

# The Vegetation of Uganda

## and its bearing on land-use

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## PREFACE

Different climates have different potentialities and different soils have distinct management requirements. Over the centuries Man has learned to cope with these differences and characteristic ways of using the land have been developed in the various parts of the world. Higher production of export crops is now desired by most tropical countries as a means to a higher standard of living. At the same time increasing populations require more food than hitherto. How can both objectives be achieved? Agricultural research, the production of artificial fertilisers and mechanisation have revolutionised agriculture in the temperate regions. Can the development of the tropics be based on this experience? The history of plantation enterprises in the tropics indicates the dangers of introducing the practices of the temperate regions without adequate adaptation.

Surveys and experimentation are needed to answer the following questions: What sort of land is it? Is it in good condition? What crops could be produced? Could it be grazed, if so at what frequency and density? Does it contain exploitable timber? Is it being used to capacity already? The more complex question of how a certain area should be used involves social and economic factors as well. In general, surveys are needed to provide geographical information on the natural resources and to supply the link between the research plot and the farm. Outstanding results have been achieved on experimental stations in the tropics but all too often these results have not led to increased yields over large areas owing to a lack of geographical data. Experimental findings are only relevant to areas of similar soil and climate with favourable social and economic conditions. Without surveys and maps it is impossible to know where those areas are or how extensive they are.

In 1954 a committee was appointed "To prepare for the consideration of the Development Council as part of the Five-Year Development Plan, a programme for raising agrarian productivity and standards of farming (in Uganda), bearing in mind that the Agricultural and Livestock Industries must primarily be based on peasant production, and to make recommendations as to how the programme should be put into effect". Their report was completed and published later that year (Report of the Agricultural Productivity Committee 1954). In it they stated "with the transition from subsistence cultivation to farming, the raising of farming standards and the improvement of farming systems, the problems connected with agrarian productivity and crop and stock production are becoming more complex and less easy of comparatively rapid solution. It appears to us, therefore, that if research is to pave the way for the development of farming practices, as indeed it must, a more intensified programme will require to be undertaken". Also "The conception of land use or finding out how land in different situations can be used to the best advantage has gained clearer recognition in recent years. Much useful but disjointed information on soils and vegetation has been contributed by the personal initiative of officers but there has been no properly concerted effort. We recommend therefore that . . . the survey of soils and vegetation, with the object of producing a land-use map with particular reference to unoccupied areas, should be expedited".

After preliminary surveys (Langdale-Brown, 1955, 1957) to note the range of vegetation types and to work out field procedures, the main ecological survey programme was completed in three years (1957-60). Wilson surveyed the Karamoja District, while I was responsible for the rest of the country and the editing of this volume. The results of the soil survey have been published elsewhere (Chenery, 1960; Harrop, 1960; Ollier, 1959; Ollier and Harrop, 1959; Radwanski, 1960; and Wilson, 1960).

It will be appreciated from the previous remarks that the ecological survey was designed to yield information which would lead to improved land-use and increased production. That the attainment of these objectives can be helped by a survey of the vegetation may not be

immediately apparent, so it is worth while to pause, to consider the value of such exercises in some detail. The vegetation of any area can be regarded as an expression of the environment, not the climate or the soils or the effects of grazing or Man's activities separately, but all of these together. One difficulty in land-use planning is the interpretation of climatic and soils data and the evaluation of the various forces in terms of their effect on plant growth. Another difficulty is that meteorological and other data for the less developed areas are generally inadequate for land-use planning purposes. Ecological studies of the pattern of vegetation can therefore be of great value in the interpretation of meteorological and soils data, and in the application of the findings of experimental farms to larger areas. In many places the vegetation pattern is complicated by the effects of Man's activities. By relating the secondary stages to the appropriate natural climax vegetation it is possible to deduce much about the history of the land, and so gain an indication of its possibilities.

Proper measures for the utilisation and conservation of land resources are necessarily based on the interrelationships of plant and animal communities and the physical environment. The accurate recording of vegetation and the associated fauna and physical environment at a stated time is an essential step for the appreciation of these relationships and the assessment of those changes which are occurring continually. Before pastoral land-use can be improved it is necessary to take stock of the grazing and browse to determine the botanical composition and thus the quality of the feed, its location and extent, and to work out successional relationships to provide a logical basis for range management. The pattern of communities disclosed by vegetation surveys can be used as a framework for agro-ecological research; and work on related biological phenomena, e.g. insect pests, disease vectors and game, is assisted by maps showing the main ecological zones, the occurrence of possible alternate hosts and fodder.

It is a pleasure to thank all those people who assisted at the various stages of the ecological survey: Mr. J. G. M. King then Director of Agriculture, and Dr. E. M. Chenery for encouragement and constructive criticism throughout; Agricultural Officers and others who helped during the field work; the Curators and staffs of the East African Herbarium and the Herbarium of the Royal Botanic Gardens, Kew, for the identification of plant specimens and facilities for work; Mr. G. W. Musisi and Mr. J. Luzinda who drew the maps that accompanied the original memoirs; and the Commissioner for Lands and Surveys for cartographic assistance during the survey and for the reproduction of the maps at the end of this book.

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