

EAST AFRICA HIGH COMMISSION

REPORT FOR 1955

THE annual report on the East Africa High Commission for 1955* follows a different pattern from its predecessors. The general review is omitted, and the seven chapters in Part 1 deal successively with financial matters, social services, legislation, communications, research and scientific services, economic services and defence. Part 2 consists of two chapters, the first giving a brief history of the Commission, while the second sets forth its constitution, scope and legislative powers. Despite staff shortages, the East African Statistical Department was able to maintain the collection of statistics of industrial production started in 1954, and an attempt is being made to develop the library of the Department into the best economic and statistical library in East and Central Africa.

Most of the information of scientific interest is to be found in the chapter on research and scientific services. The first phase of the development of the East African Agriculture and Forestry Research Organization, which now has twenty-seven senior research officers in fifteen scientific divisions, ended in 1955. The Soil Physics Division continued its study of the soil-water relations in the Lower Rufiji Basin of Tanganyika and is also investigating the influence of different types of vegetation and land management on the amount and uniformity of stream flow out of catchment areas. The Soil Chemistry Division is studying factors which control the humus content of East African soils, particularly those which determine the rate of conversion of organic matter to carbon dioxide. Work on the chemistry of sulphur in forest soils has shown that much of the sulphur is being returned to the soil by the forest litter as soluble sulphate. The Plant Physiology Section concluded its examination of the effect of rainfall distribution on the yield of maize in Kenya, and the existence of two genes of value in giving resistance against American maize rust has been established. The breeding programme on cassava and the survey of East African forest insect pests both continued. Work proceeded on the estimation of the productivity of pastures and on the digestibilities of animal feeding stuffs, and a relationship has been established between the crude protein content of hays and green fodders and their apparent digestibility.

Special stress is laid on the value of the training course in rabies held in the laboratories of the East African Veterinary Research Organization in July 1955. The Division of Virus Diseases has concentrated on rinderpest research and the production of rinderpest vaccines for the East African and adjacent territories. The East African Inland Fishery Research Organization began its deep-water investigations of the potentialities of Lake Victoria as a source of food in 1956, and the survey of East African coastal waters was continued. The East African Council for Medical Research met for the first time in January 1955. The renamed East African Institute of Malaria and Vector-Borne Diseases has organized a malaria control project in the Tavita-Pare area. The most important work of the East African Virus Research

Institute was a study of the behaviour of Rift Valley fever virus in the laboratory mouse. Another basic study was concerned with the behaviour on the Mengo strain of encephalomyocarditis virus in the animal host. The first phase of a survey of the health of the East African population was completed during the year by the East African Medical Survey and Research Institute.

The Lake Victoria Fisheries Service was seriously concerned about illegal fishing, but during the year the Lake was restocked with 12,150 *Tilapia zillii*. Considerable progress was made with the reorganization of the East African Tsetse and Trypanosomiasis Research and Reclamation Organization. At Shinyanga laboratory studies were directed to the reaction of tsetse flies to changes in the humidity of the air, while the Lambwe Valley Field Station is seeking a cheap and productive method of eliminating thickets which form the habitat of *Glossina pallidipes*. Work at Tinde has demonstrated that the twenty-one year old strain of *Trypanosoma rhodesiense*, transmitted throughout by the tsetse fly, remains infective to man; but another strain, derived from the Tinde strain seventeen years ago and since maintained in England by syringe transmission, has lost its infectivity to man.

Under the East African Industrial Research Organization which came into existence on April 1, 1955, investigations on coffee processing have assumed increasing importance. The investigation into extraction of hecogenin from sisal waste has been completed and cetyl alcohol was prepared in pellet form for use by the Meteorological Department in reducing evaporation from reservoirs. The East African Industrial Research Board has been reconstituted with fresh terms of reference.

QUEUEING: THEORY AND PRACTICE

THE mathematical theory of queues and of allied congestion phenomena was created about fifty years ago by the Danish telephone engineer, A. K. Erlang, but its relevance to a wide range of other problems in industry was not fully appreciated until quite recently. The realization that a single class of abstract probability problems could be recognized in a wide variety of practical situations has been the main driving force behind a revival of interest in the mathematical theory; this had been further advanced by F. Pollaczek, A. Khintchine and others in the nineteen-thirties, but had not been adequately related to the modern theory of stochastic processes.

During the past five years a great number of mathematical papers has appeared in this field, and it was with the object of translating these results of mathematical research into industrial practice that the University of Birmingham's Institute for Engineering Production held a five-day residential course during January on "Queueing Theory and Practice" for about thirty senior executives from industry. The course was organized by R. S. Gander, staff tutor in operational research at the Institute.

* Colonial Office. Annual Report of the East Africa High Commission, 1955. (Colonial No. 326.) Pp. v+81+4 plates. (London: H.M. Stationery Office, 1956.) 5s. 6d. net.