THE ROLE OF THE

LAND UTILISATION SECTION

By David F. Freyne, Principal Land Utilisation Officer
Agriculture Branch, D.P.I., Konedobu

INTRODUCTION

The land Utilisation Section of the Agriculture Branch of D.P.I. is concerned with finding out how suitable different areas of land would be for various types of utilisation (use). This involves investigating the climate, soils, vegetation and other aspects of the land and comparing the results with the requirements of potential uses.

HISTORICAL BACKGROUND

The Section was called the Soil Survey Branch when it was first started under the leadership of Mr Greg Graham, in 1952. When Mr Graham was promoted to Deputy Chief, Research and Surveys Division in 1968, Mr Paul Aland was appointed Chief Land Utilisation Officer in his place. In January 1978, Mr Aland, too, was promoted, in this case to Assistant Secretary, Agriculture Branch. The position of Chief Land Utilisation Officer then remained vacant until November 1979 when Mr James Stark took over.

During the 27 years since it started, the Section has been staffed by officers from a wide range of countries including Australia, Holland, Ireland, Great Britain and Canada. Over the past few years, however, a great effort has been made to attract and train national university graduates. There are now four University of Papua New Guinea graduates working in the Section and it is expected

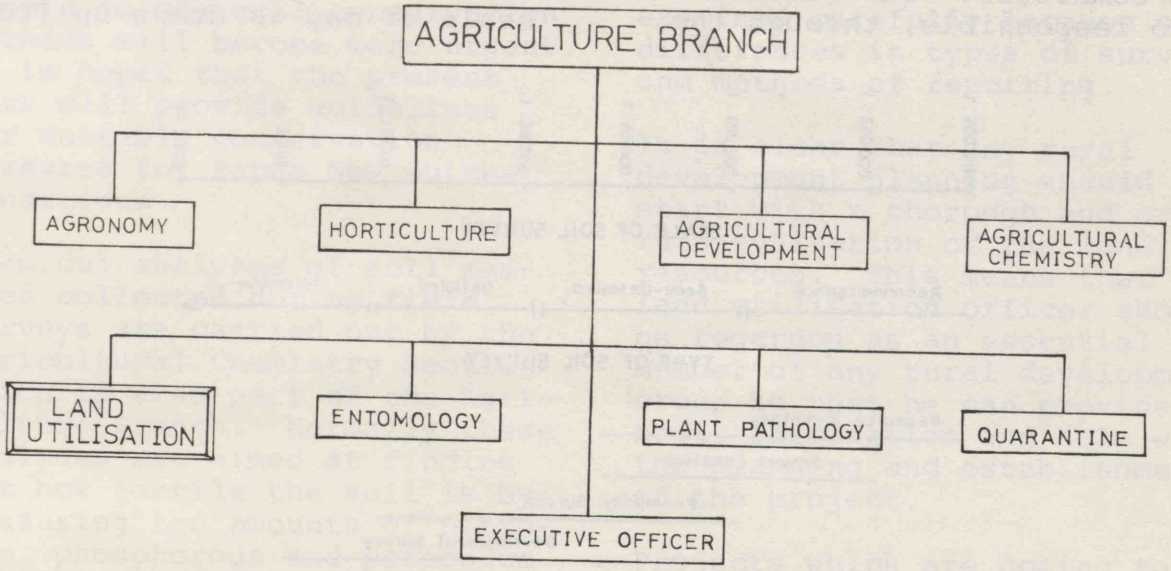


Diagram of the structure of D.P.I. Agriculture Branch showing where the Land Utilisation Section fits in.

that some, or all, of them will have overseas training in the coming years.

FUNCTIONS OF THE SECTION

The functions of the Land Utilisation Section are to:

1. Provide technical advice on land utilisation to the National Government, Provincial Governments and Industry Boards e.g. the Cocoa Industry Board.

2. Carry out basic surveys of climate, soils, vegetation and other features of land and work out what the results mean in terms of the suitability of the land for various uses.

3. Identify potential problems in land utilisation for further study.

The Chief Land Utilisation Officer represents D.P.I. on a number of boards and committees including the Water Resources Advisory Board, the Purari Environment Committee and the OK Tedi Physical Environment Sub-Committee. The Section is also responsible, through the Secretary of D.P.I., for checking on the Bougainville Copper Ltd. experiment to encourage plant regrowth on mined land.

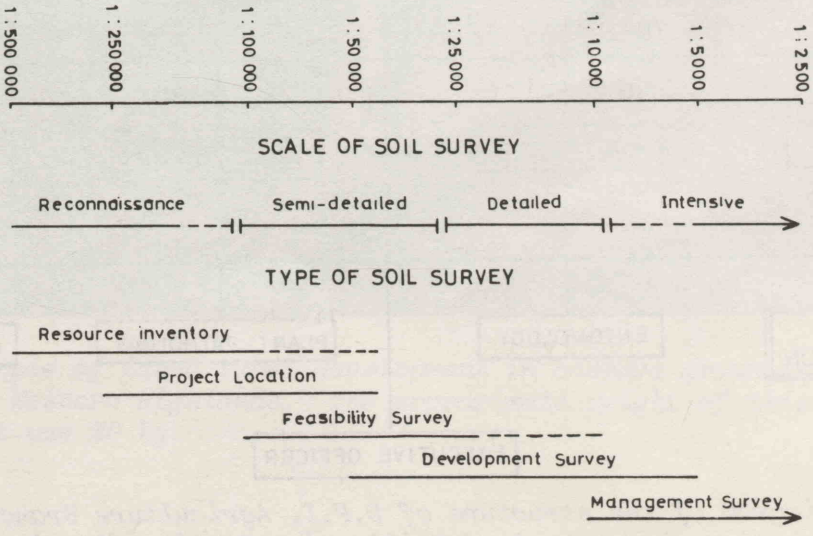
AREAS OF WORK

Land use assessments are drawn up by putting together the results of investigations into soil taxonomy, soil physics and chemistry, and studies on crop requirements and the climate.

1. Soil Taxonomy

Soil taxonomy studies involve finding out what types of soil are present in an area. This is done by carrying out a soil survey. As stated above, the Land Utilisation Section was originally known as the Soil Survey Branch, and soil surveys still form the basis of the Section's land evaluation (assessment) work.

There are many different kinds of soil survey, ranging from the more general reconnaissance surveys to very detailed or intensive surveys. The diagram below gives the names of some types of survey showing how detailed they are and what scale of map is drawn up from



Scales and types of soil survey

them. Thus a management survey is seen to be a type of intensive survey resulting in a map of scale 1:5000, while a resource inventory is a reconnaisance survey and results in a less detailed map with a scale of 1:250 000.

Due to limited numbers of staff, most of the surveys done by the section are semi-detailed types resulting in maps of scale 1:50 000. The aim of these surveys is to find out how feasible it would be to use certain areas for particular projects. Detailed and intensive surveys are needed later to help in the drawing up of development and management plans. The Land Utilisation Section only carries out these types of survey for government agencies.

2. Soil Physics and Chemistry

Soil physics work is, at present, limited to investigations of erosion problems in the densely populated areas of the Simbu Province. Two professional staff are working full time on this project which is expected to continue until late 1981. As agriculture continues to intensify, the need for people to use soil conservation methods will become more urgent. It is hoped that the present work will provide guidelines for suitable conservation measures for Papua New Guinea conditions.

Chemical analyses of soil samples collected during field surveys are carried out by the Agricultural Chemistry Section which is also part of the Agriculture Branch. Normally these analyses are aimed at finding out how fertile the soil is by measuring the amounts of nitrogen, phosphorous and potassium present in it. However, other soil chemicals may also be investigated when necessary.

3. Crop Requirements and Climate

The latest findings from the Agricultural Research Stations on crop requirements are used to help decide what crops can be grown on the area of land under investigation. Since these Stations are also part of the Agriculture Branch (Agronomy Section), the Land Utilisation Section can easily find out what crop work is being carried out.

Information on the climate is found out from C.S.I.R.O. reports and from the Meteorological Office of the Department of Minerals and Energy.

SERVICE TO THE NATIONAL AND PROVINCIAL GOVERNMENTS

The Land Utilisation Section has always supplied technical advice to other National Government Departments besides D.P.I. and, since the introduction of Provincial Government, it is often asked to provide basic information for provincial planning exercises. Obviously the Section has different amounts of data on different provinces and it must all be examined carefully because of differences in types of survey and methods of reporting.

It is clear that any rural development planning should start with a thorough and accurate evaluation of the land's resources. This means that a land utilisation officer should be regarded as an essential member of any rural development group so that he can provide basic information and help with the planning and establishment of the project.

Projects which are hoping to obtain finance from the International Bank for Rural Development or the Asian Development

Bank must have land use assessments carried out at all stages. These assessments are made through:

1. A rapid reconnaissance survey when the project is first thought of,

2. A semi detailed survey later to demonstrate the feasibility of the project,

3. A detailed survey during planning and establishment.

Unfortunately, the importance of land utilisation surveys is not always realised and, in some cases, the Section has been asked to agree to plans which were drawn up without reference to this type of information.

CONCLUSION

In conclusion, it is hoped that this article will clarify the role that the Land Utilisation Section can and should play in the development of agriculture. It should be remembered that the work of the Section in the past has led to the development of some of the country's more successful agricultural industries including tea and oil palm.