

INTRODUCTION

In many Colonial territories the food supply is inadequate to satisfy the demands of ever increasing populations. Greater efficiency in the utilisation of available land is essential if the problem of undernourishment is to be solved. For this reason great importance is attached to advisory and extension work which is aimed at improving the systems of agriculture now employed.

Whatever the particular local problem may be it is usually necessary to carry out some form of land utilisation survey before recommendations for new schemes can be put forward. Such a survey is useful as being a means of determining the present and potential output of an area, the population which it can support and the amount of employment available. The type of survey employed may vary widely, depending on local conditions, but in all cases careful investigation should be undertaken in order to prevent the wastage of resources on worthless schemes. In some cases a complete survey of the area may be carried out, but usually some form of sampling technique is applied.

A complete survey provides results for each part of the area investigated, but this fact is often of little importance since land utilisation surveys are usually employed to investigate the area as a whole, and details of each district are of minor interest. Sample surveys have the following advantages over complete surveys : (a) manpower requirements are reduced, and thus the enumerators can be more carefully selected and better trained; (b) less time is required to carry out the survey and analyse results; (c) the amount of material to be handled is reduced, thus analysis of results can be more accurate and detailed information can be obtained on points of particular interest; (d) costs are lower.

The population to be sampled is usually very variable in the case of land utilisation surveys and thus particular care must be taken in the choice of sampling techniques. If sampling errors are too high little reliance can be placed on the accuracy of the results. The problems arising in the choice of suitable sampling methods are more fully discussed

in chapter five.

A land utilisation sample survey was carried out as project work in 1954/55 by five postgraduate students of the Imperial College of Tropical Agriculture (see Devonald, Castle, Hannagan, Humphrys and Mitchell 1954/55). Frequent mention will be made in this thesis of the reports of the 1954/55 team and thus individual references will not be given. Apart from investigating land utilisation in the Northern Plain of Trinidad the 1954/55 project was designed to develop suitable methods for sample surveys in other Territories and to give students practice in conducting such surveys.

This work was continued in 1955/56, when new techniques were employed in an attempt to obtain more accurate results than those of the previous year. The team for the present survey consisted of four postgraduate students under the chairmanship of Dr. A.L. Jolly. The members of the team worked together on all stages of the survey, but in the interests of efficiency each member concentrated more fully on certain aspects of the work. Reference should be made therefore to the three other reports on this project.

In 1954/55 the area had been divided into two strata, viz.: a "Bush and Plantation Stratum" and a Cane and Arable Stratum". The results obtained had been considerably more accurate in the former stratum. It was decided therefore, that the present team should be allowed to incorporate the results from the bush and plantation stratum survey of 1954/55 into the 1955/56 results, and that no further survey of this stratum should be carried out. The team was then free to allocate all available time to the survey of the remainder of the area. The "Cane and Arable Stratum" of 1954/55 was further divided into an "Estate Cane Stratum" and an "Arable Stratum" (see chapter 2). A complete survey was carried out in the estate cane stratum, thus allowing the team to concentrate as fully as possible on the most important aspect of this year's work, i.e. the attainment of greater accuracy in the arable stratum sample survey.

Since it was conducted as student project work, several

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limitations were attendant on this sample survey. No expensive equipment, transport suited to rugged cross-country conditions, or unskilled labour was available. No maps were used of scale larger than 1 : 50,000 (except Estate maps), nor was any outside information sought, since it was considered that such assistance would not normally be available in other Colonial territories where similar surveys might be carried out.

The survey area also had to be of such a size that it could be completely completed in the time available for field work.

The Northern Range and major part of the Central Range were excluded, since surveying would have been slow and difficult and considerable time lost in the mountainous areas. If the area had been extended further south than the Central Range foothills an undue amount of time would have been spent in daily travelling to and from the I.S.F.A. The urban areas along the Eastern Main Road and the Caroni Swamp, would also have been difficult to survey and are of little agricultural interest.

The relatively compact area eventually selected was approximately square, and covered most of the Northern Plain. At its widest points the survey area extended about 15 miles from both north to south and east to west. The total area covered was 112,465 acres and the boundaries selected were:

On the North - The Churchill-Roosevelt Highway.

On the West - The Princess Margaret Highway from its junction with the Churchill-Roosevelt Highway and as far north as the Madras Espiguete River. Thence along this river to the sea and southwards along the shore of the Gulf of Paria to the north of the Guaya River.

On the South - The main road from Guaya through Spring, Green House, Pigeon Village, to Piangga Cove.

On the East - The road from Piangga Cove through Mount St. Mark's, Mount St. George, Mount St. Andrew and Mount St. David until its junction with the Churchill-Roosevelt Highway. The maps 1 and 2,