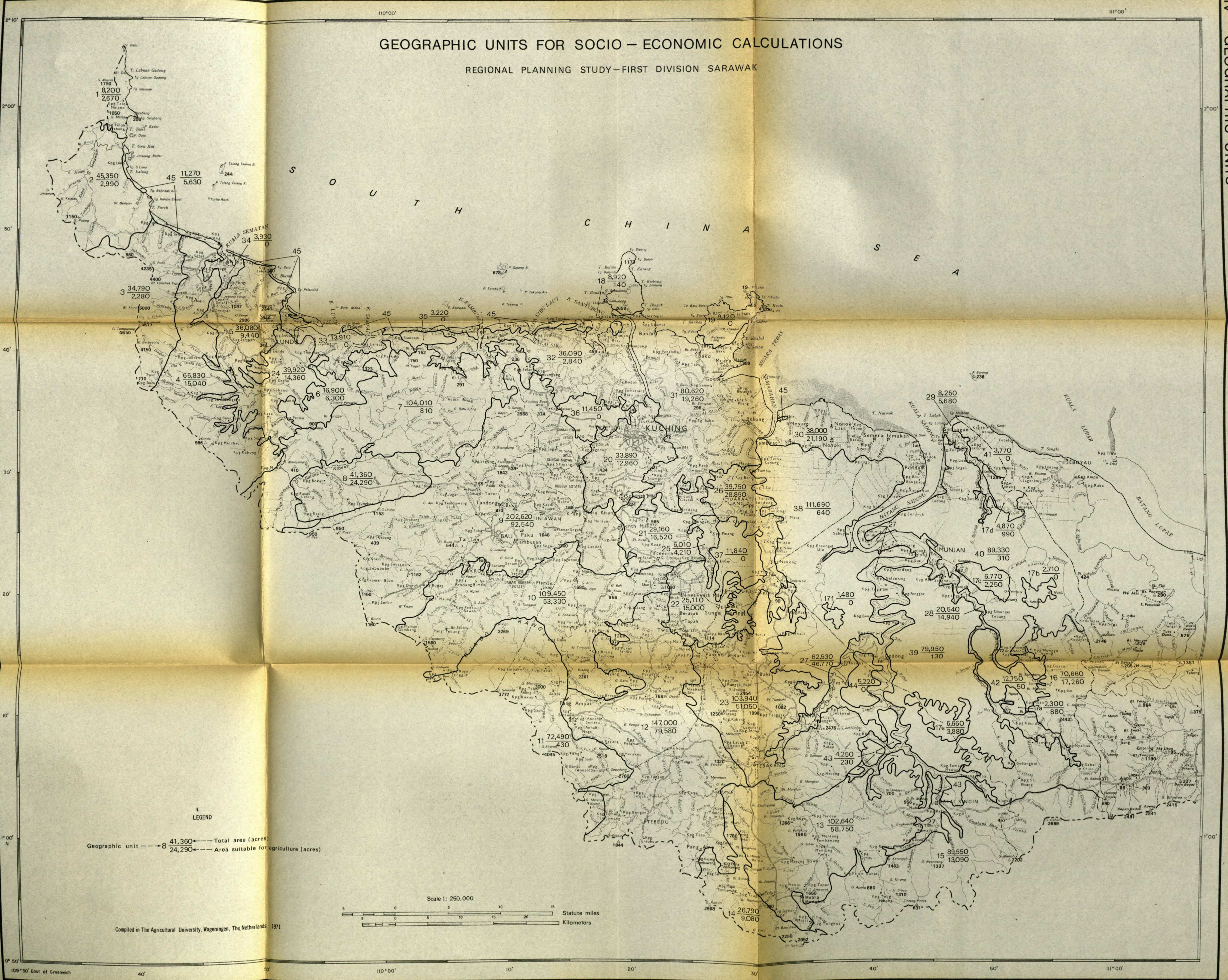


HUNTING TECHNICAL SERVICES**Regional Planning Study
of the First Division Sarawak****Volume VIII****Maps**

- I Topography
- II Physiography
- III Soils
- IV Geographic units for socio-economic calculations
- V Land use
- VI Population
- VII Distribution of socio-economic services
- VIII Land tenure
- IX Proposed future land use
- X Proposed service centres and road system

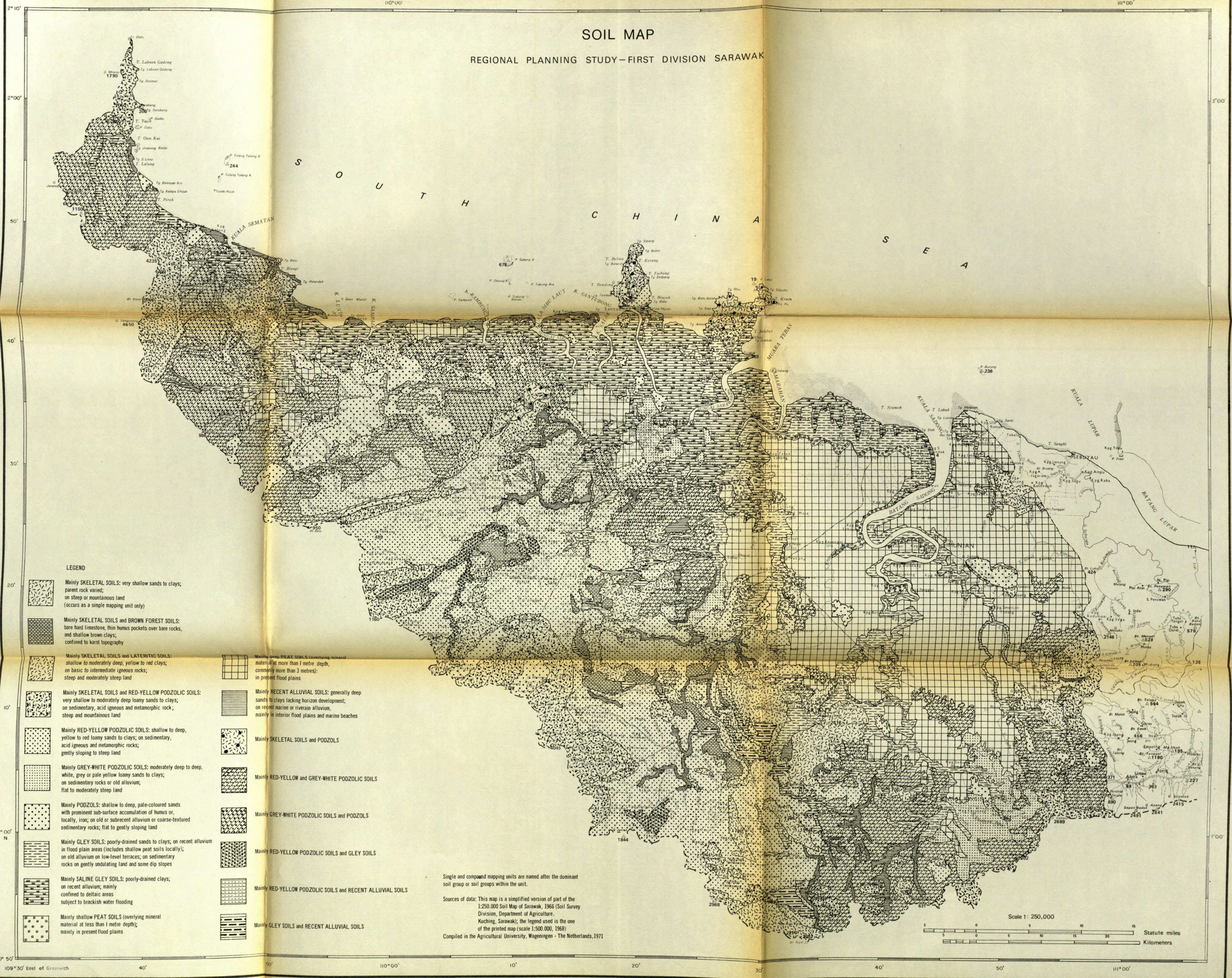
GEOGRAPHIC UNITS FOR SOCIO - ECONOMIC CALCULATIONS

REGIONAL PLANNING STUDY - FIRST DIVISION SARAWAK



SOIL MAP

REGIONAL PLANNING STUDY—FIRST DIVISION SARAWAK



LEGEND

- Mainly SKELETAL SOILS: very shallow sands to clays; parent rock varied; on steep or mountainous land (occurs as a simple mapping unit only)
- Mainly SKELETAL SOILS and BROWN FOREST SOILS: bare hard limestone, thin humus pockets over bare rocks, and shallow brown clays; confined to karst topography
- Mainly SKELETAL SOILS and LATERITIC SOILS: shallow to moderately deep, yellow to red clays; on basic to intermediate igneous rocks; steep and moderately steep land
- Mainly SKELETAL SOILS and RED-YELLOW PODZOLIC SOILS: very shallow to moderately deep loamy sands to clays; on sedimentary, acid igneous and metamorphic rock; steep and mountainous land
- Mainly RED-YELLOW PODZOLIC SOILS: shallow to deep, yellow to red loamy sands to clays; on sedimentary, acid igneous and metamorphic rocks; gently sloping to steep land
- Mainly GREY-WHITE PODZOLIC SOILS: moderately deep to deep, white, grey or pale yellow loamy sands to clays; on sedimentary rocks or old alluvium; flat to moderately steep land
- Mainly PODZOLS: shallow to deep, pale-coloured sands with prominent sub-surface accumulation of humus or, locally, iron; on old or subrecent alluvium or coarse-textured sedimentary rocks; flat to gently sloping land
- Mainly GLEY SOILS: poorly-drained sands to clays; on recent alluvium in flood plain areas (includes shallow peat soils locally); on old alluvium on low-level terraces; on sedimentary rocks on gently undulating land and some dip slopes
- Mainly SALINE GLEY SOILS: poorly-drained clays; on recent alluvium; mainly confined to deltaic areas subject to brackish water flooding
- Mainly shallow PEAT SOILS (overlying mineral material at less than 1 metre depth); mainly in present flood plains
- Mainly deep PEAT SOILS (overlying mineral material at more than 1 metre depth; commonly more than 3 metres); in present flood plains
- Mainly RECENT ALLUVIAL SOILS: generally deep sands to clays lacking horizon development; on recent marine or riverain alluvium, mainly in interior flood plains and marine beaches
- Mainly SKELETAL SOILS and PODZOLS
- Mainly RED-YELLOW and GREY-WHITE PODZOLIC SOILS
- Mainly GREY-WHITE PODZOLIC SOILS and PODZOLS
- Mainly RED-YELLOW PODZOLIC SOILS and GLEY SOILS
- Mainly RED-YELLOW PODZOLIC SOILS and RECENT ALLUVIAL SOILS
- Mainly GLEY SOILS and RECENT ALLUVIAL SOILS

Single and compound mapping units are named after the dominant soil group or soil groups within the unit.

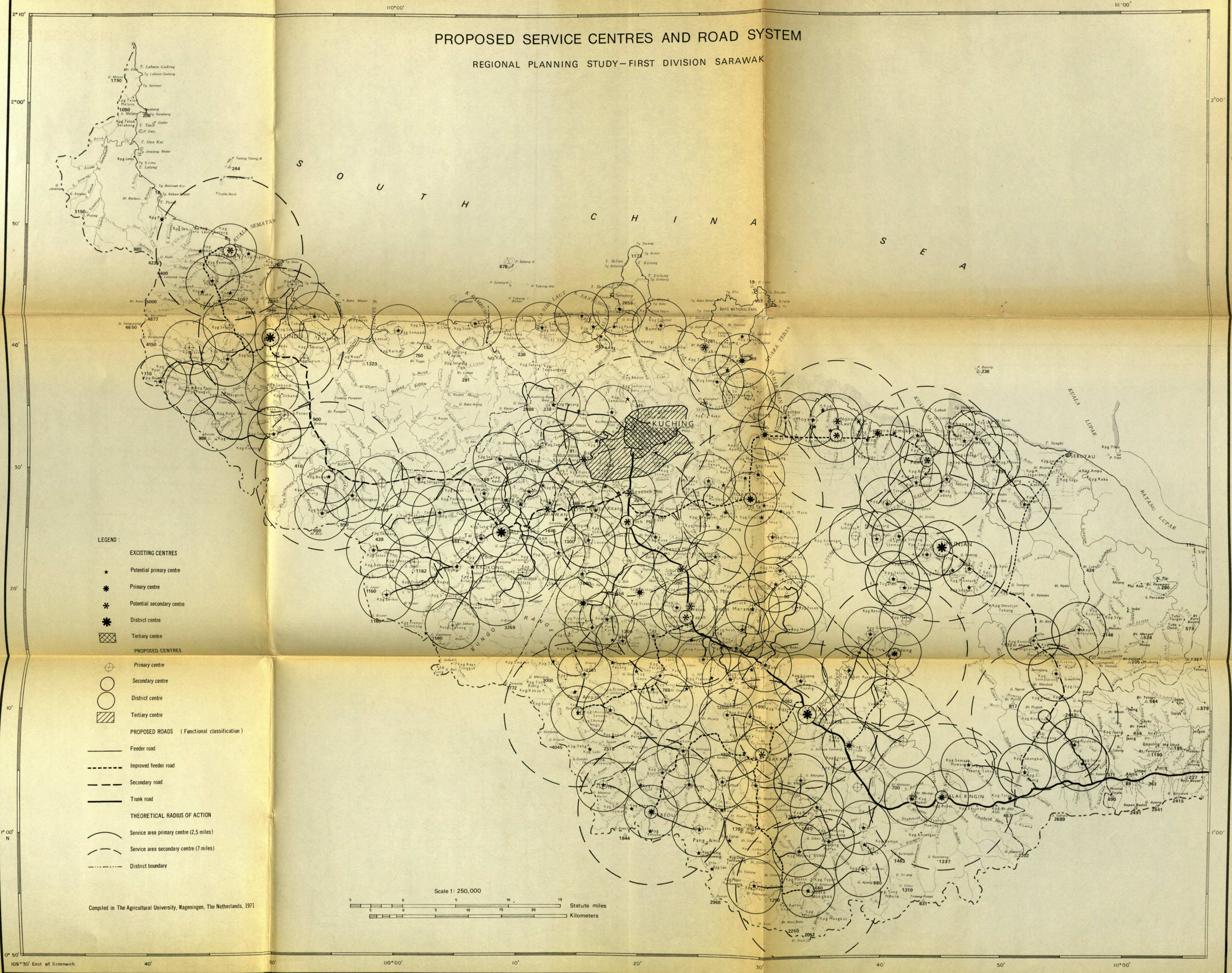
Sources of data: This map is a simplified version of part of the 1:250,000 Soil Map of Sarawak, 1966 (Soil Survey Division, Department of Agriculture, Kuching, Sarawak); the legend used is the one of the printed map (scale 1:500,000, 1968).
Compiled in the Agricultural University, Wageningen - The Netherlands, 1971

Scale 1: 250,000

Statute miles
Kilometers

PROPOSED SERVICE CENTRES AND ROAD SYSTEM

REGIONAL PLANNING STUDY—FIRST DIVISION SARAWAK



LEGEND :

EXISTING CENTRES

- ★ Potential primary centre
- ✱ Primary centre
- ✱ Potential secondary centre
- ✱ District centre
- ✱ Tertiary centre

PROPOSED CENTRES

- Primary centre
- Secondary centre
- District centre
- ▨ Tertiary centre

PROPOSED ROADS (Functional classification)

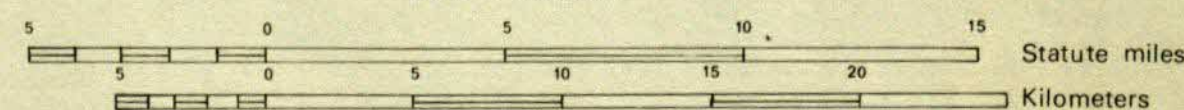
- Feeder road
- - - Improved feeder road
- - - Secondary road
- Trunk road

THEORETICAL RADIUS OF ACTION

- Service area primary centre (2.5 miles)
- Service area secondary centre (7 miles)
- - - District boundary

Compiled in The Agricultural University, Wageningen, The Netherlands, 1971

Scale 1 : 250,000



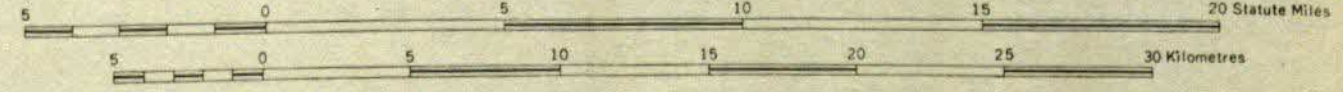
PHYSIOGRAPHIC MAP

REGIONAL PLANNING STUDY—FIRST DIVISION SARAWAK



TIME	PHYSIOGRAPHIC UNIT	GENERAL CHARACTERISTICS
HOLOCENE TO PRESENT DAY 0 to ± 20 feet	Sematan	Coastal ridges and beaches. General level from 0 - 20 feet.
	Santubong	Young emerged coastal plain. General level from 0 - 20 feet.
	Samarahan	Present riverain floodplains. General level from 0 - 20 feet.
	Nonok	Basin swamps filled in with organic deposits. General level of surface 0 - 40 feet. Level of underlying deposits mainly below sea level to slightly above.
MIDDLE PLEISTOCENE TO HOLOCENE ± 20 to ± 150 feet	Quop	Old coastal plain and large old valley floors; with many terrace remnants and recent valleys. General level from 20 to ± 150 feet. Mainly below 100 feet. a. Relatively slightly dissected. b. Moderately dissected - more land inwards. Few terrace remnants.
	Lundu	Terraces and terrace remnants. Mainly between 20 and 50 feet. Some at 90 feet; in places a subunit in the Quop unit.
	Tebedu	Moderately to strongly dissected old erosion surface generally between ± 150 feet where bordering the Quop unit to ± 350 feet in the interior. Many inland valleys of recent date increasing in width towards the Quop unit.
OLDER THAN MIDDLE PLEISTOCENE $> \pm 150$ feet	Penrisen	'Cuesta' landscape. Distinct dip and scarp slopes topography. Generally 350 feet to over 2,000 feet. Locally down to 150 feet.
	Pueh and Stapok	Igneous massifs and monadnocks. Mountainous steep terrain. Generally above 350 feet to over 2,000 feet.
	Bau	Karst landscape. Generally monadnock type limestone mountains above 350 feet to over 1,000 feet.
	Undup	Undifferentiated strongly dissected mountainous terrain. Mainly sedimentary rocks. Generally above 350 feet to over 2,000 feet.

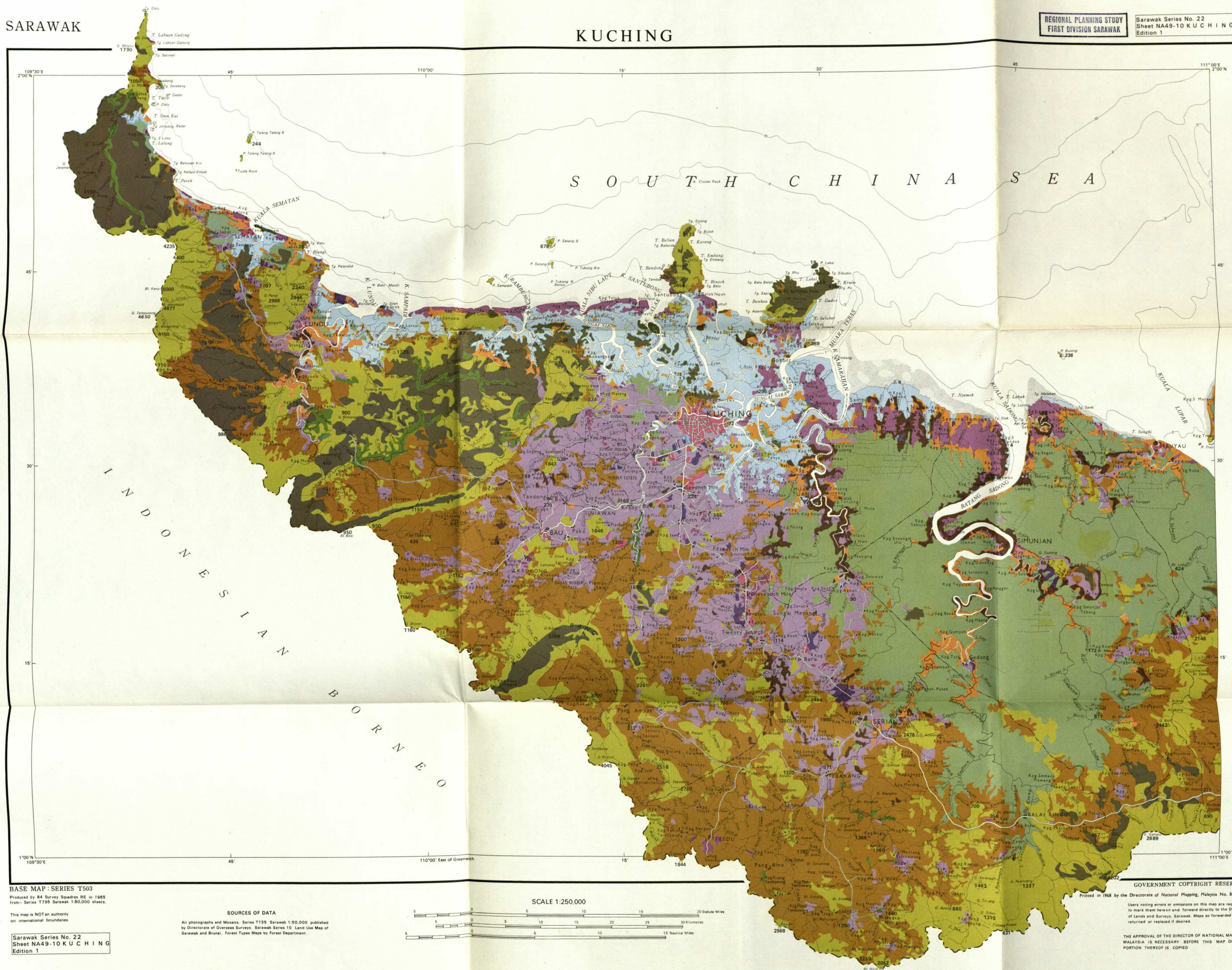
SCALE 1:250,000



Compiled by J.P. Andriess
Drawn by May Lim

Legend descriptions abridged by: The Agricultural University, Wageningen, The Netherlands, 1971
Base map derived from BASE MAP SERIES T 50 produced by 84 Survey Squadron RE in 1965

Approximate position of old coastline during time of highest sea level in the period middle PLEISTOCENE - HOLOCENE



REFERENCE

SETTLEMENT AND ASSOCIATED
NON-AGRICULTURAL LANDSHORTICULTURAL LANDS
(including small areas of fruit trees)TREE, PALM AND OTHER
PERMANENT CROPS

Rubber

Pepper

Coconut

Sago

Oil Palm

CROP LAND

Wet Padi

Hill Padi
(bush fallow, shifting cultivation)

IMPROVED PERMANENT PASTURE

GRASSLAND AND
OTHER SECONDARY GROWTH

SWAMP FOREST

Mixed Swamp Forest

Alan

Padang Paya

DRY FOREST LAND

Hill Forest

Karangas Forest

Riverain Forest

Beach Forest

SWAMP (PAYA)
(including fresh and salt water
swamps, Mangrove and Nipah)

UNPRODUCTIVE LAND

LAND USE RELIABILITY DIAGRAM

AIR PHOTOGRAPHY USED

1950
1962
1963
1964
1965

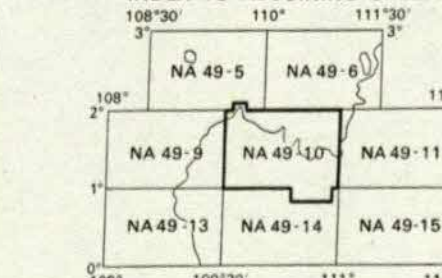
GLOSSARY

Alo		Small stream			
Batang	Btg	Main river	Mudong		Hill
Batu		Stone	Nanga	N.	Mouth of stream
Basar		Large	Pa		Small Stream
Bukit	Bt.	Hill	Padang	Pdg.	Oxbow or seasonal lake
Danau		Lake	Pangkalan	Pang.	Landing Place
Genting		Saddle	Pasir		Sand
Giam		Rapids	Perintis		Waterway joining two rivers
Gunong	G	Mountain	Pulau	P	Island
Kampung	Kgp	Village	Rantau	Rn.	Reach
Kechil	K (after name)	Small	Riam	Rm.	Rapids
Krangau	Krgn.	Boulder rock	Ruan		Mountain
Kuala	K (before name)	Mouth of river	Rumah	R.	Longhouse
Logan	Lg	Oxbow or Seasonal Lake	Sungai	S.	River or stream
Loba	L.	Waterway joining two rivers	Tanjung	Tg.	Cape or bend of stream
Long		Village	Telok	T.	Bay
Lubok	Lbk.	Deep pool	Trusan	Tr.	Channel
Muara	M.	Mouth of river	Ulu		Headwater

LEGEND

Divisional Headquarters	KUCHING	International boundary	---
District Headquarters	LUNDA	State boundary	---
Sub-District Headquarters	SEMATAN	Divisional boundary	---
Other Towns	Siburan	District boundary	---
Village or Longhouse	Kpg. Lebak	Sub-District boundary	---
River and Stream		Rocks	*
River, indefinite or unsurveyed		Reef	~
Trunk Road		Foreshore flat	~
Secondary and Minor Road		Depth curve in fathoms	~
Jeep track		Lighthouse	☼
Footpath		Mineral Working	☼
		Trig and Spot Heights	1404
		Trig Station	△

INDEX TO ADJOINING SHEETS



BOUNDARY DIAGRAM



DISTRICT

SUB-DISTRICT

First Division

Second Division

Simanggang

7. Sulu

8. Lingga

9. Muara Tuang

10. Sulu

11. Lingga

12. Muara Tuang

13. Sulu

14. Lingga

15. Muara Tuang

16. Sulu

17. Lingga

18. Muara Tuang

19. Sulu

20. Lingga

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22. Sulu

23. Lingga

24. Muara Tuang

25. Sulu

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237. Muara Tuang

238. Sulu

239. Lingga

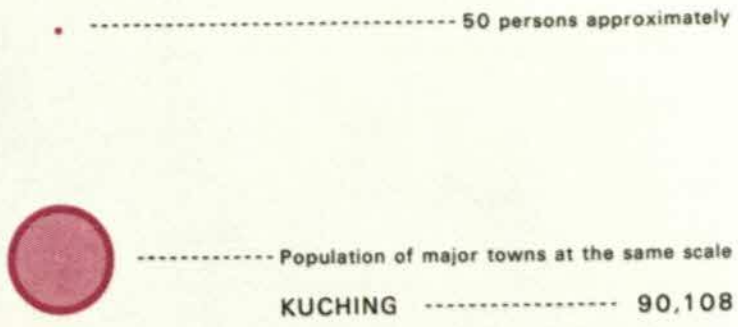
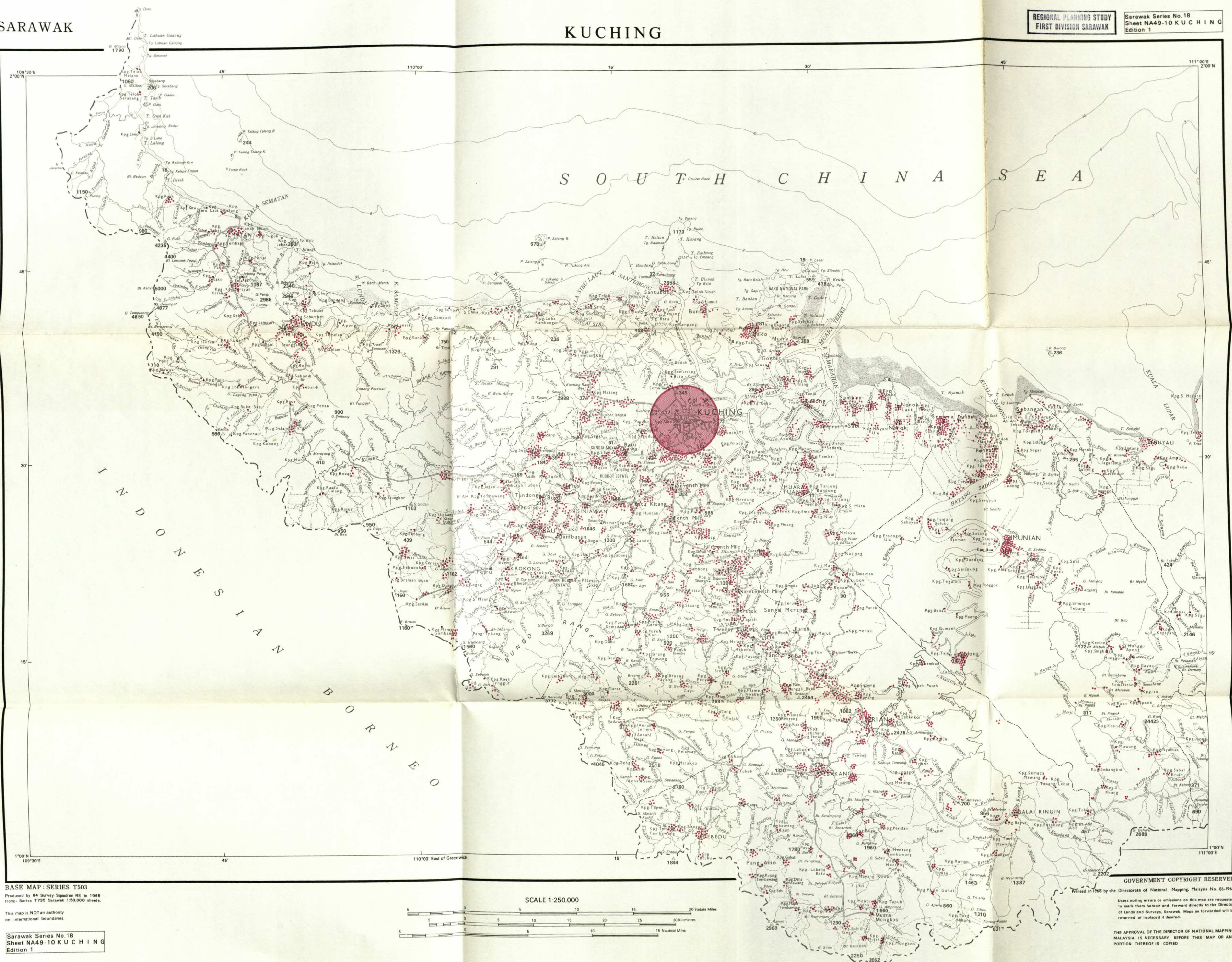
240. Muara Tuang

241. Sulu

242. Lingga

243. Muara Tuang

244. Sulu



- SOURCES OF POPULATION DATA
1. 1960 Census of Population.
 2. Kampong and Longhouse Register, by Medical Department, Sarawak.
 3. Sarawak Population Projection-1964
 4. 1:250,000 Sarawak Series 14.
 5. 1:50,000 Series T735.

The basic source of data for this map is the Report of the Census taken on 15th June, 1960. This report, however, only contains details of the larger rural settlements, and hence it has been necessary to supplement the information it contains from the 'Kampong and Longhouse Register' (with Settlement & Locality Map) compiled by the Malaria Eradication Unit of the Medical Department between 1961 and the end of 1963. The data from which the map is compiled was thus collected over a period of 3 1/2 years. It has therefore been updated to June 1964, i.e. four years after the census, when the total estimated population of Sarawak, according to the official estimate by the Statistics Department, was 618,147.

In the compilation of the Series the 'Settlement and Locality Maps' referred to above were checked against the 1:50,000 T735 Map Series, and the Sarawak Series 14 (Scale 1:250,000). Additional settlements identified in this way were checked against the most recent air photography, and if a settlement was confirmed to exist, in the absence of other information, it was allocated one dot. In Sarawak there are, on average, 6.1 persons per occupied house (see Census page 116). One dot is thus approximately equivalent to eight houses.

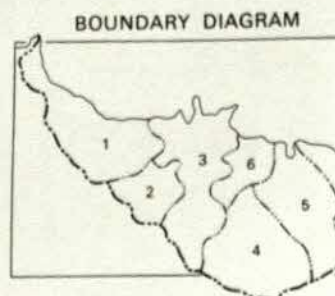
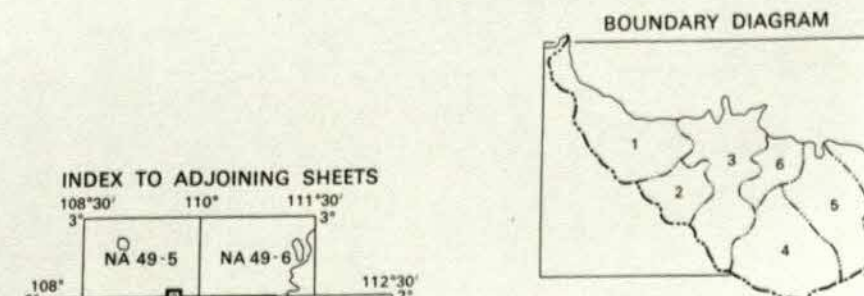
Urban settlements with a population estimated to be more than 2,500 on 15.6.1964 are represented by a hollow circle; the area of which is proportional to the population. An urban settlement of 10,000 is represented by a circle of radius 0.25 inches approximately.

GLOSSARY

Alor	Small stream	Mudong	Hill
Batang	Main river	Nanga	N.
Batu	Stone	Pang	Mouth of stream
Besar	Large	Pd.	Small stream
Bukit	Hill	Pdg.	Oxbow or seasonal lake
Danau	Lake	Pangkalan	Pang.
Genting	Saddle	Pasir	Sand
Giam	Rapids	Permintas	Waterway joining two rivers
Gunong	Mountain	Pulau	P.
Kampong	Village	Rantau	Rn.
Kechil	K. (after name)	Riam	Rm.
Kranjan	Krgn.	Ruan	Mountain
Kuala	K. (before name)	Rumah	R.
Loagan	Lg.	Sungai	S.
Loba	Waterway joining two rivers	Tanjung	Tg.
Long	Village	Telok	Tr.
Lubok	Lbk.	Trusan	Tr.
Mura	M.	Ulu	Headwater

LEGEND

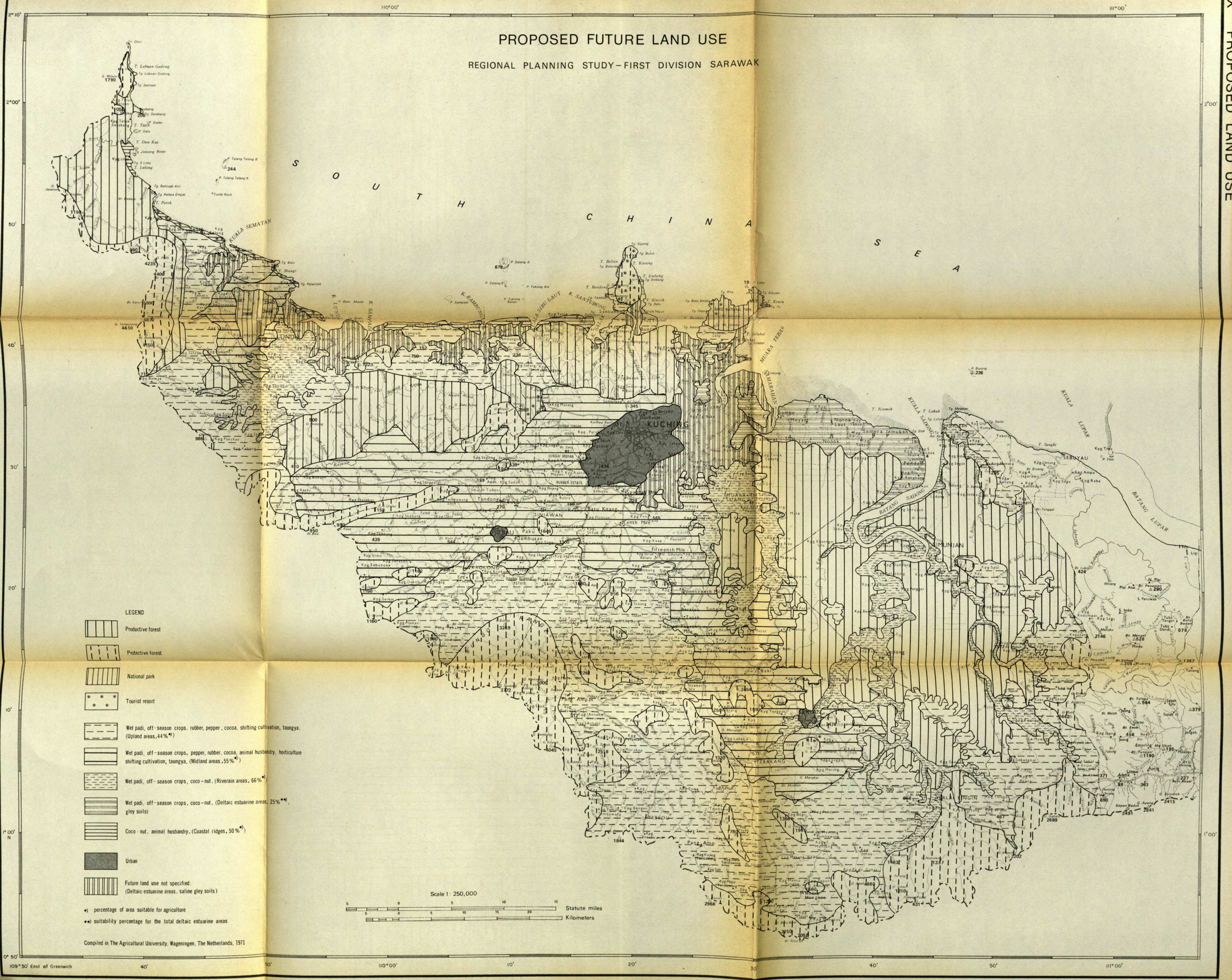
Divisional Headquarters	KUCHING	International boundary	---
District Headquarters	LUNDA	State boundary	---
Sub-District Headquarters	SEMATAN	Divisional boundary	---
Other Towns	Siburan	District boundary	---
Village or Longhouse	Kpg. Lebak	Sub-District boundary	---
River and Stream		Rocks	■
River, indefinite or unsurveyed		Reef	■
Trunk Road		Foreshore flat	■
Secondary and Minor Road		Depth curve in fathoms	---
Jeep track		Lighthouse	■
Footpath		Mineral Working	■
		Trig and Spot Heights	1404
		Trig Station	△



DISTRICT	SUB-DISTRICT
1. LunDA	6. Muara Tuar
2. Bau	7. Sebayan
3. Kuching	8. Lingga
4. Seran	
5. Saling	
6. Muara Tuar	
7. Sebayan	
8. Lingga	

PROPOSED FUTURE LAND USE

REGIONAL PLANNING STUDY—FIRST DIVISION SARAWAK

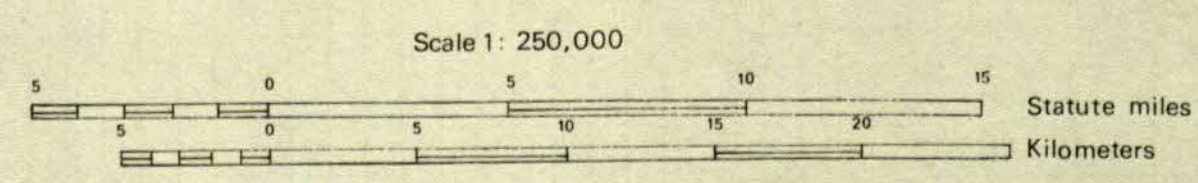


LEGEND

- Productive forest
- Protective forest
- National park
- Tourist resort
- Wet padi, off-season crops, rubber, pepper, cocoa, shifting cultivation, taungya. (Upland areas, 44%)
- Wet padi, off-season crops, rubber, pepper, cocoa, animal husbandry, horticulture, shifting cultivation, taungya. (Midland areas, 55%)
- Wet padi, off-season crops, coco-nut. (Riverain areas, 66%)
- Wet padi, off-season crops, coco-nut. (Deltaic estuarine areas, 25%, gley soils)
- Coco-nut, animal husbandry. (Coastal ridges, 50%)
- Urban
- Future land use not specified. (Deltaic estuarine areas, saline gley soils)

• percentage of area suitable for agriculture
•• suitability percentage for the total deltaic estuarine areas

Compiled in The Agricultural University, Wageningen, The Netherlands, 1971



LAND TENURE

REGIONAL PLANNING STUDY—FIRST DIVISION SARAWAK



REFERENCE

- Alienated Land
- Mixed Zone Land
- Native Area Land
- Land on which Customary Rights may have been established
- Interior Area Land

RESERVED LAND

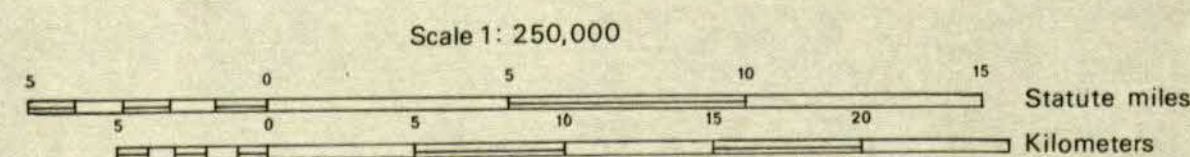
- 1 Forest Reserve
- 2 Protected Forest
- 3 Communal Forest
- 4 National Park
- 5 Native Communal Reserve
- 6 Government Reserve

- Trunk Road
- Secondary Road
- Feeder Road
- Other Roads

Sources of Data:
Information Compiled by the Land and Survey Department, Sarawak
the Land Use Map, 1970.

Note:
Users of this map are reminded that the land tenure is compiled as
a guide for the Regional Planning Study only.
Information conveyed is by no means complete.

Compiled in The Agricultural University, Wageningen, The Netherlands, 1971



DISTRIBUTION OF SOCIO - ECONOMIC SERVICES

REGIONAL PLANNING STUDY - FIRST DIVISION SARAWAK

REFERENCE

- X District Officer
- Y Sarawak Administrative Officer
- G Other Government Offices
- K Police Station
- M Post Office
- F Postal Agency
- H Local Hospital
- C Maternity and Child Health Clinic
- D Static Dispensary
- A Travelling Dispensary
- R Shopping Facilities
- P Primary School
- S Secondary School
- I Industry (Rice, Saw mill)
- E Electricity (Public and Private)
- W Piped Water Supply

- Trunk Road
- Secondary Road
- Feeder Road
- Other Roads
- Kuching Urban Area

Note: 1. Socio-economic Services in Kuching Urban Area excluded

2. Figures below the letters stand for number of Units

Sources of Data:

Information Supplied by District Officers and Sarawak Administrative Officers
Departmental Reports and Field Observations from December 1969 to March 1970

Compiled in The Agricultural University, Wageningen, The Netherlands, 1971

Scale 1: 250,000

