

MORE LAND-USE PLANNING

WHATEVER posterity may remember of the term of office of the thirty-third President of the United States, Harry S. Truman, it is unlikely ever to forget those trenchant sentences of his inaugural address of January 20, 1949, "Fourth, we must embark on a bold new programme for making the benefits of our scientific advances and industrial progress available for the improvement and growth of the under-developed areas. For the first time in history, humanity possesses the knowledge and the skill to relieve the suffering of these people". As the programmes then initiated and the other innumerable activities directed towards helping the less developed countries have progressed, it has become increasingly apparent that the knowledge possessed by humanity is far from adequate. In no sphere is this more true than in the proper use and management of land in the tropics—whether the humid tropics or the arid. The lesson is still being learnt, after a number of major failures, that the secret is to make haste slowly and to build upon a firm foundation of factual knowledge. Reference has been made in a recent issue of *Nature* (183, 20; 1959) to the large-scale land-use maps of the Gambia and Singapore being prepared as a basis for planning, and it is clear that many other countries are working along comparable lines.

Among the many research projects undertaken by the Institut National pour l'Étude agronomique du Congo belge (INEAC) is one for a soil and vegetation survey. The results are being published as a series of fully coloured small sheets, one of soils and another of vegetation, with an explanatory memoir. To date a dozen *livraisons* have been published, or are in the press, but a simple calculation suggests that about 7,000 sheets will be required to cover the whole territory on the scale of 1:50,000 which has been chosen. Taking as an example* Planchette 3 (Lilanda) of the Yangambi area (Livraison 6) prepared by three soil scientists and a botanist, sixteen soil series and three complexes are distinguished. The soils are classified by parent material and by class of drainage—"chaque unité reconnue en fonction de ces deux facteurs reçoit le rang de série". The complexity of the soil picture is accentuated in the vegetation map. Small blank areas mark cultivated fields, but even at the scale of 1:50,000 the major vegetation types cannot be shown without recourse to stripes for "mélanges" and small circles in a background for "mosaïques". Such is the true measure of the complex natural environment within which development is to take place.

On the western side of the Atlantic a Soils Research and Survey Section under the direction of T. A. Jones has been set up at the Regional Research Centre of the British Caribbean at the Imperial College of Tropical Agriculture, Trinidad. The first three monographs to be published cover the parish of St. Catherine, Jamaica, the Rupununi savannahs of British Guiana, and the island of St.

Vincent*. The first two have soil maps on a scale of 1:50,000—the first with pink symbols on a black outline, the second in black only, while the St. Vincent map comprises three sheets on the scale of 1:20,000. The soils are grouped in St. Vincent according to parent material (soils over recent alluvium, old alluvium, limestone, granodiorite, etc.) whereas in British Guiana there is a tentative local classification based on geomorphological regions (well-drained soils of the pediments, imperfectly drained soils of elevated flats, etc.). The Jamaica monograph combines the two. In the explanatory memoirs there are elaborate tabular statements giving the important characteristics of each soil, recommended cultivation practices and crops for each. There are detailed descriptions of the soil profiles and a new scheme of 'land capability classes' is introduced. In place of the familiar eight classes of the American system, seven are recognized, each divided into *e* (erosion danger), *w* (excess water), *s* (shallow or droughty) and so on. In contrast to the Belgian work this is a far more subjective approach: it suggests an over-emphasis on soil and perhaps a passing over of lessons to be learnt from existing vegetation and land use. In due course it will be most enlightening to know how far the practical recommendations have been followed and the results.

Unesco is much concerned with the problems of both the arid and humid tropics. Arising out of the Kandy Symposium† held in 1956, a vegetation map of the whole of Malaysia (including all New Guinea) has been compiled by C. G. G. J. van Steenis and published with the collaboration of Unesco‡. At a scale of 1:5,000,000 it is highly generalized and approaches the problem of land-use in the humid tropics from a very different point of view—that of the broad overall perspective. It has been possible, however, to show a dozen types of forest as well as the main areas of 'savannah', grass, alpine grass, wet rice, dry fields and plantations, making eighteen categories in all.

The need for a stock-taking of land resources and of the present use of land is by no means confined to the tropics. Wherever there is a heavy pressure of population on land it forces itself upon the attention of governments and research organizations. In Italy the Consiglio Nazionale delle Ricerche has undertaken the preparation of a comprehensive Carta della Utilizzazione del Suolo, now being published on the scale of 1:200,000 in 23 sheets§. The work is under the capable direction of Prof. Carmelo Colamonicò, who writes an introduction to the first two descriptive memoirs. The first is on Calabria (sheets 19 and 20) by Ferdinando Milone; the second, on Sicily (sheets 21, 22 and 23) by the

* Publications de l'Institut National pour l'Étude Agronomique du Congo Belge. Carte des Sols et de la Végétation du Congo Belge et du Ruanda-Urundi. 6: Yangambi. Planchette 3: Lilanda. A: Sols. B: Végétation. Notice explicative de la Carte des Sols et de Végétation par P. Gilson, P. Jongen, A. Van Wambeke et L. Liben. Pp. 36+2 cartes. (Bruxelles: Institut National pour l'Étude Agronomique du Congo Belge, 1957.)

† The Regional Research Centre of the British Caribbean at the Imperial College of Tropical Agriculture, Trinidad. Soil and Land-use Surveys. No. 1: Jamaica—Parish of St. Catherine. By K. C. Vernon. Pp. 42. 20s. No. 2: British Guiana—The Rupununi Savannas. By R. E. Loxton, G. K. Rutherford and J. Spector. Pp. 33. 15s. No. 3: St. Vincent. By J. P. Watson, J. Spector and T. A. Jones. Pp. 70. 25s. (Trinidad: Imperial College of Tropical Agriculture, 1958.)

‡ Proc. Kandy Symposium, Unesco, 1956, pp. 68–73 (1958).

§ Unesco, Paris: published for the Unesco Humid Tropics Research Project (1953).

¶ Consiglio Nazionale delle Ricerche, Napoli, Corso Vittorio Emanuele, 165 (1953–59).

same author. A preliminary sheet of central Italy was shown to the Congress of the International Geographical Union at Washington in 1952 and the maps, in full colour, show twenty categories of land-use following closely the recommended categories laid down by the Commission on the World Land Use Survey. The Survey has since recognized the vital importance of separating irrigated and non-irrigated lands, which has been done on the Italian maps. Anyone familiar with Mediterranean lands

will know the intimate mixtures of trees and ground crops—olives with cereals, for example—and will recognize the justification of this mixed category. Little of Sicily is shown as 'sterile' except the higher slopes of Etna.

Though differing widely in their methods and execution, all these maps illustrate the growing recognition that before land can be planned the present position must be surveyed and analysed.

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AGRICULTURAL RESEARCH IN EIRE

AN FORAS TALÚNTAIS (THE AGRICULTURAL INSTITUTE)

AN Foras Talúntais was established under the Agriculture (An Foras Talúntais) Act, 1958, and commenced activities on August 1, 1958. Its functions include reviewing, facilitating, encouraging, assisting, co-ordinating, promoting and undertaking agricultural research in the Republic of Ireland. The Institute has authority to provide, where necessary, new facilities and staff to carry out research, to assist in carrying out specific research projects and to make grants for the extension and development of facilities to scientists actively engaged in agricultural research. The Institute is specifically obliged to disseminate the results of agricultural research, particularly to those engaged in agricultural advisory work. As one of its major and general functions the Institute has a statutory obligation to advise the Minister for Agriculture on any matter relating to agricultural research or agricultural science on which advice is requested by him. As part of its educational activity in the promotion and encouragement of agricultural research, the Institute may provide and organize courses of study in agricultural research and related subjects, and it may also provide and organize seminars, conferences, lectures and demonstrations on agricultural research; it may grant scholarships, and award fellowships to persons who have done outstanding work in relation to agricultural science or agricultural research.

The Institute is an autonomous national body, governed by a Council which consists of a chairman and twelve ordinary members. The chairman is appointed by the President of Ireland. Five members of the Council are nominated by agricultural and rural organizations; the nomination is by means of election by a panel of twenty-five organizations divided into five groups; one member is nominated by each of the governing bodies of the University Colleges of Cork, Dublin and Galway and the Board of Trinity College, Dublin, and the three remaining members are nominated by the Government of the Republic of Ireland. The activities and staff of the Institute are under the control of a director responsible to the Council as chief officer of the Institute. The finances of the Institute are provided for under a number of headings. From the Counterpart Special Account, by arrangement between the United States and the Irish Governments, the Institute has available a capital fund of £840,000 to be expended on capital projects and an endowment fund of £1,000,000. A grant towards the expenses of the Institute will be paid every financial year out of monies provided by the Irish Government. The Institute is empowered to accept gifts of money,

land or other property under specified conditions which must be consistent with the functions of the Institute. With regard to gifts and fees for specific research projects, the Institute looks for support particularly to industries and businesses closely associated with agriculture and to farming organizations and individuals interested in agricultural development.

The activities of the Institute have been organized on the basis of a headquarters consisting of a secretariat, scientific and agricultural liaison offices and statistical, library and information services, together with five main Research Divisions as follows: (1) Soils, (2) Plant Sciences and Crop Husbandry, (3) Animal Production, (4) Rural Economy and (5) Horticulture and Forestry. The scientific liaison office will make and maintain contact with agricultural research and allied services in other countries, while in addition providing for the scientific development and co-ordination of the research programme at home. The agricultural liaison office will ensure the closest possible contact, co-operation and integration of effort between the Institute, departments of State, the advisory services and the farming community. A specialist advisory service in each facet of agriculture will be provided for advisory officers and others.

The work of the different Divisions is being developed on the following general basis. The Soils Division will carry out research and specialist advisory activities in the spheres of soil physics, soil chemistry and biochemistry, soil microbiology, soil fertility and fertilizer use, plant nutrition and physiology, soil classification and survey, land reclamation and land use and the manuring, ecology and survey of grassland. A national soil-survey has already commenced. The Plant Sciences and Crop Husbandry Division will be chiefly concerned with improving the yield and quality of a wide variety of agricultural crops, and will accordingly cater for research in plant breeding, plant pathology, crop protection, entomology, plant introduction (including crops for commercial and other special purposes), plant composition, weed control and general aspects of crop husbandry. The Animal Production Division will cover all phases of animal production from grassland management and feeding to product quality. The work will be organized in the following departments: grassland management, animal husbandry, animal nutrition and biochemistry, physiology, breeding and genetics and meat research. The headquarters of this Division will be at the National Research Centre for Animal Production, at Grange, Dunsany, Co. Meath. A research centre for dairying is being established at