THE REASONS FOR THE SURVEY

A. Land Pressure in Trinidad.

At the present time it is the policy of the Government of Trinidad and Tobago to produce as much food for domestic consumption as is economically feasible. (Report of the Agricultural Policy Committee Trinidad and Tobago, 1941*) In addition the Government aims to maintain and encourage the production of export crops, now worth about $50 million a year. The amount of food required by the colony is increasing steadily as a result of an improvement in living standards together with an annual population increase of about 20,000.

An appraisal in 1944 of the Island's land resources, based on an unpublished, provisional soil map and other data, (A Proposed Land Allocation Policy for Trinidad, 1944) concluded that only 37% of the Island's total area was really suitable for agriculture. At the same time it was estimated that 14% of the area that was being cultivated was definitely unsuitable for permanent agricultural use. Of the land suitable for Agriculture noted in this report a large proportion is devoted to the production of the important export crops, chief of which are Sugar and Cocoa. This leaves only a relatively small area of land fitted for the production of food crops for an island whose population is rapidly approaching half a million.

Thus at the present time reserves of land suitable for agriculture, as defined by the standard of the authors of the 1944 report, are virtually non-existent. In addition considerable areas considered unsuitable for cropping in 1944 have not yet been taken out of agricultural use. The most urgent case is an area estimated in 1944 as covering some 30,000 acres of the steep hill sides of the Northern Range where continued cropping gives rise to an increasing danger of serious soil erosion, flooding and loss of water control in this important catchment area. It was suggested in 1944 (A Proposed Land Allocation Policy for Trinidad) that these areas should not remain in cultivation, and if this urgent recommendation is ever implemented alternative agricultural areas will be required.

B. Possibilities of Extending Cultivated Areas in Trinidad.

Thus there is considerable need for more food production in Trinidad, and although there is great scope for intensifying present production of food crops in the good agricultural areas, attention must also be given to the possibilities of reclaiming land at present considered unsuitable for agriculture. In Trinidad there are three main reasons for land being considered unsuitable. The first reason is the danger of soil erosion in mountainous terrain as mentioned above. Secondly a permanent high water table renders the large areas at the mouths of many of Trinidad's
rivers unusable. Thirdly poor soil quality is a major limiting factor. Dr. Greene in his visit to the Island in 1956 suggested that the resources required for the swamp drainage projects at present being considered by Government might be more profitably spent in the agricultural development of land in areas of poor soil at present considered unsuitable. That such development might require considerable initial investment in some method of building up soil fertility to a level at which economic agriculture could be maintained is only to be expected. The question posed by Dr. Greene is which investment will give the greatest return on the capital. The Government is already studying the possibilities of swamp drainage; this paper reports a small part of an investigation into the alternative.

THE SCOPE AND GENERAL AIMS OF THE INVESTIGATION

A. The area selected for this investigation is from 12 to 20 miles south of I.C.T.A. and forms the middle part of the Caparo River Basin (Map 1). This area forms the South-western end of the great pliestocene peneplain which flanks the Central Range, separating it from the Holocene deposits of the Caroni plain and swamps. It was on this peneplain that the "Proposed Land Allocation Policy for Trinidad" noted 20,000 acres of 'unsuitable' land being cultivated, and proposed that they should be reacquired by the Crown.

It was realised from the start that the investigation would take several years, and it was envisaged in three main stages. These were firstly the identification and delineation of the soil types existing in the area together with a determination of each type's physical and chemical properties, thus providing soil units whose potentiality could be assessed individually. Also included in this stage was an assessment of the present agricultural use of the area from which it was hoped that some indication of the most likely means of improvement, and of the most improvable soil types, could be drawn.

The second stage will involve work both in the laboratory and in the field, designed to find methods by which the agricultural potential of the soil types chosen as having the greatest scope for improvement may be enhanced. The third and last stage would be the trial in the field of any methods that seem especially promising, possibly as part of a pilot improvement scheme.

This programme thus envisaged two interrelated studies, firstly of the soils of the area, their properties, distribution and potential, and secondly of the present land use of the area, especially the agriculture and its relationship to the different soil types found. It was hoped that this dual attack might indicated both the quality of the available soils and the means by which they might be exploited.

THE WRITER'S CONTRIBUTION AND SPECIFIC AIMS

The work reported in this paper forms a portion of that involved.