

## AN INDIGENOUS SYSTEM OF SOIL PROTECTION\*

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**T**HE Erok people of Mbulu District inhabit the mountainous country which rises between the Great Rift Valley and the Yaida and Eyassi depressions. The origin of the tribe is obscure, but Leakey has suggested that they may be the descendants of neolithic people of the type inhabiting the City of Engaruka, whence Masai history records the Mbulu District tribes fled. Whatever their origin, these people have an intelligence which appears to be above the type shown by the ordinary Bantu peoples.

Under pressure from the Masai on their northern flank and with treacherous neighbours in the Tatoga peoples, the timid Erok were, for some time before the advent of the European, confined to a limited area which they had carved out of the forest clad mountains. Like other tribes in similar circumstances, such as the Wamatengo and Wakara, they evolved a system of soil conservation.

The slopes under cultivation would deter any but those who find it necessary to eke out a living there, but a favourable rainfall and a not infertile soil compensate for the considerable labour required to a farm on the Erok system.

Land for cultivation is whenever possible selected in the steep and narrow valleys. The fields are of small size, generally about one quarter of an acre and are made to occupy a single "terrace". These terraces are in the early stages protected by a storm drain above the field and cultivation is designed to work the soil away from the slope until it is level. Owing to the steepness of the slopes and the adjustment of a field to each terrace, the vertical interval between the terrace edges is considerable; for this reason a perfectly level terrace is only seen in favourable situations. The climate provides an all-the-year-round growing season and enables the cultivator to protect his terrace edges with grass and crops; as a result the usual deterioration of the terrace edge so commonly seen in drier situations does not occur.

The formation of a terrace is a gradual process. After the construction of a storm drain, followed by the pulling down of soil from a face, say, three feet deep, and the provision of a Kikuyu grass verge on the edge of the terrace, cultivation will proceed.

Old fallow land or new land is deeply cultivated with a long digging pole which turns over the sod, leaving a very deep broken surface to weather in the cold season. With the advent of the true short rains season and higher

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\* By B. J. Hartley, M.B.E., N.D.A., A.I.C.T.A., Agricultural Officer, Department of Agriculture, Tanganyika Territory in *The East African Journal*, Vol. III.—No. 5, March, 1938

temperatures this land will be contour planted between small ridges with (say) maize, while a strip of pumpkins is established on the lower side of the "terrace" to afford additional protection. At hoeing time the ridges are commonly reinforced according to the season and the amount of rubbish which may have been buried. In some cases the ridges may be split back to earth-up crops; but still naturally retain their soil and water conserving principle.

Important practices affecting the terraces occur when the next planting takes place. Assuming that a short rains crop has been removed in May, the cultivator's next work is to chop out the stover and lay it evenly over the field. The value of this thatch in conserving moisture is understood by the Erok cultivator, who could well do with such stover as forage for cattle from his overstocked grazing. When cultivation takes place this stover is drawn into lines starting at the lower side of the terrace, then ridged over and the seed planted at once between the ridges; in the process of ridging the soil is pulled downhill and gradually season by season the terrace is formed.

To those experienced in the dangers of even green manuring under dry conditions it seems remarkable that a heavy stand of dry stover can be so disposed of after the heavy rains without any noticeable effect on the following crop. Too often trash and weed growth is burned or eaten off in the field owing to difficulties of disposal in the soil; this Erok method of sowing a listed crop between the ridges carrying rotting crop residues is a development which would well repay investigation elsewhere under varying conditions of rainfall.

Soil movement within the plot under this system is reduced to a minimum while at the same time loss from the terrace is adequately controlled. Wash from land surrounding the cultivated terrace is, in the old Erok country, of little danger on account of the presence of a fair grass cover, while depth of soil assists in the formation of the terraces, many of which have faces twelve feet deep.

The problem which now confronts Government is the introduction of anti-soil erosion measures to the members of the tribe who have moved from their ancestral fields to the drier, less mountainous areas. Here, over-stocking, flat cultivation and rainfall more of the unstable type found in semi-arid areas, provide ideal conditions for wide scale soil damage. The Erok, no longer afraid, is content to cultivate and move on; he has become a miner instead of a farmer.