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Report No. 78/1

Report on a Semi-Detailed Soil Survey
of the
LAMBIR DUSUN LOT
4th. Division

by

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January, 1971

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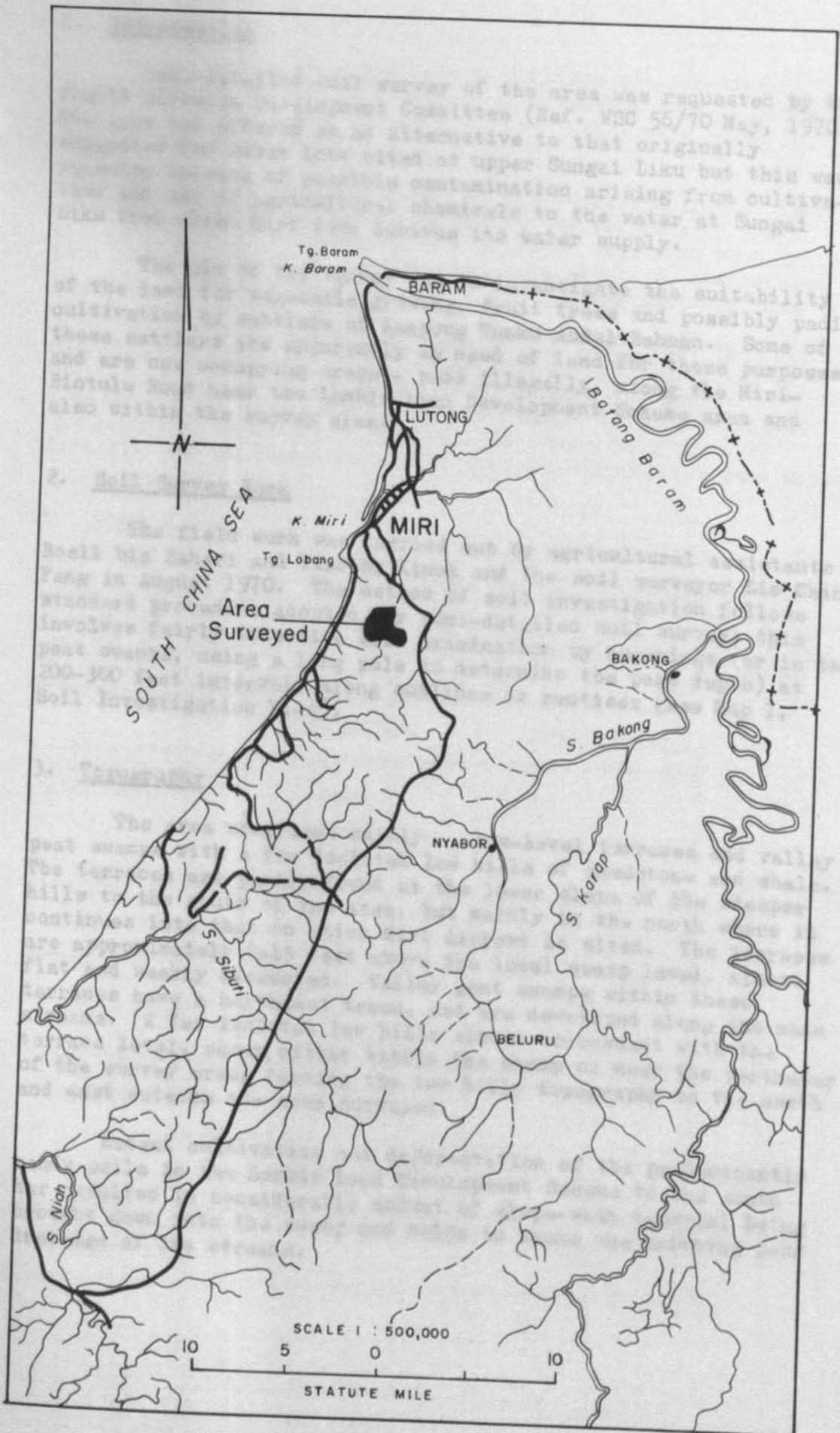
Contents

	<u>page</u>
1. Introduction	1
2. Soil Survey Work	1
3. Topography	1
4. Vegetation	2
5. Soils	2
a. Bekenu Family	3
b. Nyalau Family	3
c. Kerait Family	3
d. Saratok Family	3
e. Miri Family	3
f. Mukah Family	4
g. Igan Family	4
h. Anderson Family	4
i. Buso-Saratok Association	4
j. Bijat-Plan Association	5
6. Conclusions	5

Maps:

Map 1 : Soil Investigation Plan, scale 1:20,000.

Map 2 : Soil, scale 1:20,000.



LOCATION

1. Introduction

Semi-detailed soil survey of the area was requested by the Fourth Division Development Committee (Ref. WSC 56/70 May, 1970). The area was offered as an alternative to that originally suggested for Dusun lots sited at upper Sungai Liku but this was rejected because of possible contamination arising from cultivation and use of agricultural chemicals to the water at Sungai Liku from which Miri town derives its water supply.

The aim of the survey was to investigate the suitability of the land for vegetable growing, fruit trees and possibly padi cultivation by settlers of Kampong Tunku Abdul Rahman. Some of these settlers are apparently in need of land for these purposes and are now occupying areas - some illegally, along the Miri-Bintulu Road near the Lambir Land Development Scheme area and also within the survey area.

2. Soil Survey Work

The field work was carried out by agricultural assistants Rosli bin Sahari and Timothy Kinok and the soil surveyor Lim Chin Pang in August 1970. The method of soil investigation follows standard procedure adopted for semi-detailed soil survey; this involves fairly intensive soil examination by augerings (or in the peat swamps, using a long pole to determine the peat depth) at 200-300 feet intervals along cutlines or rentises (see Map 1, Soil Investigation Plan).

3. Topography

The area comprises mainly low-level terraces and valley peat swamps with a few isolated low hills of sandstone and shale. The terraces are partly found at the lower slope of the steeper hills to the south of the area, but mainly in the north where it continues into that on which Miri Airport is sited. The terraces are approximately 5-15 feet above the local swamp level, almost flat and weakly dissected. Valley peat swamps within these terraces have a northeast trend, and are developed along the main streams. A few isolated low hills almost concordant with the terrace level, occur either within the swamp or near the perimeter of the survey area, forming the low hilly topography to the north and east outside the area surveyed.

Recent cultivation and deforestation of the predominantly sandy soils in the Lambir Land Development Scheme to the south has resulted in considerable amount of slope-wash material being brought down into the swamp and helps to choke the existing poor drainage of the streams.

5.a. Bekenu Family (3 acres)

Soils of Bekenu Family are formed from sandy shale and occur on small hills mapped near the boundary of the area. The soils consist of yellowish-brown sandy clay loam merging into clay loam to clay in the subsoil. The soils are deep, free draining, and are suitable for most crops. However, these soils are of too minor extent for agriculture.

5.b. Nyalau Family (10 acres)

Soils of Nyalau Family are formed from sandstone and occur only in the southern part of the area where it continues into the higher hills of the Lambir Land Development Scheme. The soils are light textured, consisting of yellowish-brown sandy loam to sandy clay loam topsoil and sandy clay loam subsoil. The occurrence of these soils is too minor in extent to be of importance.

5c. Kerait Family (17 acres)

Soils of Kerait Family are formed from light grey to pale yellow shale, and are found mainly in the northeastern periphery of the area. The soils consist of pale yellow or light clay loam topsoil over heavy, almost structureless clay in the subsoil. Like the other hill soils, Kerait soils are only of minor importance in the extent of occurrence.

5d. Saratok Family (5 acres)

Saratok soils are formed from light grey to pale yellow sandstone and occur in association with Kerait and Nyalau soils. These soils are light textured, consisting of sandy clay loam topsoil and sandy clay loam to sandy clay subsoil.

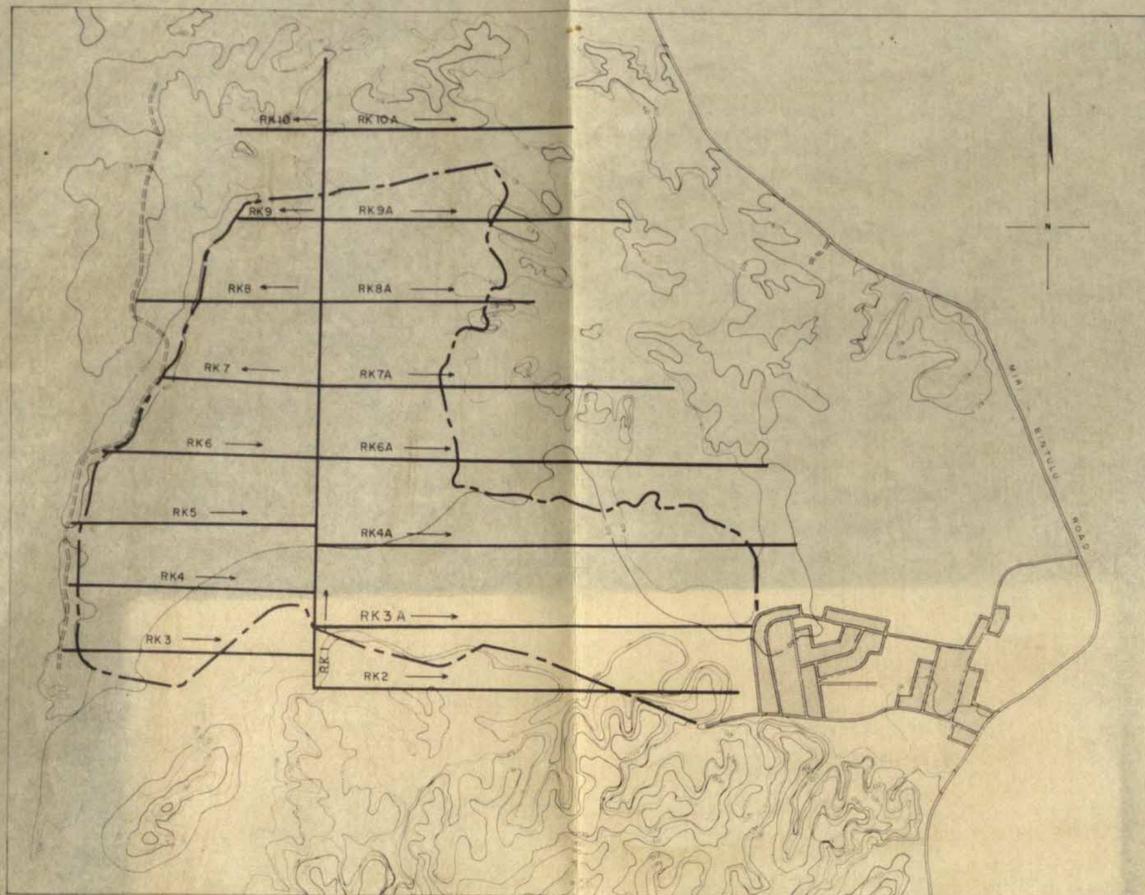
5e. Miri Family (478 acres)

Soils of Miri Family are formed from almost pure, single-grained marine beach sand and occur on low-level terraces. The common soil profile consists of:

- 2 - 0" : dark reddish-brown mor humus.
- 0 - 8" : greyish-brown loamy sand; friable, moist.
- 8 - 18" : light grey to white, medium-grained sand; moist to wet in places due to the presence of perched water table in the lower horizon; structureless; sharp boundary change to
- 18 - 25" : very dark-brown humus-coated sand, very hard to auger through, sharp change to
- 25"+ : pale brown sandy clay loam mottled with distinct veins of dark brown from above.

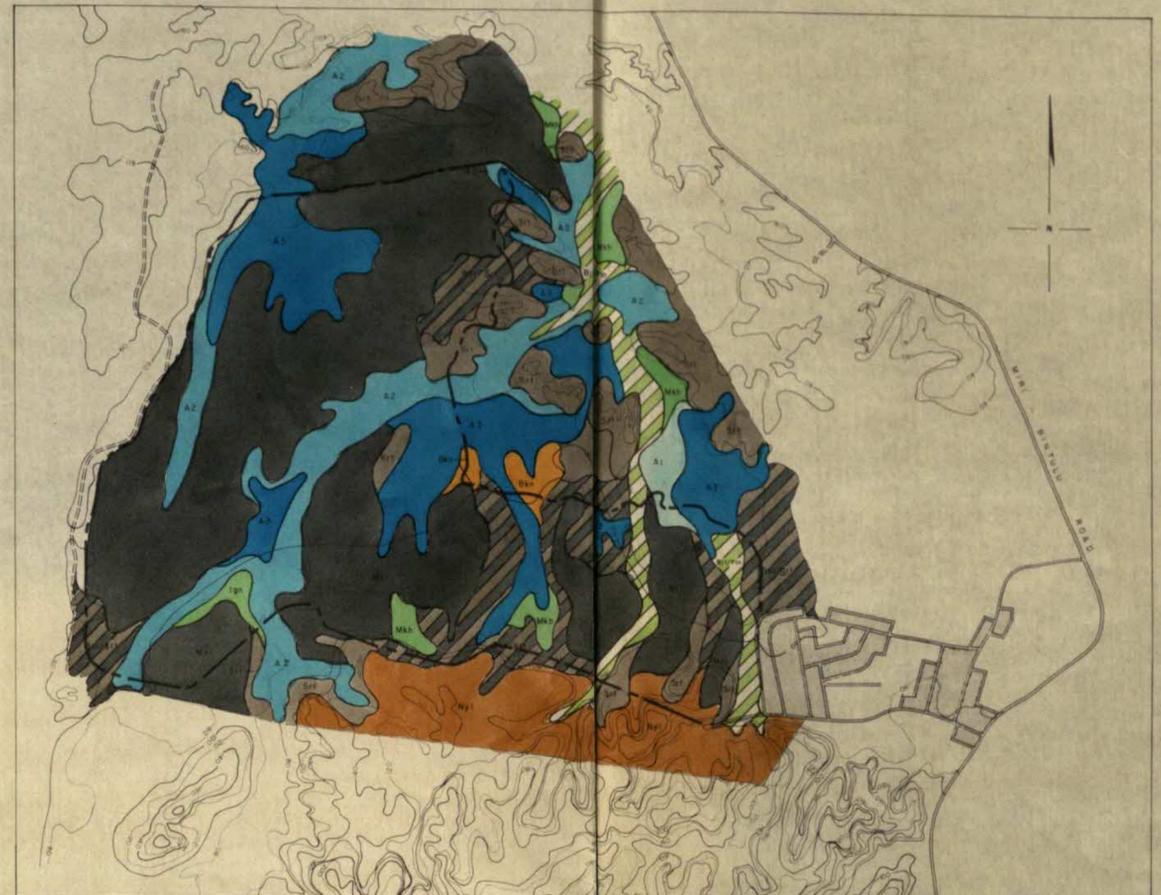
LAMBIR L. D. S.
PROPOSED DUSUN LOTS
SOIL INVESTIGATION PLAN

Map 1



LAMBIR L. D. S.
PROPOSED DUSUN LOTS
SOIL

Map 2



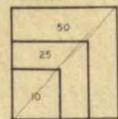
KEY TO SOILS

Mapping Symbol	Soil Family	Origin / Parent Material	Topography	Main Soil Characteristics	Suitability for Agriculture	Main Limitations	Acreage
	Bekenu	Residual / fine sandstone and shale	Low hills.	Yellow or yellowish-brown fine sandy clay loam over clay loam to clay, deep.	Suitable for pepper, fruit trees and tree crops.	No physical limitation; but soils require fertilisers.	3
	Nyalau	Residual / medium to coarse-grained sandstone	Moderately steep hills, gullied and dissected in parts.	Yellowish-brown sandy loam to sandy clay; moderately deep.	Moderately suitable for rubber; marginal suitability for pepper.	Soils susceptible to erosion.	10
	Saratok	Residual / sandstone low in iron content	Rolling low hills.	Pale yellow sandy loam, over pale yellow sandy clay, deep.	Suitable for pepper and most tree crops and vegetable.	No physical limitation, but soils require fertilisers.	17
	Kerait	Residual / shale low in iron content	Rolling low hills	Pale yellow clay loam over pale yellow clay, deep, very firm.	Suitable for pepper and most tree crops; too heavy for vegetables.	No severe physical limitations, but soils require fertilisers.	5
	Miri	Alluvial / old beach deposits	Flat or gently rolling terraces	Light grey or white single grain sand over hard humus pan; with water table over pan.	Unsuitable for most crops without heavy fertilization.	Nutrients very low; excessively drained during dry seasons.	478
	Buso	Alluvial / old beach deposits	Flat or gently rolling terraces and terrace escarpments.	Light grey or white sandy loam over light grey sandy clay loam; weak humus pan.	Marginal suitability for most crops without heavy fertilization.	Nutrients low; soils somewhat excessively drained during dry seasons.	—
	Mukah	Organic / shallow peat on clay	Flat, swamp.	10 - 40 inches of woody peat over grey clay, very poorly drained.	Suitable when drained.	Very poorly drained; subject to frequent flooding.	17
	Igan	Organic / shallow peat on sand	Peat in-filled valleys.	0 - 40 inches over sand.	Marginal when drained.	Poorly drained subject to flooding; soil nutrient low.	5
	Anderson 1	Organic / shallow peat	Flat, swamp.	40 - 80 inches of woody peat over clay or sand.	Marginal suitability after drainage.	Very poorly drained; subject to frequent flooding.	3
	Anderson 2	Organic / peat	Flat, swamp.	80 - 120 inches of woody peat over clay or sand.	Unsuitable.	Very poorly drained; subject to frequent and prolong flooding.	83
	Anderson 3	Organic / deep peat	Flat, swamp.	Over 120 inches of woody peat over sand or clay.	Unsuitable.	Very poorly drained; subject to frequent and prolong flooding.	122
Compound Mapping Units							
	Buso/Saratok	Mainly alluvial / old beach deposits	Flat or gently rolling and part of terrace escarpments.	Light grey or pale yellow sandy loam over sandy clay, weak humus pan may be present in B horizon.	Marginal to moderate suitability for vegetables, fruit trees.	Nutrients generally low.	114
	Bijat / Plan	Alluvial / recent deposits	Narrow stream levees and valley bottoms	Grey clay mixed with sand from very recent slope wash, very poorly drained.	Suitable when drained.	Very poorly drained; subject to frequent flooding.	33

LEGEND

Village Area	
Road	
Track	
Boundary of Survey Area	
Soil Boundary	
Rentis	
Contour	

ACREAGE SCALE



SCALE 1:20,000

