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The Development of Cotton-growing in the British Empire.[1]

IN the years before the War, the exportable surplus of cotton from the United States was well over 4000 millions of pounds, or 8 millions of bales of 500 lb. each. At the present time it is only about 4½ millions of bales (in very approximate figures), and there does not seem much possibility of any increase. This is due to various causes, chief among which may be mentioned (1) the ravages of the cotton-boll weevil, which has now, after thirty years have passed since its first invasion, spread over the whole cotton-growing region of the Southern States; and (2) the fact that the United States are every year consuming more and more cotton for the supply of their own mills. The demand for cotton goods in America seems insatiable, and is one of the principal factors in bringing about the present unfortunate situation in the British cotton industry.

American cotton, the fibre (or staple) of which is from an inch to an inch and one-eighth in length, provides the enormous bulk of the supply for Lancashire, the mills of which are constructed to deal with cotton of this length, and cannot at a moment's notice be altered to suit any other kind. Nor is there any other kind available in sufficient quantity, to say nothing of the fact that the demand is for goods of the present quality, which could not be equalled by spinning a cotton of shorter staple. The confusion of the exchanges, the diminished purchasing power of continental nations, and the smaller demand from India, have all contributed to lower the demand for Lancashire fabrics, but can scarcely go much further in that direction; and the consumption in America is increasing. Any rise in the Old World demand would cause the shortage to be felt even more acutely than it is, and even at present it is a very serious matter, which is reflected in the very high price at which cotton stands. American middling (the standard of the market) is now (Nov. 8) at 19·28*d.* per lb., against an average of 6·46*d.* in 1914.

In these circumstances the increased production of cotton of staple approximately equal to middling American, and elsewhere than in the United States, has become an urgent necessity, if the greatest manufacturing industry of Great Britain—upon which it is estimated that ten millions of people are dependent—is not to fall upon very evil days, which may mean widespread unemployment and distress. Among the most obvious countries in which to set to work to remedy the matter are those comprised within the British Empire. Dependence upon them for the supply of raw cotton would also bring other advantages in its

[1] Empire Cotton Growing Corporation. Report of the Administrative Council. Presented at the second annual general meeting on October 10.

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train—it would give a fillip to colonial development, it would reduce the payments to be made to the United States, and would save paying in depreciated currency. Already for twenty years the British Cotton Growing Association has been devoting much money and effort to this object, and with considerable success—to such an extent, indeed, that the first and most difficult corner has been turned in several of the colonies, where cotton is now established among the possible crops that may be grown for profit. For some time, however, it has been felt that still greater and more widely organised effort is needed, and with this object in view there has been formed the Empire Cotton Growing Corporation, the sources of the funds of which are a capital grant from Government and a compulsory levy of 6*d*. upon every 500 lb. of cotton purchased by spinners. The second annual meeting has just been held, under the presidency of Lord Derby.

Our thoughts turn naturally and first of all to India, as the second largest producer of cotton in the world. At present, however, that country counts for little so far as Lancashire is concerned, though producing every year some 4½-5 million bales. Only 243,000 were sent to Great Britain in the year ending July 31 last, and only 107,000 were consumed. The bulk of the cotton, which is mostly of short staple and poor quality, is used in Indian mills, or exported to Japan, and to a less degree to the continent of Europe. The locally made cloth, though somewhat coarse in texture, is of excellent wearing quality, and satisfies at a moderate cost a great part of the local demand.

As there seems to be small chance of growing in India within a short time large quantities of the longer-stapled cotton which Lancashire needs, attention must be directed to Africa and Australia. The Asiatic portions of the Empire outside India are in general too wet for the successful cultivation of cotton upon the large scale, whilst the West Indies have already devoted much of their small available area to the production of Sea Island cotton, which has the longest and finest fibre of all. The market for this cotton is but a small one, and the few thousand bales which are exported from the West Indies supply practically all of its requirements.

By far the largest producer in Africa, and one of the most important in the world, on account of the fine quality and long staple of its cotton, is Egypt. Recent political changes, however, have excluded this country from the Empire, and it remains to be seen whether the effect of these may not be to make even worse the present difficult situation in cotton, by involving a falling-off in production, or a deterioration of the quality or length of staple.

In the rest of Africa the cultivation of cotton for export is still comparatively new, and that it exists at all is due to the work of the British Cotton Growing Association referred to above. Cotton-growing is now becoming of serious importance in the Sudan, in Uganda, and in Nigeria, while South Africa, Tanganyika, and other parts are making a good start. In all of them the export is increasing, and in Uganda it now reaches the respectable figure of about 90,000 bales annually (Lancashire now uses about 3 million bales of American cotton). The important fact is that the corner has been turned, and many people know that cotton can be cultivated to a profit in these regions, so that others will probably follow their example, and the export will increase. After having cultivated cotton for some years, people will be less likely to abandon it in the event of an unpropitious year, and the cultivation will be much more likely to be permanent.

While in tropical Africa the crop is mainly in the hands of the natives of the country, there appears to be a good prospect that portions of South Africa may offer good prospects and suitable conditions for cultivation by people of European descent.

Finally, we must consider Australia, where the cultivation of cotton is carried on by white men. Queensland and New South Wales are proving to be excellently well suited to the crop, and the principal thing that remains to be seen is whether the policy of a "white Australia" will allow of enough labour for important extension. If this extension can take place, Australia should become a factor of serious importance upon the cotton markets.

The import into Lancashire of Empire-grown cotton is as yet but small compared to the enormous quantities arriving from the American continent, north and south, but it is by no means unimportant, and there is every reason to hope that at no very distant period, under the fostering care of the Empire Cotton Growing Corporation, it may reach a million bales, or about a quarter of the consumption.

The work of the Corporation is at present in its initial stages. A separate committee is at work in India upon somewhat similar lines, aided by a cess of 4 annas on every bale of cotton used or exported. Specialists have been appointed to report on prospects and conditions in South Africa and elsewhere, and some of the African colonies are being helped by grants made to their agricultural departments for the express purpose of work upon cotton under the supervision of specialists appointed by the Corporation. Research is under way in St. Vincent, grants-in-aid are being made to institutions conducting research in Great Britain, and the question of establishing a research station in some cotton-growing country is under consideration. A number of studentships have been given, and the

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men are being trained at the Imperial College of Tropical Agriculture, Trinidad, at Cambridge, and elsewhere, while some of those who have finished their training are being employed in the African and other colonies in supervising work with cotton under the charge of the specialists. A large illustrative exhibit is being prepared for the British Empire Exhibition at Wembley next year, a journal is being started under the editorship of Dr. J. C. Willis, F.R.S., and in many other ways the Corporation is settling to work at the gigantic problem before it.

It is clear that the activities of the Corporation will be likely to result in a considerable demand for men of the right kind, and at present there is difficulty in finding these. Highly trained agriculturists with knowledge of cotton-growing are difficult to discover, nor does the supply of young men who have taken a degree in pure science and followed this with some agricultural training meet the demand which at present exists in this new branch of scientific tropical agriculture

The Forests of India.

The Forests of India. By Prof. E. P. Stebbing. In 3 vols. Vol. 1. Pp. xv + 548 + 27 plates. Vol. 2: *The Development of the Indian Forest Service.* Pp. xii + 633 + 36 plates. (London: John Lane, The Bodley Head, Ltd., 1922–1923.) 42*s.* net each.

PROF. STEBBING'S work deals with the history of forest conservancy in India from the time of the recent Post-Tertiary period to the present time. In volume i. he gives the history from the earliest date to the year 1864; in volume ii. from 1864 to 1900; the period 1900 to the present time is reserved for volume iii., not yet published. The matter assigned to volume i. is further divided into four sub-periods, the last of which comprises the years 1857–1863. Volume ii. is divided into two sub-periods, the first of which comprises the years 1864–1870. The author then, in a way, throws these two sub-periods together again and says that the fourteen years, 1857–1870, witnessed the true foundation of forest conservancy in the different provinces of the Indian Empire.

In the early part of volume i. the general features of India are indicated; its geography, geological features, climate, the distribution and the general character of the forests at the time of the arrival of the English in India. Fire, shifting cultivation, and careless utilisation had considerably reduced the area of the forests and changed their composition, a process which went on, practically unchecked, until the middle of the nineteenth century. The East India Company periodically directed attention to the mischief and urged the adoption of measures to stop it, but the Government of the country did not take action until the Bombay Dockyards ran short of timber for naval construction. A timber agency was set up early in the nineteenth century, but abolished again in 1823, in consequence of its arbitrary proceedings. For some time after this, any small progress was due more to the exertions of active individuals in the services than to the Government as a whole. Among these Mr. Conolly, the Collector of Malabar, stands out. He started the well-known Nilambur teak plantation in 1843. This was so successful that it proved the possibility of making forest conservancy in India financially profitable. Other examples are the activity of Dr. Gibson in Bombay, Dr. Cleghorn in Mysore and Madras, and Dr. Wallich, Capt. Tremenheere, and Mr. Colvin in Burma. These officers and many others did, no doubt, a great deal of good, but their efforts were disjointed; however, they created a feeling that action on a definite plan was wanted.

In 1855 Lord Dalhousie took up the matter. His first step was to appoint Dr. Brandis superintendent of the Pegu teak forests. The latter joined in Burma in 1856, and, supported by Major Phayre, the Commissioner of Pegu, during the following six years he saved the Lower Burma teak forest from the threatening destruction. Soon after the effect of the Mutiny had somewhat subsided, the Government of India began to occupy itself with the question of more effective forest conservancy generally. Dr. Cleghorn was called up from Madras in 1861 to advise about forest conservancy in Upper India, and a year later Dr. Brandis (it is said on Dr. Cleghorn's suggestion) was brought up from Burma to join in the work. In 1864 the Government, with the approval of the Secretary of State for India, established a regular Forest Department with Dr. Brandis as first Inspector-General of Forests.

Dr. Brandis was a man of science, of great knowledge and endowed with a remarkable working power. He had recognised in Burma that lasting benefit could not be achieved without placing the forest business on a legal basis, and he succeeded in having a special Forest Act passed in 1865. That Act had, however, a great defect: it did not provide a legal inquiry and regulation of rights of third persons in the areas proposed for permanent State forests. Hence, in 1868, Brandis proposed a revised Act, and this proposal led to a protracted discussion which did not end until 1878, when the Indian Forest Act passed the Legislative Council. It is still in force with some minor additions, but special Acts were passed for Burma and Madras based on the same principles as the Indian Act but providing for some provincial differences. All these Acts give power to inquire into, regulate, and, if necessary, commute the rights of third persons in areas declared or proposed as Reserved State Forests; to

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