

## A NATIONAL ATLAS OF UGANDA

Atlas of Uganda. 52.7 cm. x 49.6 cm. 83 pp. Department of Lands and Surveys, Uganda. 1962. Price 60/- (65/- post free).

The production of a national atlas is always an ambitious and difficult task, and the degree of success achieved is a measure of the closeness of co-operation between the various contributing individuals and organizations. The Atlas of Uganda, produced entirely in the short space of nine months in order to make the work available at the time of Uganda's independence in October, 1962, represents the fruitful co-operation of various government departments on the one hand, and on the other of the Lands and Surveys Department and the staff of the Department of Geography at Makerere University College. A very rewarding effort has been made to utilise the skill and experience of men whose services are no longer available in Uganda.

The Atlas contains 37 pages of maps (most of which are at a scale of 1:1,500,000), one page of trade diagrams, two pages showing the mapping programme of the Lands and Surveys Department in Uganda, and two pages devoted to a rather small gazetteer of place-names appearing in the Atlas. In the list of contents, although not in the body of the Atlas, the maps are arranged in nine sections, viz: external communications, physical, climate, flora and fauna, human geography, rural economy, industry and trade, historical, and town maps. In a few cases the position of maps in the Atlas may be criticised: the soils map would be better placed in either the physical or the climate section rather than in the flora and fauna group; and the map of tsetse fly distribution, although it helps to explain livestock patterns, could more logically appear with the flora and fauna maps rather than in the rural economy section.

The maps are on the whole well-designed and, with the exception of a minor overprinting flaw on p.49, are well printed. Especially instructive are the cartograms showing the tribal composition of the population (p.37) and the freight traffic of the Uganda section of the East African Railways and Harbours communications system (p.63). There are seven pages of maps, diagrams and text devoted to the climate of Uganda, and this may be one of the most useful sections of the Atlas. Unfortunately we are not told how far back the records on which the maps are based extend: a short account of the development of meteorological services in Uganda would have formed an interesting contribution to the climatic section where, incidentally, a whole page is left blank.

Pleasing colour schemes make for strikingly effective maps in a majority of cases: particularly satisfying is the layer-coloured relief map (p.7) on which the contour intervals are well chosen and the burden of place-names to a large extent avoided. The preponderance of brown tints on the vegetation map (p.25) gives perhaps the wrong psychological effect for such a green country as Uganda; but the use of green for secondary roads on the communications map (p.61) is not a happy one - the colour does not stand out very clearly, especially by artificial light. Criticism may also be levelled at the soils map which, although far clearer than many maps of this type, would have been easier to read if the colours had been overprinted with the soil classification symbols - a method successfully adopted on the vegetation map (p.25).

It is hardly to be expected that similar problems will be dealt with in precisely the same way on maps designed by different hands; but the compilers of the Atlas might perhaps have introduced a closer continuity than is in fact apparent. In the calculations on which his map of cultivated land are based, McMaster has excluded permanent swamps, extensive areas over 8000 feet, land within national parks and uncultivated islands; on the population map (p.35), however, only high land over 7000 feet, regarded as uninhabited, has been excluded in the calculation of population density. In fact, the rather generous estimates of total inhabited land on the population map partly obscure the real centres of density where, in some cases, large tracts of land are uninhabited or uninhabitable. The population density is plotted on the basis of sub-counties, a division that is not really small enough; in any case, the area of a rural sub-county is dependent upon its population, and the tendency is therefore for sub-counties to decrease in area with increasing population density.

Some users of the Atlas will disapprove of the employment of two distinct base maps, one of which shows 'Rwanda' and 'Congolese Republic' as Uganda's western neighbours, whereas the other is marked with the pre-independence names 'Ruanda-Urundi' and 'Congo': such inconsistencies are doubtless a result of the haste with which the Atlas was produced, and could readily be amended in a second edition. There are a few small errors and omissions in the historical section: Lugard's 1891 route through Toro to Kavalli's (p.73) certainly passed west of the present site of Fort Portal, and his Fort Edward (p.71) lay to the south of the River Mubuku and to the west of the present Fort Portal - Katunguru road. One might expect to find on the Archaeology and History plate (p.71) the position of Gondokoro and Kavalli's and the historical site of Mumia's, all places which figure in Uganda's history although lying outside her present boundaries. Future editions of the Atlas will need to show the new Regions that, with independence, replaced the former Provinces; and large-scale town maps of other centres besides Kampala and Jinja would be of interest.

The maps are printed on the right-hand pages of the Atlas, and in almost all cases the opposite sheet is occupied by explanatory text, diagrams and photographs in varying proportions and styles. The inclusion of these materials means that the work as a whole is much more than an atlas: geographers and others will find the volume a useful and well-rounded work of reference, infinitely superior to the earlier parallel publications from Kenya and Tanganyika. As one might expect, there is a certain diversity of approach and an unevenness of treatment in the texts. Some articles are the result of recent research: those by McMaster which accompany the series of food-crop maps (pp.50-53) will draw attention to his book *A Subsistence Crop Geography of Uganda*, reviewed elsewhere in this journal. It is interesting to note that McMaster is the only author in the Atlas to express any scepticism about the reliability of his basic data: he creates in the reader an awareness of their inadequacy and thereby a firm respect for his own achievement. Other pages present familiar, but succinctly summarized, information: McCallum's work on the climate of Uganda is an example, which unfortunately also illustrates a certain lack of correlation between maps and text that is observed elsewhere. The climatic zones which are discussed are not demarcated on the map; on p.58 'a new all-weather road connecting Ntoroko to Fort Portal' is mentioned, but neither Ntoroko nor the road appear on any map in the Atlas.

To these various errors, perhaps in some cases unavoidable, is added the unnecessary irritation of inaccurate and inconsistent spelling: 'Tororo' for 'Toror' (the account of the range of the oryx, p.30); '*Engraulicyoris*' for '*Engraulicypris*' (p.38); 'Poznansky' for 'Posnansky' (p.70); 'Nyamagesani' for 'Nyamugasani' (p.28). The name of this river is consistently mis-spelt both in the Atlas and on survey sheet maps. Bantu language experts will wince at the double plural in 'Mirukas' (p.32), as will entomologists at '*Glossina Palpalis*' (p.56). There is little uniformity in the spelling of generic and other names. We are offered '*Ensete*' and '*colocasia*' (p.50) and '*Cajanus*' and '*pisum*' (p.52) in the same article. Elsewhere we meet '*proconsulidae*' and '*Simuliidae*'. The use of italics is unusual for zoological family names. The forest elephant, *Loxodonta africana cyclotis*, correctly given on p.30, is elevated to specific rank on p.28 although both texts are from the Game Department.

Space does not permit of detailed comment on all sections of the Atlas, but the reviewer considers that the material presented on the fishing industry calls for criticism on two counts. Firstly, one of the most interesting zoo-geographical phenomena of Uganda, and one with very important evolutionary implications, is the basic division of the fishes of Uganda into the Nilotic fauna of the Nile system below Murchison Falls and the Victorian fauna above that point. This division is not referred to in the Atlas. The Nilotic fauna is characterized among other things, by the presence of the Nile perch now lacking from the Victorian fauna, although fossil remains have been found. The Nile perch is not currently found in Lakes Edward and George which have a somewhat intermediate fauna and to which the Semliki rapids constitute an effective upstream barrier. The fish is an important but useful predator, and also gives good sport; the question of its artificial re-introduction into Lake Victoria has given rise to considerable controversy, and its re-appearance in the waters of that lake in 1960 may well be due to direct planting rather than to immigration from Lake Kioga. The adventures of the Nile perch in its new habitat will be watched with interest, since this predator fish of comparable size has existed in Lake Victoria since the Miocene period. It is odd that no reference is made in the Atlas to these interesting developments.

Secondly, in the discussion of the rapid progress made in fish farming in dams and ponds since 1953, there is a hint that all has not been well: of the total potential catch, for example, only 10% is realized. There is no explanation why Kajansi Fish Farm no longer uses the indigenous fish *Tilapia zillii*, for which the foreign mirror carp, *Carassius auratus gibelio*, has been substituted. The account of fishery developments in the Atlas would be clarified if it were explained that the carp experiments are an attempt to find a fish that does not have the husbandry problems of *Tilapia*: for unless it is efficiently cropped, the reproductive efficiency of *Tilapia* soon results in overcrowding and the growth of stunted and undersized stock.

In general terms, in comparing individual contributions, largely from academic sources, with those from government departments, one feels compelled to ask why some departments find it necessary to present material in such a way that it is not readily digestible. Some of the trade diagrams (p.69) are particularly inscrutable. These various criticisms, however, although they are important, detract but little from the overall clarity and usefulness of all aspects of the Atlas. Teachers and students of geog-