Statistics, the Land and Survey Department, the Sarawak Land Development Board, the Sarawak Economic Development Corporation and the Sarawak Museum. In addition the Sarawak Museum was approached, and its curator has consented, to

allow Mr. Kaboy, Assistant Research Curator, to be attached temporarily to the Consultants in order to assist with surveys in the Study Area. In Simanggang Dr. Sather visited the Resident's Office, the District Office and met with the Development and Welfare Officers. He also toured Skrang Development Scheme and visited Lubok Antu. In Sibuluh Dr. Morris held discussions with the Agricultural Department, the Labour Officer and the Development Officer.

The information collected is now being incorporated in a working paper assessing whether, and in what areas, the available information is sufficient for making recommendations as to the recruitment of potential settlers.

In the Fourth Division field tours have been made of the Lambir-Subis Scheme, the Paya Selanyau Scheme, to Bekenu, Niah, Marudi, and Long Teru. In each place conversations were held with headmen and other leaders. Additional tours were made to villages in the Miri and Baram Districts and the Niah and Sibuti Sub-districts. Further tours are planned to Sulu and the Jintulu District.

Much thought has been given to the sociological position of the different types of populations in the Study Area. Their relationship to existing land schemes and to other schemes of the same or of a different type, as well as to potential urban development needs to be properly understood. This work has been partly summarized in a working paper on the relationship of customary law to the Land Code and forms of land tenure suitable to modern farming methods. Another working paper has been prepared describing some field studies needed to complete the sociological mapping of the area. The studies which are expected to take about three weeks will cover an Iban community; a Kayan community; a Kedayan community; an urban Malay community; a Hakka small holding area; two existing settlement schemes; and an intermediate trading centre (Class II Bazaar) and a small rural trading centre.

If possible, the Kedayan community studied will be one with holdings on the Paya Selanyau Scheme. The most suitable village is Kpg. Selanyau and preliminary discussions have been held with the Tua

Kampong. A survey has been started of the Lambir Rubber Scheme settler population. The work is designed to assess (a) income, including the social and economic needs of settlers; (b) settlement organization and its appropriateness in meeting the aspirations of the settlers and the goals of the scheme; and (c) migration, including the characteristics of the settlers and the reasons for, and consequences of, migration.

Reports on societies relevant to the Study are being written and several should be completed before the Zonation Plan is presented. They include the following: The Land Dayak; The Iban; The Malay; The Melanau; The Kayan/Kenyah, and The Chinese.

Dr. Morris left at the end of August and the Sociologist Counterpart, Mr. Solhee, joined the Study on the 1st of September.

#### 4. Regional Structure

A working paper on the regional development possibilities of the Study Area has been drafted. This paper briefly describes and discusses the existing and future potentials and possibilities for development in the main planning units of Baram, Kemena and the Coastal Area. An outline of the future consequences of certain development strategies with regard to employment opportunity, population growth and settlements has been prepared.

With regard to the delineation of suitable planning units within the Study Area and the boundaries of the Study Area itself, the Government has been approached by the Consultants to consider a limited extension of the Study in order to cover a more natural economic, social and physical catchment region for Bintulu. If this extension is accepted by the Government, some preliminary physical, social and economic surveys and investigations in the area as far south as Tatau will be undertaken. In order to get a first hand impression of Bintulu and its catchment area, a field trip to Bintulu, Tatau and Sebauh has been undertaken.

A description of the Fourth Division in the State Setting has been drafted. This paper outlines briefly the following aspects; location, physiography and geomorphology, climate, **land use**, people and population, **land revenue** and **natural resources**.

Appendix I

Soil Conservation. Memorandum Based on Findings and  
Recommendations of Mr. N. W. Hudson, Special Consultant

1. Erodibility

The geological formations of this region are recent sedimentary deposits, unconsolidated, unstable and subject to severe erosion. Evidence of their high erodibility is plentiful.

For example,

- (a) In areas with no agricultural development or human activity there are many land slides and slips.
- (b) In roadside cuttings slumps in the form of rotational shear slides are common, even at low angles of repose.
- (c) The forms of erosion characteristic of high erodibility (pedestal erosion, pinnacle erosion) are obvious and frequent. Every road cutting and every bare area show the low resistance to erosion of all the rocks in the area.

Since the parent material is so geologically unstable and vulnerable, the soils derived from these rocks are also unstable and erodible. The saving grace, which has prevented serious erosion, is that they have in their natural state, a high infiltration rate and capacity to absorb rainfall. This, however, relies on their having a protective mantle of plant cover, a debris litter on the surface and high organic content in a well structured surface horizon. If these features are removed or disturbed then run-off and the erosion will escalate.

The sedimentary rocks in the south of the Study Area appear to be older, more consolidated and slightly more erosion resistant than those in the rest of the Area. The derived soils should also be more resistant, but probably insufficiently so to justify different assessment criteria or land use. However, arrangements have been made to include three or four soils from the Study Area in a comprehensive collection of tropical soils from south-east Asia to which the applicability of Wischmeier's erodibility index is being tested. This research project is being undertaken at the

Asian Institute of Technology in Bangkok. If the index is found to be applicable its use could be extended to other local soils to make an erodibility classification.

## 2. Conservation Practices and Land Use

Based on evidence both from the Study Area and from other parts of the world with similar conditions, it is recommended that agricultural development should be confined to land with slopes of less than  $25^{\circ}$ . On the soil-types found in the Study Area slopes steeper than this are liable to be unstable under any conditions, and terracing is more likely to increase than reduce the risk of land slips.

For erosion control in the Study Area a full vegetative cover is more effective than measures involving earth movement. Fortunately such a cover is not difficult to retain, and even when it is removed regeneration is rapid. With care the conversion from primary jungle to oil palm plantation can be achieved with little erosion damage.

Crops and cropping patterns that involve clean cultivation should be avoided on sloping land. Theoretically, mixed-crop smallholdings could be intensively and efficiently developed by using each type of land appropriately -- wet padi and fish ponds in the valley bottoms, maize and hill rice with channel terraces on the gently sloping bottom slopes up to say  $18^{\circ}$ , vegetables on bench terraces on the slopes up to say  $15^{\circ}$ , pepper on bench terraces with cover crop or mulching up to say  $20^{\circ}$ , and permanent tree crops or permanent grass up to say  $25^{\circ}$ . But this would require high inputs of extension and education, capital, credit, land title, marketing and all the other requirements of an intensive agriculture. This sort of development is unlikely in the near future. With a simple cropping pattern based on permanent crops under plantation or estate development, where the management is more likely to be good, the erosion is more likely to be kept under control.

Considering only the risk of erosion, there is no reason to limit the slope for good stands of permanent grass. For grass in rotations there may well be limitations arising from the non-grass part of the rotation, and grasslands which have to be renewed may have problems during the re-establishment. The limitations also arise more from the handling of the pasture. Cattle will not graze it evenly above about  $15^{\circ}$ , and catstep terraces will develop (especially in these layered soils). Mechanical harvesting becomes difficult and dangerous above  $15^{\circ}$ . Dense, permanent, grasses, hand harvested with no grazing, might be grown up to  $30^{\circ}$  or  $35^{\circ}$ , without erosion, but it remains to be proved whether this could be a commercially viable farming system.

### 3. Research Suggestions

Factual information on rates of erosion are needed, both for efficient planning, and also for the benefit of the administrators who will have to take decisions about implementing the plan. A programme will be carried out, using approximate methods of measurement supported by one or more experiments designed to give accurate comparison of soil losses from different slopes.

It is suggested that some programmes of work should be started to work out techniques that will both reduce erosion and increase yields on pepper and hill padi cultivations. Combinations of terracing, contour planting, ground cover and surface mulching are the obvious starting points of such a programme, which is a long term one and therefore must be executed by the Department of Agriculture.

/vs

3.10.1972.

# PLAN OF OPERATIONS & MONTHLY PROGRESS CHART

## MIRI - BINTULU REGIONAL PLANNING STUDY

STUDY HEAD	1972												1973			
	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	
SOILS			AP PROJECT AREAS 3.5 MILLION ACRES	MAPPING	FIELD CHECKS	REPORT	SAMPLE AREAS	RENTIS CUTTING	SURVEY SDMPA + 350,000 ACRES							
MINERALS				DATA COLLECTION				FORECASTS COSTS & REVENUE	REPORT							
AGRICULTURE		INVESTIGATE	EXISTING	AGRICULTURE	EVALUATE POSSIBLE CROP & LIVESTOCK	PROJECTS			SELECT DEVELOPMENT PROGRAMS FOR DIFFERENT ENTERPRISES							
		COLLECT DEMAND	AGRO-ECON DATA	STUDIES	COSTS & PRICES	PROJECT BUDGETS - INPUTS / OUTPUTS			PHASING & EVALUATION OF AGRICULTURAL PROPOSALS							
									UPDATE OUTLINED PRICE, COST, DEMAND, INPUT, OUTPUT, DATA							
FISHERIES								INITIAL FISHERY INVENTORY								
FORESTS		LIAISON SELECTED FORESTS	MAPPING FOREST ENCUMBRANCES	LIAISON IBM	MAPPING	REPORT DATA	FOREST PROPOSALS	INVENTORY & TALLY CARD CHECKING, ETC								
HYDROLOGY			COLLECT HYDROLOGICAL DATA	ANALYSIS		ESTABLISHMENT OF GAUGING STATION HYDRO. & WATER CATCHMENT AREAS										
LAND USE & TENURE						EXISTING LAND USE, RIGHTS OF LAND & LAND TENURE										
REGIONAL ECONOMIC MODEL					MODEL CONSTRUCTION			OPTIMIZATION & MODEL WORK								
POPULATION & LABOUR			DATA COLLECTION & ANALYSES		FORECASTS REPORT			REPORT								
PRODUCTION & TRADE			DATA COLLECTION & ANALYSES				FORECASTS & UNIT COSTS		REPORT							
INCOME & CONSUMPTION			DATA COLLECTION & ANALYSES		REPORT			RESOURCE DESCRIPTION & ALLOCATION REPORT								
TRANSPORT			DATA COLLECTION ORIGIN, DESTINATION SURVEY INFRASTRUCTURE & VEHICLES		ACCESS & COSTS		FORECASTS, REQUIREMENTS & COSTS REPORT									
PUBLIC FINANCE & ADMINISTRATION			DATA COLLECTION & ANALYSES				FUTURE REVENUES & EXPENDITURES ADMINISTRATIVE & TAX SYSTEM									
SETTLEMENTS & INFRASTRUCTURE			DATA COLLECTION SETTLEMENTS & PUBLIC SERVICE STANDARDS & HOUSING, UNIT COSTS		REPORT		FUTURE SETTLEMENTS SERVICE STANDARDS & HOUSING - COSTS		REPORT							
SOCIOLOGY					DATA COLLECTION			ANALYSES REPORT								
MAPS			PREPARE 1:250,000 BASE MAP		COMPILED ZONATION PLAN DATA		FINAL DRAW 2/P	PRINT ADD COLOUR	PERSPECTIVE PLAN REPORT DRAWINGS							
REPORTS					FIRST DRAFTS ZONATION PLAN		FINAL DRAFTS		FIRST DRAFTS FINAL DRAFTS PERSPECTIVE PLAN							
PROGRESS REPORTS & CONSULTATIONS		SC1 K	PR1		PR2	SC2 M		PR3	SC3 K		PR4	SC4 M				

▨ IN HAND

▩ DELAYED

PR - PROGRESS REPORT

SC - STEERING COMMITTEE