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The Imperial Conference and Natural Resources.

AMONG the problems being discussed at the Imperial Conference, now being held in London, one of the most important is the development of the natural resources of the British Empire, and this is a question which can no longer be approached on old-fashioned empirical lines. On the contrary, a successful solution can be expected only if the whole matter is put on a rigidly scientific basis.

The first need is for a scientific survey of each area of the Empire as a possible home of man. The result of such a survey would be a store of definite knowledge as to (1) the various raw materials (food and other) to be expected from each area, and (2) the extent to which any area at present contributes its proper share of such raw materials.

Two facts must, however, be faced before entering on any such survey for any part of the Empire. One is that the Empire is, politically and economically, oceanic. We depend on the ocean not only for strategic security, but also for economic and commercial prosperity; and our consciousness of this has tended or tempted towards excessive dependence, in the form of neglect of the tiny, but vital, home supplies, until we no longer attempt to grow bread enough for our needs during even a quarter of the year. Indeed, Mr. Churchill's famous motor park is still a wilderness of hulks cumbering some of the best wheat land in England; and across the Middlesex border from Slough a housing authority thought that the best "brick earth" in Middlesex was a good foundation for brick cottages. We may agree entirely that "working men had as much right as any one else to the best land in the parish," and yet question the suitability of "brick earth" for any house-sites and resent its being alienated from its proper work of providing food by intensive culture.

Space forbids detailed treatment of the homeland, but the fundamental factors must be kept in mind. In the first place, we ought to add 8,000,000 acres to our arable area, and put 250,000 men on them; then, in any emergency, we could guarantee four-fifths of the adequate minimum of wholesome and nourishing food for all our people. Then literally some millions of our people never taste a drop of fresh English milk; and the way to increase and cheapen the supply is to increase our arable area. Denmark is so small and so highly specialised that it scarcely gives a fair comparison. But in 1913 even Germany produced 485 lb. of "bread" per head of population (against our 90 lb.), and so had only 25 per cent. of her farm area under grass (against our 60 per cent.), and was able to rear one head of cattle to the acre, while we reared only one to three acres.

Lastly, our method of raising meat is appallingly

wasteful. It takes 48 lb. of cereals fit for human use to raise one pound of beef; even the pig, by far the most economical converter, consumes 3,000,000 tons of "human" food to produce 250,000 tons of pork, ham, and bacon. The saving of time and money and ships, if we imported the meat instead of the food for cattle, would almost pay our whole unemployment dole; and even the bacon, equal in quality to that for which we paid Denmark about 30,000,000*l.* last year, could be imported from our own tropical dominions, for tropical bacon is as "firm" as English bacon, if the pigs are given coconut in their food.

The British Empire, unlike other big empires, is an epitome of the world, so that we have naturally a climatic base for classifying natural regions; and we can distinguish half-a-dozen broad types. Each of them has its appropriate products, and should be encouraged to produce these; and the various areas, being scattered over the whole world, have complementary seasons. Of these broad types the most important are the temperate, the Trade-wind, and the monsoon.

The temperate type, as seen in Canada, has marine margins and continental interior; and these marine margins, whether dominated by snow, as in the east, or by rain, as in the west, are specially timber areas and should grow and market forest products. In 1922, Canada produced very nearly 3,000,000 cords of pulpwood and more than 1,000,000 tons of newsprint; and yet just before the War we were importing from Germany more than twice as much wood-pulp as we imported from Canada, and more than ten times as much paper.

The cleared forest is not suited either by soil or by climate to the growing of grain, but makes admirable pasture; and exports should be in small, solid, and imperishable form, *e.g.* butter and cheese. Canada and New Zealand already send us 80 per cent. of all our imported cheese, and Canada alone could supply all our needs. Off each margin, a cold sea current is exceedingly favourable to fishing, and on each margin orchard trees flourish almost as well as forest trees. Fish, fruit, forest, and dairy products are, therefore, natural exports. The dry continental interior is natural grassland with early summer rain, which is just as favourable to grain-growing as the perennial rain of the margin is to forest. Canada is now the largest producer of wheat in the world—capable of producing 400,000,000 bushels a year.

Our Trade-wind areas are partly insular and partly continental. The islands already produce the finest sugar and coffee in the world, and have almost unlimited possibilities in the way of raising fruit and tobacco. They could easily produce all the sugar and all the coffee that we need, and yet, in 1913, 90 per cent. of our sugar and 85 per cent. of our coffee came from outside the Empire.

The continental part of the Trade-wind region is mainly savana, capable of producing almost unlimited supplies of cattle and maize and tobacco, and in several areas already raising large quantities of cotton, to which the *slow* changes of Trade-wind climate are very favourable, as they are also to tobacco. For example, Nyasaland raises excellent "Egyptian" cotton on its heavy soil, and equally good tobacco on its light soil. If every native on this African savana was guaranteed a supply of "Salisbury White" maize, and was excused his hut tax if he planted a certain area under cotton, the British Empire would become the greatest producer of maize in the world, and in two years the African savana would be sending us 2,000,000 bales of cotton.

This question of cotton, however, is more important in the monsoon region. India already rules the market of the world for jute, tea, oil-seeds, and rice; and her population is of a very different type from that in Africa. India is, therefore, the only area where there can be an *immediate* increase of any product which requires a great deal of labour; but, unfortunately, India, like Nigeria, being a monsoon area, gets its heat before its rain—which greatly handicaps the quality of many crops, especially cotton. In the meantime, India raises the worst cotton in the world, so far as length of staple is concerned, and very nearly the worst in the world for yield per acre (85 lb.). But wherever cotton can be grown entirely by irrigation, as in the north-west, or where the rain comes before the heat, as in the extreme south-east, there could be a very great increase of "calico" cotton—our greatest need; and India is not troubled, as Nigeria is, with a short growing-season, which involves the natives in the necessity of providing all food crops before thinking of growing cotton.

These scattered examples may illustrate the sort of lines on which a geographical survey of the Empire would proceed. Such a survey has been already roughly made, and its results may be summarised as follows:—The Empire can produce: (1) all the wheat and oats, maize and rice, that we need, and most of the barley; (2) all the tea, coffee, cocoa, sugar, and oil-seeds (margarine); (3) all the beef, mutton, pig, and rabbit products that we need, and most of the leather; (4) all the wool, rubber, jute, and sisal, and fully half the cotton; and (5) all the most important constructional and industrial timber. In some of these cases, the Empire is already absolutely supreme; *e.g.* tea, cocoa, wool, rubber, and palm oil. All of them could be produced without a raising of price, probably with an actual lowering of it; and it is obvious that an adequate minimum of all should be produced. Only in this way can we get rid of a foreign monopoly, as in cotton, and foreign control, as in maize and meat.

L. W. LYDE.