

That this is an unwise policy to follow has been demonstrated by the experience of firms which have set about the training of semi-skilled and unskilled workers in a systematic fashion, endeavouring to teach them the knowledge and the skills they have to acquire in order to carry out their work effectively. In order to encourage industry to recognize the importance of the subject and to help managers with information on the training of operatives, the European Productivity Agency sponsored a survey in seven European countries. The aim of the survey was to study current practice in the systematic training of operatives within the factory itself.

The organization responsible for the survey in Britain was the National Institute of Industrial Psychology, which was also made responsible for co-ordinating the whole inquiry and preparing a report*.

The survey made it abundantly clear that, as yet, industry in general has done very little to provide training for semi-skilled and unskilled workers on a systematic basis. The situation differs from industry to industry; it was easier to find examples of systematic training in the textile and clothing industries, in the electrical and transport equipment industries and in the chemical industry than in others.

The fact that systematic training is so little developed reflects the attitude of managers to the question of training for the kind of work with which the inquiry dealt. This attitude seems to stem from a number of ideas, to four of which reference was most frequently made.

The first was that semi-skilled and unskilled jobs were so simple that they could easily be learned without any training. Secondly, there was the fear that workers who were trained would be enticed away to other firms, perhaps at higher wages. An associated idea was that, because the rate of labour turnover was high, it was not worth while attempting to improve the training of the new workers. Lastly, there was the notion that systematic training is necessarily elaborate and expensive. This stems from the lack of information on training methods and their applicability to different kinds of situation, with their relative advantages and disadvantages.

There were, however, some managers who considered that they had a social responsibility for ensuring that their employees were helped to acquire the knowledge and the skills needed for the successful execution of their work. Some took a still wider view of their responsibilities: it was not, they felt, enough for industry to help the individual to develop his professional skill; it should provide him with opportunities and assistance for developing general knowledge and character qualities which would help him to lead a fuller and more satisfying life.

Although no evaluation of training schemes was possible because firms were not in a position to provide the evidence on which such an evaluation could be based, it was the almost unanimous opinion that the results were beneficial.

The survey also demonstrated the general applicability of systematic training methods in factories. Not only were the learners of all ages, but also the range of unskilled and semi-skilled jobs for which training was being given was a very wide one, from tasks as simple as machine feeding or packing articles in

boxes to others like weaving and loom maintenance, where both the knowledge and the skill involved can be extensive.

In all countries the investigators reported a tendency for training schemes to be weaker on the side of instructional method than on that of organization. In many cases those who gave the instruction to the novices had not themselves received any training in the art of instruction. Although success in instruction is largely dependent on the personality of the instructor and his interest in the job, skill in instruction can be developed by formal training, and an increase in facilities for such training will be required in all the countries concerned as the systematization of training of semi-skilled workers is extended in industry.

COLONIAL TERRITORIES

REPORT FOR 1956-57

THE report on the Colonial territories for 1956-57* follows the pattern of previous years, providing the conspectus of political, economic, financial and social developments in these territories against which the achievements to be recorded in greater detail in "Colonial Research, 1956-57" are to be considered. Some of this material, outlined in the chapter entitled "Research and Surveys", has also appeared in reports from various Colonial research organizations already noted in *Nature*, and for this reason, although this chapter of the present report is that of most direct interest to the scientist, consideration of research in the Colonial territories will be deferred until the fuller report on "Colonial Research, 1956-57" is published in due course.

Recruitment to the Overseas Civil Service was maintained generally at the level of previous years. Almost the same number of electrical and mechanical engineers were recruited as in 1955, and recruitment of civil engineers improved; that of agricultural officers fell. Demand remained high for all these appointments, and there was little change in the number of unfilled vacancies. Those in the service of Colonial governments who received training in the United Kingdom reached a record number of 2,752, compared with 2,190 in 1955 and 2,081 in 1954.

Outputs of most products rose in 1956 and it is estimated that the gross domestic product at market prices in the Colonial territories was some 4 per cent higher than in 1955. Increases in cocoa production in both the Gold Coast and Nigeria largely compensated for the lower prices. In 1956 roughly half the United Kingdom's imports of hardwoods came from the Colonial territories. A new copper smelter and textile plant were opened in Uganda, and a large expansion in bauxite production is planned in Jamaica and British Guiana. The value of Colonial exports was about 6 per cent higher than in 1955 and the value of imports rose by 9 per cent, the general pattern of Colonial trade showing little change.

Two new irrigation schemes have been inaugurated in Tanganyika, and progress is being made on three major irrigation projects in Kenya and in the exploitation of the limited water resources of Cyprus, while effect has been given to a scheme to establish an agricultural tractor and implement testing unit in

* The Training of Workers within the Factory. Pp. 90. (European Productivity Agency for the Organization for European Economic Co-operation, 1957.) 6s.

* The Colonial Territories, 1956-1957. Pp. xxv + 185. (Cmd. 195.) (London: H.M. Stationery Office, 1957.) 7s. net.

East Africa. Planning to ensure that the most suitable use is made of land is receiving much attention, and in the Gold Coast the swollen shoot campaign continued vigorously. Up to August 1956 more than 14 million acres of land, including 4 million acres of cocoa, had been extensively surveyed in this campaign, and spraying by farmers against capsid made good progress. Spraying against black pod in Nigeria is being intensified, and the acreage lost through cutting out in the campaign there against swollen shoot has been more than made good by new planting. A campaign in Cyprus against the Mediterranean fruit-fly is estimated to have resulted in savings of more than £250,000 in citrus fruit.

Good progress was again made in the execution of development and welfare schemes, expenditure on which rose to just over £17 million, with a further increase of about £26 million in the value of schemes approved during the year. Most Colonial governments have now drawn up plans for the current quinquennium, and it appears that Colonial governments and other public bodies plan to spend £150 million a year on development over the next few years, of which it is hoped to raise £30 million annually from external loans; about £15 million a year from Colonial Development and Welfare funds; and £15-20 million a year from local loans. The continued slump in world prices for cocoa was reflected in a further decline in Gold Coast Government revenues, resulting in curtailed funds for development and a call for economies in day-to-day expenditure, and in East Africa there was a marked fall in revenue from import duties; elsewhere there were no significant changes in the trends of revenue and expenditure. Encouraging increases continued in the volume of air traffic within, to and from the territories, and as a result of the resolution on the need for research in tropical meteorology passed by the 1955 Conference of Commonwealth Meteorologists, arrangements were made for a survey of the research requirements for tropical meteorology, by Dr. A. E. Forsdyke, of the British Meteorological Office.

Of the 4,858 students in the three universities and four university colleges of the Colonial territories, 1,574 were in the University of Malaya, 941 in the University of Hong Kong, 625 at Makerere College and 609 at University College, Ibadan. While these institutions continued to rely mainly on the United Kingdom for new staff, increasing numbers of local candidates were becoming qualified for teaching and administrative posts, and seven promising young Colonial graduates went to universities in the United Kingdom to fit themselves for teaching posts in their own colleges and universities. The Royal Technical College of East Africa, which opened in April, had 250 students for its first full session in October, the Kumasi College of Technology had 607 students and the Nigerian College of Arts, Science and Technology 549.

The emphasis placed on preventive medicine in recent years is reflected in a more stable balance in health programmes, with the community and social approach absorbing a fair share of departmental resources. The pattern of morbidity is veering away from the preponderance of tropical endemic disease to something more akin to disease-incidence ratios in temperate climates and, with the exception of malaria in hyperendemic areas, most of the parasitic diseases are coming under firmer control, tuberculosis now causing most general anxiety. Mass campaigns

against yaws have met with notable success; but although 142 doctors were appointed to Medical Departments in 1956 through the Colonial Office, there were 135 vacancies outstanding at the end of the year. There were no widespread epidemics of the major acute communicable diseases, and in several non-tropical territories there are signs that tuberculosis is being successfully controlled. Recruitment of qualified nurses from the United Kingdom was maintained steadily throughout the year, but vacancies were only decreased from 165 to 102, and the acute shortage of nursing and midwifery tutors is causing anxiety. The training of nurses is still being given the highest priority in all territories. In June the Rockefeller Foundation made a grant of £17,000 to the London School of Hygiene and Tropical Medicine for research into the protein value of tropical dietaries and supplementary foodstuffs.

Of the 12,622 Colonial students in the United Kingdom and Irish Republic, 3,170 were scholarship holders and 3,365 were at universities; 1,295 were studying engineering; 1,075, medicine; 357, science; 308, economics; 117, agriculture; and 112, dentistry. Technical assistance projects in the Colonial territories under the United Nations Expanded Programme of Technical Assistance are estimated to cost 1,271,000 United States dollars in 1957, compared with 1,079,000 dollars in 1956. The report notes that the British teams participating in the international campaign against the desert locust in the Arabian peninsula were requested by the Government of Saudi Arabia to leave the country, and all personnel and equipment have been withdrawn.

UNIVERSITY GRANTS COMMITTEE

RETURNS FOR 1955-56

THE annual returns from universities and university colleges in receipt of Treasury grants for the academic year 1955-56, published by the University Grants Committee*, records an increase of 3,489 in the number of full-time students, which now stands at 85,194, compared with 81,705 in 1954-55, 80,602 in 1953-54 and 81,474 in 1952-53, and it is expected that the number in 1956-57 will show a further and greater increase as the number of full-time students in the autumn term of 1956 was 4,623 greater than in the autumn term of 1955. In the English universities, full-time men students increased by 1,997 and women by 714; for Wales, the corresponding figures were 71 and 61; and for Scotland, 400 and 246. There were 5,536 full-time and 2,068 part-time students from overseas within the British Commonwealth, and 3,750 full-time and 1,756 part-time students from foreign countries; for 1954-55 the corresponding figures were 4,987 and 2,010 for the Commonwealth and 3,617 and 1,594 for foreign countries. Distribution of full-time students among the faculties showed no significant change, an increase from 17,327 to 18,133 in students of pure science representing from 21.2 to 21.3 per cent of all students, and an increase from 10,586 to 11,379 in students of technology, representing 12.9 to 13.3 per cent of the

* University Grants Committee. Returns from Universities and University Colleges in receipt of Treasury Grant, Academic Year 1955-1956. Pp. 50. (Cmd. 211.) (London: H.M. Stationery Office, 1957.) 3s. 6d. net.