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EAST AFRICAN TOPOGRAPHIC MAPPING

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Introduction.

In the 1965 issue of the *Review* P.H. Temple provided an appraisal of the current state of geological mapping in East Africa. The present paper is intended to provide a similar survey of the current state of topographic mapping in Kenya, Tanzania and Uganda. It is not possible here to discuss the historical development of such mapping, and attention is confined to those maps currently available. The situation described is that prevailing in January 1966.

I Small-scale maps.

The only scale at which the whole of East Africa is shown on a single topographic sheet is 1:4 million. This sheet, published by the Survey of Kenya in 1963, combines the features shown on the Relief and Communications maps supplied with *The Natural Resources of East Africa*, (Nairobi, 1962), although it is neither very detailed nor very accurate (Entebbe is marked south of the Equator). The Survey of Kenya has also produced a map of Kenya and Uganda at 1:2 million the latest edition of which was published in 1961. This shows relief features particularly clearly, and also provides much more detail of settlements, but it does not show administrative boundaries. Tanganyika produced several editions of a 1:2 million map, and the latest appeared as the first edition for Tanzania in 1965. Towns, communications and administrative boundaries are clearly shown, as also is relief on the layer coloured version.

Uganda can be shown on a single sheet at 1:1 million, and a map at this scale has been available for many years. It was replaced in 1963 by an entirely new map, conforming to the specifications of the World 1:1 million series, which is generally regarded as being cartographically successful. Layer colouring gives a clear general picture of relief, while other topographic information is provided in great detail. Kenya is covered at 1:1 million in two sheets, separated by the Equator, both published in 1961. The two sheets together portray very clearly some major elements of the geography of Kenya. They employ layer tints in addition to contours at 2,000 feet vertical interval, and include information on vegetation as well as towns and communications. In respect of administrative boundaries, however, they urgently need revision, although separate maps at the same scale were produced in 1964 to show the new boundaries. Tanzania was covered by six sheets of the GSGS 1:1 million series published during World War II. The Dar es Salaam, Tabora and Lindi sheets were replaced in 1964 by new sheets in the World series, but as yet there is no recent map at this scale covering the Lake Victoria and southern highland areas. (The north-east is covered by the Kenya south sheet). The new sheets are extremely well produced, although no single sheet has as much to offer the geographer as the Kenya or Uganda sheets.

Only in Uganda have maps recently been published at 1:500,000; four sheets which together cover the country were produced in 1963. These show no more

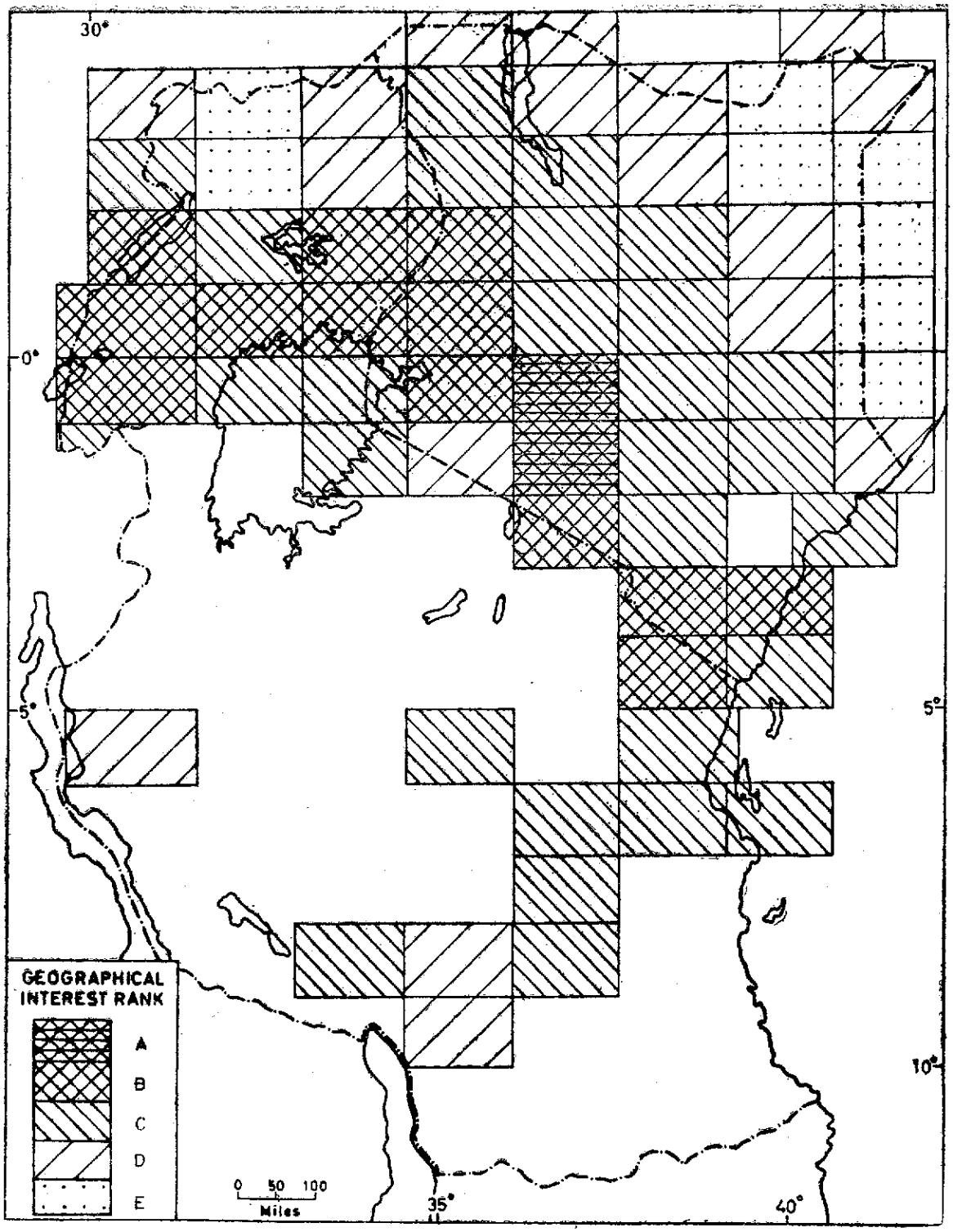

Figure 1. *East Africa: extent of mapping in the current 1:250,000 series. The shading represents a personal view of the geographical interest of each sheet, particularly in terms of usefulness for teaching purposes. A sheet placed in category E may of course be of great interest for some specific purpose.*

detail than the 1:1 million map, but the print is much larger: they are intended to be joined together for use as a wall map, and for this purpose they are highly successful. Maps of Tanzania at this scale are also available, but all are many years old and rather crude in appearance.

II *Medium-scale maps.*

The scales at which the greater part of East Africa is being mapped in detail are 1:250,000 and 1:50,000.

(a) 1:250,000. Responsibility for producing the 1:250,000 sheets is divided amongst the three national survey departments and also the U.K. War Office, but they fit together, within the World 1:1 million system, to form a single series for East Africa. The region is to be covered in about 120 sheets, of which 74 have so far been published. All have appeared since 1958, yet some have already been produced in a second edition. These maps show major relief features clearly, with contours or form lines at 200-foot intervals up to 5,000 feet and at 500-foot invervals above that level, and with layer colours at each 1,000 feet. They also provide some indication of vegetation, of the extent of rural settlement, and of the nature of the land surface in areas with little vegetation or settlement. Adjacent sheets may be joined together for a very effective display of a large tract of country.

The area for which maps in this series are available is shown in Figure 1. The contrast between the virtually complete coverage of Kenya and Uganda at this scale and the very incomplete coverage of Tanzania is the outstanding difference in the state of mapping between these countries. The sheets of greatest geographical interest are probably those of central Kenya, notably SA-37-1 (Nyeri) and SA-37-5 (Nairobi), for these include a particularly wide variety of both physical and human features. (Four earlier 'Special Sheets' in the same style covering all central and western Kenya, perhaps even more valuable for geographical study, are regrettably no longer available). One unfortunate feature of the series is that more than half of some sheets represents sea: by overlapping an adjacent sheet a far more useful map could sometimes have been produced. Some other sheets are of rather limited general interest, but each is indispensible to anyone making a particular study of the area covered.

The mapping of Tanzania at 1:250,000 is not as limited as Figure 1 might suggest, for several areas, notably in the central parts of the country, are covered by older maps at this scale. These, however are not only seriously out-of-date but are also much poorer cartographically than the current series. The publication of more new Tanzania sheets is therefore keenly awaited.

(b) 1:50,000. The 1:50,000 sheets also form a single series for Kenya, Tanganyika and Uganda. They are being produced by both the U.K. Directorate of Overseas Surveys (DOS) and the national survey departments, and any area may be covered by maps from either or both of these sources. Sheets have been produced using a wide variety of cartographic styles and providing very different amounts of detail. For example, some sheets are contoured at 50-foot intervals but others have no representation of relief. An attempt has

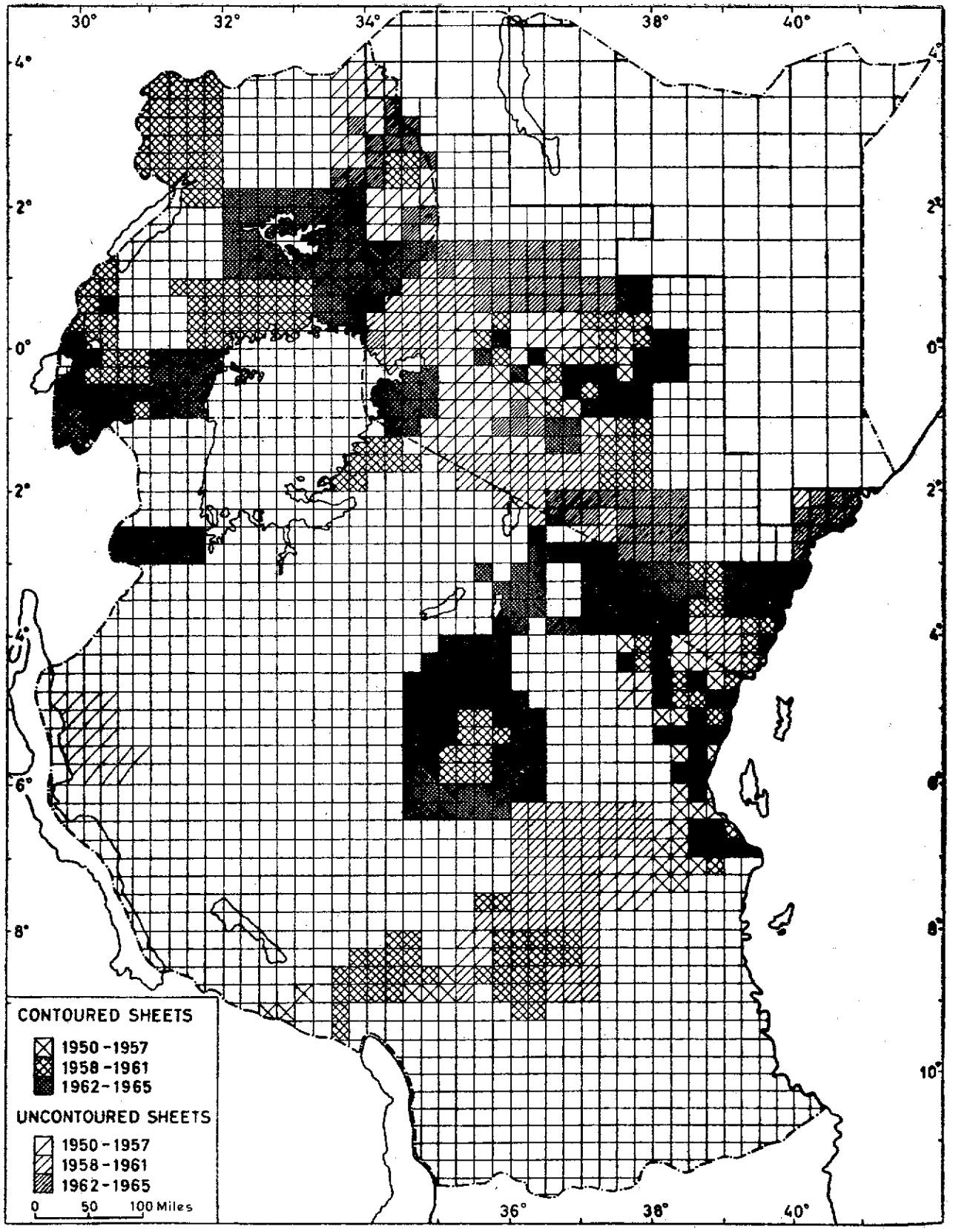

Figure 2. *East Africa: extent of mapping in the current 1:50,000 and 1:100,000 series. The shaded squares represent 1:50,000 sheets available in January 1966. The larger squares enclosed by a heavy line represent 1:100,000 sheets available.*

been made in Figure 2 to indicate the nature as well as the coverage of the maps so far published at this scale.

The pattern of 1:50,000 mapping is particularly complex in Kenya, for which sheets of widely differing quality have been produced during the past fifteen years. Current mapping is to standard East African specifications, but for many areas the only maps at present available are in earlier styles. All the well-populated parts of Kenya are covered by some tpye of 1:50,000 map. The coastlands are well served with recent contoured sheets, some of great geographical interest, notably Mombasa (201/1) and Kilifi (198/20). Inland, the country between the railway and the Tanzania border is covered by recent sheets, but most are not contoured and many are of little interest: the Taita sheet (189/4) is a notable exception. Excellent new maps portray the country around Nairobi (148/1-4), but for parts of Central Province and Embu and Meru Districts the only 1:50,000 maps available date from 1953-55 and are crude in style. They are steadily being replaced, however, by first-class maps such as that of Nyeri (120/4). The main areas which have not been re-mapped in both Central and Rift Valley Provinces are those where resettlement is taking place, for this would render any new map quickly out of date. Western Province and Central Nyanza District are largely dependent on sheets produced by the Survey of Kenya about 1958. These do not show relief, but do show the pattern of settlement in detail. More useful are the new contoured DOS sheets of South Nyanza and Kisii, which show very clearly both landforms and settlement. The only remaining areas of Kenya covered at 1:50,000 are the borders of Uganda and Ethiopia, but most of these maps are old, crude and of little general interest.

The whole of Tanganyika is to be covered at 1:50,000 in 1,250 sheets, of which only about half have yet been published in any form. High-standard maps in this series number about 180, and are largely confined to Coast, Tanga, Kilimanjaro and Dodoma Regions. Parts of the southern highlands are represented on satisfactory contoured sheets dating from 1960, but most of the maps of the south and west are very poor. Many of the maps of the centre of the country currently appearing show few features of interest, but many of those of the coast and north-east are useful. The sheets of the Biharamulo area in the north-west are noteworthy for their portrayal of the remarkable ridge and valley country there. A small group of useful maps covers Mara Region but the country south of Lake Victoria has not yet been mapped at this scale.

A larger proportion of Uganda than of either Kenya or Tanyanyika has been mapped at 1:50,000. The work is being done jointly by the Uganda Survey Department and DOS, both producing similar maps of each area. Mapping is proceeding generally from south to north except that West Nile District was mapped at an early stage as a result of the avilability of R.A.F. air photographs. The country is to be covered in 304 sheets, of which 194 are now available contoured and in finished form. A further 44 uncontoured sheets cover Karamoja, but for Bunyoro and Acholi only preliminary plots have as yet been produced. The recent sheets of greatest interest to geographers are probably those covering the south-west and the slopes of Mount Elgon (Figure 3). Several of the Toro sheets, of which new editions are currently appearing, are also of much value, as are the older sheets of the country between Kampala and Jinja.

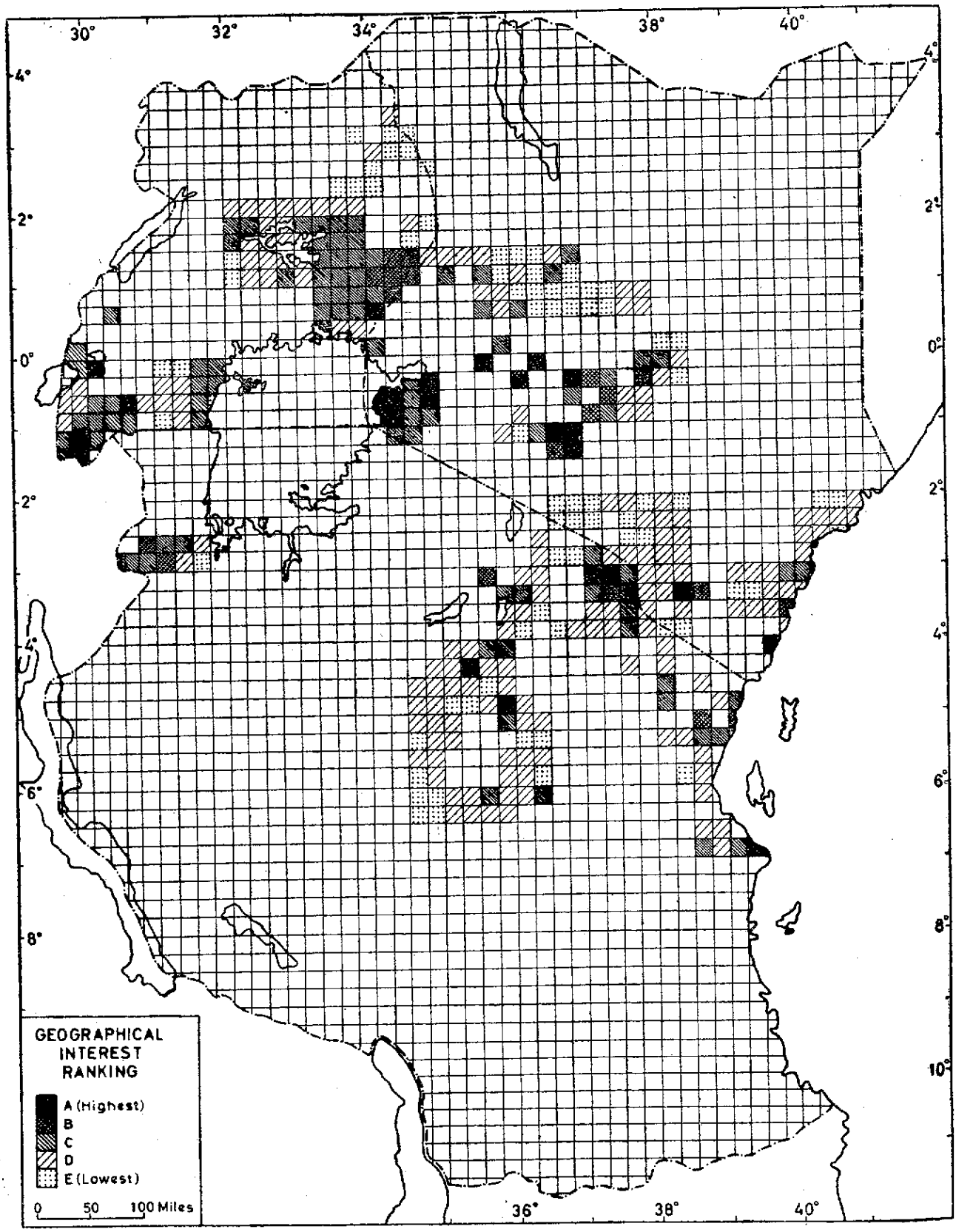

Figure 3. *East Africa: mapping in the current 1:50,000 series. The shading represents a personal view of the geographical interest of all sheets published since 1962.*

(c) Others.

Not all medium-scale maps currently available in East Africa are at 1:250,000 or 1:50,000. For many years it was intended that Tanganyika should be mapped at scale of 1:125,000, and between 1947 and 1960 some 110 sheets were published. These cover the Lake Victoria, north-eastern, eastern and southern areas of the country, and for many places they are still the only maps available. Most sheets are contoured, but little detail of settlement is provided, and in many respects these maps are becoming seriously out-of-date. Among these sheets that of greatest value for geographical study is perhaps the last to be published, Tanga-Muheza (130).

Whereas the whole of Tanganyika is now to be mapped at 1:50,000, it is considered that mapping at this scale is inappropriate for the semi-desert country of northern and eastern Kenya. This area is therefore being covered at 1:100,000 in 125 sheets, of which 117 have been published. These maps are contoured at 200-feet vertical interval and provide much information on the nature of the land surface and the vegetation cover. Sheets such as 43 (Maikona) are therefore of considerable interest to the geographer. The extent of this series is indicated in Figure 2.

Two special maps at 1:100,000 were published in 1965, both of great geographical interest. One, produced by the Survey of Kenya, covers Nairobi and environs and shows both physical and human features of this area very clearly. The other, published by the DOS, portrays Mount Kilimanjaro, with contours at 100-feet vertical interval, hill-shading, and excellent representation of the fringing zone of settlement. Another useful map produced in 1965 is a 1:125,000 sheet of Kigezi District of Uganda, which gives little detail of settlement, but is very successful in representing the relief of the district . Maps of the Uganda National Parks are also produced at this scale.

Mention should be made of Zanzibar and Pemba. They differ from the mainland cartographically as in many other ways for they are mapped at a scale of 1:63,360, two sheets covering each island. The Zanzibar sheets were last revised in 1964, but those of Pemba have not been revised since 1942. These four are among the most interesting of East African topographic maps, showing a wealth of detail on both physical and human phenomena.

III Large-scale maps.

Maps at scales larger than 1:50,000 are mainly confined to those covering urban areas. The chief exceptions are those at 1:25,000 of Mount Kenya and the Central Ruwenzori, produced by the DOS. Both have hill-shading as well as contours and portray glaciated mountain country very successfully.

Two sheets of great value for the study of urban geography are those of Nairobi at 1:20,000 and of Mombasa at 1:14,000. In each case the different zones of the city stand out clearly, while the Mombasa map illustrates very well the site of the city. More detail of Nairobi may be found from the three sheets

of the 1:10,000 cadastral map, and from the topographical series which covers the central area at 1:2,500 and the surrounding area at 1:5,000 in about 100 sheets. The 1:10,000 cadastral maps provide much topographic information, including contrours at 10 feet vertical interval, and similar maps of Eldoret, Kisumu, Kitale and Nakuru show the essential features of each town on one sheet. These and ten other towns are also mapped at either 1:5,000 or 1:2,500, but several sheets are required to cover each of the larger towns.

Useful sheets at 1:25,000 and 1:10,000 respectively show the site and form of Dar es Salaam and Tanga: but for most towns in Tanzania the only maps available are at 1:2,500. There is as yet no published map of Zanzibar town. Kampala has been mapped at 1:25,000, and this sheet, which covers the whole urban area including Mengo, is of much geographical interest. The area within the city boundary is also mapped at 1:10,000, and series at 1:5,000 and 1:2,500 cover the whole urban area in 32 sheets and 85 sheets respectively. Jinja, Mbale, Tororo and Entebbe are all covered by single, very useful, sheets at 1:10,000. These and twenty other towns are also mapped at 1:2,500, most being covered in between five and twenty sheets.

Conclusion.

A very wide range of topographical maps is available in East Africa, and although some parts of the region are as yet not adequately mapped, the coverage is much better than in many neighbouring countries. Most of the recent maps are extremely well produced, and many sheets should be of great interest to students and teachers in East Africa, and also to geographers elsewhere. Geographers in East Africa are indeed fortunate to have such a wealth of material available for their use.

NOTE:— Catalogues of maps available, with further details including prices, may be obtained from:—

The Public Map Office, P.O. Box 30089, Nairobi,
The Survey Division, P.O. Box 9201, Dar es Salaam,
The Map Sales Office, P.O. Box 361, Kampala.
Messrs. Edward Stanford Ltd., 12-14 Long Acre, London W.C.2.

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STUDENT FIELDWORK AT A MOMBASA SCHOOL

Saintly geographers preach the virtues of local studies for which I, sinning, have ever found precious little school time. During my own H.S.C. pupilship one occasionally saintly teacher asked some of us each to carry out a local study, and I asked the same of the fifth form at Shimo la Tewa School, Mombasa, in 1965 with results that encourage me to continue the scheme. Although the standard may vary and even fall short, yet this work has appreciable value for the pupils and for their school.

The progress of the 1965 studies was accelerated by our entering nine of them in the Uganda Geographical Association's Essay Prize Competition, in