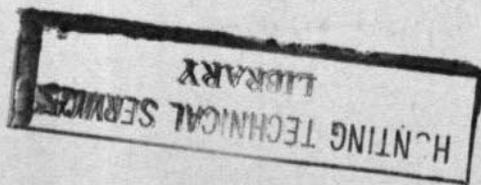


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Report No. 91

Report on a terrain survey
of the
TATAU - ANAP AREA
4 th. Division

by
J. R. D. Wall
Soil Surveyor



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(14)

Survey Division
Arch Branch

April, 1966

Dept. of Agriculture
Sarawak

HUNTING TECHNICAL SERVICES

- 1 -

REPORT ON A TERRAIN SURVEY OF THE TATAU - ANAP AREA, FOURTH DIVISION (SURVEY AREA 91)

by

J.R.D. WALL

April, 1966.

1. INTRODUCTION

The request for this survey, made by the Fourth Division Development Committee, was to determine the broad agricultural potential of the area and to indicate which parts, if any, would be suitable for ground surveying in the future. The agricultural potential can be judged primarily by relief features to exclude steeply sloping and mountainous land and secondarily by the interpretation of vegetation patterns in conjunction with topography in terms of probable soil patterns in the lower, more gently sloping land. Adjacent land on the true right bank of the Tatau River has been surveyed at reconnaissance level (Wall, 1962a) and data from that survey is used, with reservations, in the interpretation of features in this area. The boundaries of the area surveyed coincide with Survey Area 43 (Wall, 1962b) in the north, the Third-Fourth Division boundary in the west, the Tatau and Anap rivers in the east, and Survey Area 24 (Wall, 1962c) in the south. The total area amounts to about 378 square miles.

The Terrain Class map accompanying the report has been compiled solely from air photograph interpretation, and classifies the topography according to various combinations of slope and the height of hills above adjacent valley land (amplitude of relief). The key to the units is shown diagrammatically on the map, and their agricultural usage is interpreted as follows:-

- Terrain Class 1 - Flat or almost flat land, topographically suitable for agriculture.
- Terrain Class 2 - Land with gentle slopes of less than 10° and rising to less than 150 feet above local base level. This type of topography is gently rolling, generally occurs at foothills or on terraces and is topographically suitable for agriculture.
- Terrain Class 3 - Land with gentle to moderately gentle slopes of up to 20° and rising to more than 150 feet above local base level. This type of topography is moderately to strongly rolling and is topographically suitable for agriculture.

- Terrain Class 4 - Land with gentle to steep slopes and rising to less than 50 feet above local base level. This type of topography ranges from being gently rolling to strongly dissected, and is topographically suitable for agriculture.
- Terrain Class 5 - Land with moderately gentle slopes of between 10° and 20° , and between 50 and 150 feet above local base level. This type of topography is moderately rolling, and is topographically suitable for agriculture.
- Terrain Class 6 - Land with moderately steep to steep slopes of 20° to 35° and rising to less than 150 feet above local base level. This type of topography is moderately dissected, and is topographically suitable for agriculture.
- Terrain Class 7 - Land with moderately steep to steep slopes of 20° to 35° and rising to more than 150 feet above local base level. This type of topography is deeply dissected and is considered topographically marginal for agriculture.
- Terrain Class 8 - Land with slopes exceeding 35° , considered to be topographically unsuitable for agriculture.

The map accompanying the report is at scale 1:100,000 and is subject to the same qualifications as a reconnaissance map at the same scale. These are, that although parts of the area are cultivated, and the ground with all the minor slope facets can be seen clearly on the air photographs, most areas are less clear due to a thick cover of vegetation or poor photography. Consequently a mapping unit contains in most cases many small slope facets of other units. Similarly, the process of map reduction from a photograph scale of 1:25,000 to the final map scale of 1:100,000 causes a simplification of the units, although paradoxically the same process increases the accuracy of the boundaries.

2.

TERRAIN OF THE AREA

Land topographically unsuitable for agriculture, namely that in Terrain Class 8, is mapped principally in the north in high hills centred on Bukit Lesong and extending west in small strips to the Tatau River. Smaller patches occur in the southwest in the upper Muput Kanan River area, and there is a large tract close to Bukit Kana in the centre of the area. The Terrain Class 8 unit can be expected to contain many slope facets of the somewhat less steep Terrain Class 7. The slopes around Bukit Lesong and Bukit Kana consist largely of cuesta scarps facing south and southwest, and in many places cliffed for the upper few hundred feet. The smaller, linear patches

are principally steep slopes of high ridges. Landslides are not common despite the steepness of slopes.

The unit Terrain Class 7 is both high and steep and marginal for agriculture topographically: it covers most of the surveyed area with the exception of the northern flatland and low hills, a triangular re-entrant drained by the Sangau River, and a belt in the south drained by the Muput Kanan River. The hills comprise steep, high ridges, in places several hundred feet high and generally aligned roughly east-west. Many small slope facets of Terrain Class 8 occur, and in the north and south there are somewhat lower areas that both contain much Class 6 land, and which are close to being Class 6 land topographically.

The remaining units are topographically suitable for agriculture. Flat land of Class 1 is dominant in the north and as discontinuous embayments following the main rivers and some minor rivers: it is not developed as extensively as in the neighbouring Kemena and Balingian basins. Terrain Class 2 land normally consists of slightly undulating terraces but is not mapped in this area. Small areas of Class 3 land are found only on the gently sloping dipslopes of Bukit Kana and Bukit Lesong. Terrain Classes 4, 5 and 6 occupy the lower hill land, where the hills are generally not strongly dissected and commonly have moderate slopes. Class 5 land in particular may contain small areas of flat land adjacent to streams in narrow valleys. The belt of Class 6 land in the north is rather more strongly dissected than elsewhere.

3. INTERPRETATION OF THE TERRAIN CLASSES

The flat land in the north is characterised by deep peat vegetation, and is considered unsuitable for agriculture. The exception is a narrow band of probably mixed alluvial and peat soils used for wet padi adjacent to the Anou and Sarupai rivers: ground surveys would be required to check these soils. The flat land in upriver areas appears to contain little peat except possibly in small basins in the Sangau River valley, seen as patches of primary, possibly Peat Swamp Forest, among wet padi fields.

The land classed under units 4, 5 and 6, almost certainly consists of Red-Yellow Podsollic soils developed from Tertiary sedimentary rocks, probably dominated by the clayey Merit Family. Skeletal soils may be common in places. Where these areas are moderately extensive, such as in the north, south and in the Sangau valley, ground surveying may be worthwhile to determine the extent of reasonable Merit Family soils as opposed to, for example, the sandier Nyalau or Bekenu soils. From this point of view the land adjacent to the Muput Kanan River extending well into Third Division as a four-mile wide embayment is most promising, particularly as it is largely under primary forest.

The higher hill land of Terrain Classes 7 and 8 is thought to contain an association of Red-Yellow Podsollic soils and shallow Skeletal soils. The Class 3 land among the high hills is characterised by Heath Forest-like vegetation, which in other areas is known to be an indicator of strongly podsolised and shallow soils.

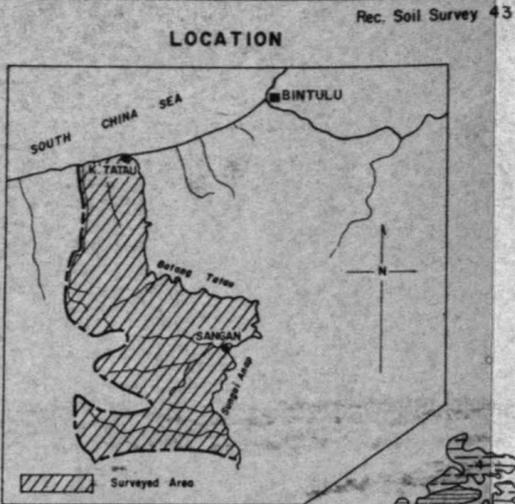
CONCLUSIONS

From an analysis of the topography and an interpretation of the topography and vegetation in terms of the most probable soil pattern, it is clear that there is little land worthwhile investigating in the field. The best areas from this point of view include the hills and adjacent flat foreland in the north, the Sangan Valley triangle and the Muput Kanan Valley area extending into Third Division.

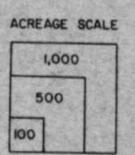
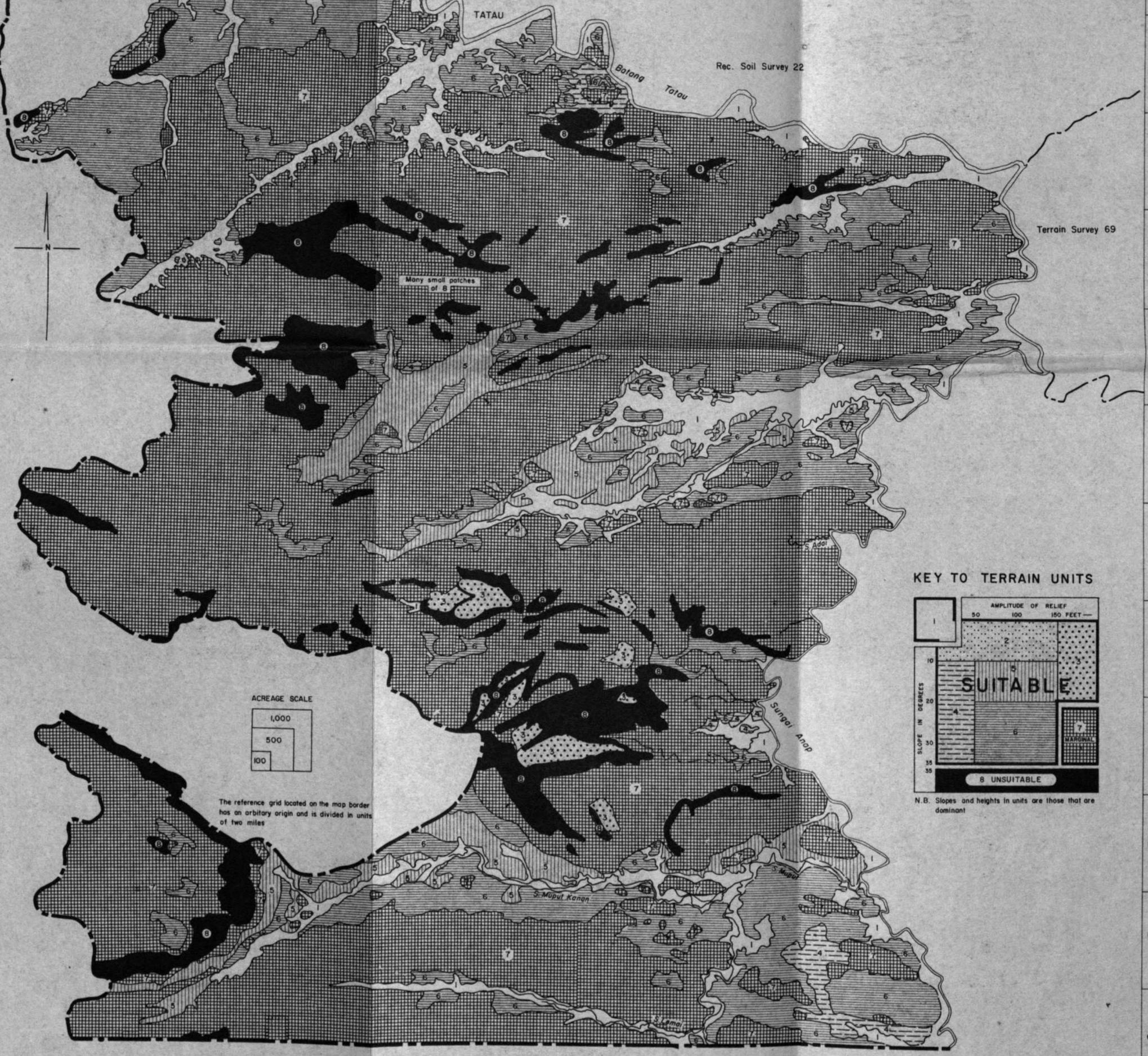
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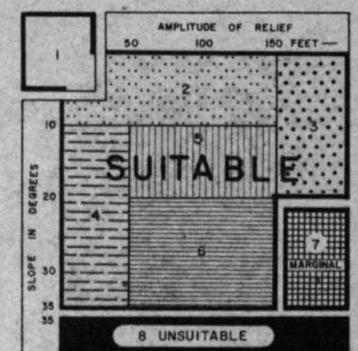


TERRAIN MAP of the TATAU - ANAP AREA



The reference grid located on the map border has an arbitrary origin and is divided in units of two miles

KEY TO TERRAIN UNITS



N.B. Slopes and heights in units are those that are dominant

