THE SUGAR INDUSTRY OF MAURITIUS

C. J. Robertson

Geographer, Istituto Internazionale d'Agricoltura, Rome, Italy

MAURITIUS, once primarily important to the British Empire as a strategic outpost in the Indian Ocean, owes its present-day significance to its position as the leading source within the Empire of Great Britain's imports of raw sugar, its exports of this commodity to Great Britain and Northern Ireland in the last few years having been exceeded only by those of Cuba, the world's leading producer. In the quinquennium, 1923–1927, while Cuba's proportion of our imports was 35 per cent, that of Mauritius was 14 per cent. In the same period the average annual production of Mauritius was 216,000 metric tons, of which an average of 165,000 came to this country. In attaining this level of production this little Colony of 705 square miles, much of it mountainous, has become an extreme example of a one-crop country. Sugar is indeed "la mère nourricière du pays." In the years following the War, sugar cane has occupied up to almost 80 per cent of the cultivated area, comprising the best lands. In 1921–1926 sugar accounted for 96 per cent in value of the total exports excluding specie. The determining influence of the crop on the life of the island is shown by a comparison of the course of sugar exports with that of the Government's revenue, and this only reflects its influence on all the activities, economic and social, of the Colony. Here, too, as in other "sugar colonies," those who control the industry have exerted a strong influence on local political affairs. While the Government augments its revenue in years when the sugar market is favourable, it has, on the other hand, rendered assistance from time to time to the industry on which its finances depend.

Distribution

The sugar cane was introduced by the Dutch but not cultivated commercially until after 1735.[1] It now occupies the greater part of the coastal districts of Savane and Grand Port on the southeast, the plains of Flacq on the east, and much of the northern districts of Rivière du Rempart and Pamplemousses, while a belt of cane estates runs across the central plateau, following the line of the more northerly of the two railways crossing the uplands. There is also a much smaller irrigated area in Black River near the west coast. Of the total area under cane over two-thirds are below the 600-foot contour, the higher districts which occupy over half the island being less favourable because of heavier rainfall and lower temperature.

Relation to Climatic Conditions

The sugar cane grows within wide limits of annual rainfall. In Mauritius approximately two-thirds of the total crop are grown between the annual isohyets of 50 inches and 100 inches. On the plateau precipitation is for the most part greater, the area of maximum lying rather to the south and east, facing the trade winds, which in summer blow from

[1] A. Walter in Macmillan's "Mauritius."

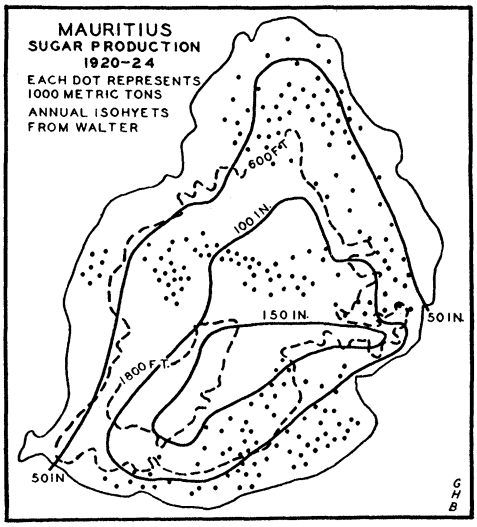

FIGURE 1.—Sugar production in Mauritius from 1920 to 1924.

east and east southeast, and in winter from east southeast and southeast. The eastern coastlands are thus hot and humid, the southeast being so even in winter, and Grand Port and Flacq in the south and east having the greatest area under cane. The western coastal areas are markedly drier, particularly in the Black River district, the precipitation there being 32 inches, falling chiefly in the period January to April, only 60 per cent being effective. Sugar cane is, however, grown in this district by means of irrigation. La Ferme Reservoir, completed in 1921, irrigates 3,000 arpents. La Nicolière system, in the North, which suffers from large fluctuations in yield, will irrigate over 10,000 arpents when its three connected reservoirs are completed. As usual, in irrigated areas, comparatively high yields have been obtained, the Black River district having two tons per arpent more than the average for the island.[2]

For sugar cane a wet season with fairly evenly distributed precipitation is necessary to secure a good yield of cane, while to ensure a good yield of sugar this should be followed by a dry season in which the sugar-content of the juice is increased. In Mauritius the well-marked alternation of wet and dry seasons due to the annual migration of the wind-belts is thus favourable to sugar production. The summer rains begin in December and rise to a maximum in March, after which there is a sudden falling-off in April and then a steady decrease in precipitation to the minimum in September. The sugar cane is perennial, producing for many years in succession fresh offshoots from the mass of underground stems, the first

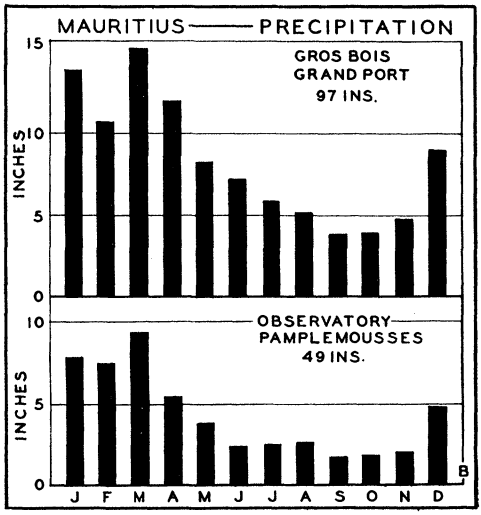

FIGURE 2.—Typical rainfalls for the wet Southeast (Grand Port) and the drier Northwest (Pamplemousses) in Mauritius. (Data from Walter, On the Influence of Forests on Rainfall. Period 35 years.)

season's cane being known as "plant cane," the succeeding offshoots as "ratoons." The number of years for which ratooning is allowed to go on varies in different countries. In Mauritius about four-fifths of the crop in any year is from ratoons.

[2] Mauritius Dept. of Agric., General Bulletin, No. 6.

The growing-period of the ratoons covers approximately the 12 months of the calendar year. About 75 per cent of an individual ratoon crop is produced in the four months of high temperature, January to April, when growth is very rapid. At this time, too, the crop is getting the summer rains. There is a rapid falling-off in rate of growth with the fall in temperature in the succeeding months. Ripening takes place in the relatively cool winter months from June onwards. The range of monthly mean temperature in Mauritius is from about 26.5° C. in February to about 20.5° C. in August. There is no danger of frost, which is the chief consideration in regard to the relation of cane to temperature.

Practically all the plant cane is also harvested by December, after a growing season eighteen to twenty-two months, the Grande Saison. This cane gets the benefit of two rainy seasons and undergoes a resting period during the cool dry season from July to September of the first year, particularly in the higher districts where the cool season is more pronounced. There the plant cane takes longer to mature. In the northern lowlands it is ready, however, in thirteen to fifteen months and is harvested at the beginning of the crushing season in August, having been planted in April to June of the previous year. This is the "Petite Saison." This cane is sufficiently established to resist the first dry season and grows mainly in the following summer. The practice varies not only with climate but with soil, labour, and other local conditions, and there are transitional forms, such as "Demie Saison," with a sixteen to eighteen months' growing period, also harvested by the end of

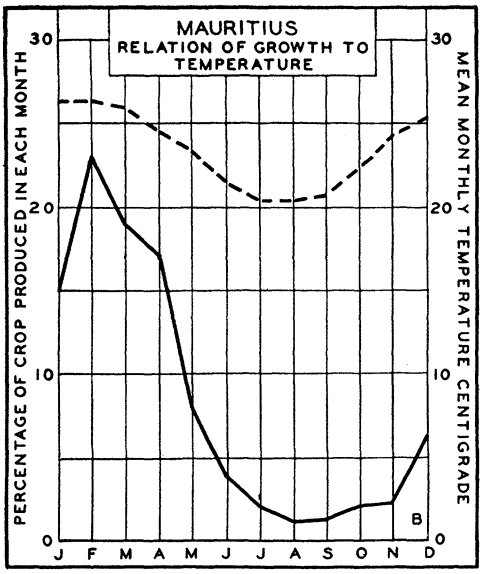

FIGURE 3.—Ratoon crop, maturing in twelve months, in Mauritius. (Data from H. A. Tempany, Mauritius Dept. of Agric., Gen. Bull. No. 36. 1926. Page 31.)

the calendar year. The highest yield comes from the "Grande Saison" crop, thus compensating for its greater time in the ground and the additional cost in cultivation. June is regarded as the best month for planting, the yield not only of the plant canes but of the subsequent ratoon crop being reduced if planting is delayed until after August. From the last days of July onwards, cane is being harvested in some part of the island, beginning on the northern lowlands with the "Petite Saison" crop, the main bulk of the total crop being crushed in the last three months of the year and the campaign being generally completed by the end of December.

In a detailed study [3] of rainfall in relation to yield of sugar, M. Koenig has shown that it is not the heavy summer rains of January–March that are important but the rainfall in

[3] Mauritius Dept. of Agric., General Bull. No. 27, pp. 11–12.

June and July (especially the latter) preceding the harvest, and that in November–December (especially the former) in the preceding year. A definite positive correlation has been established between the rainfall, or, still more precisely, the degree of wetness (which allows for the number of days during which rain falls), and the subsequent yield. Deficiency of rainfall during these critical periods cannot be subsequently compensated for. Similarly, in temperature, March has been shown to be the critical period.

The most calamitous vagary of the weather to which the island is subject is the particularly violent cyclonic storms that are especially prevalent in February and March. Although the paths of these storms, which are formed mainly in the area of intense heat to the north and northeast, very rarely pass over Mauritius, they occasionally pass sufficiently near to cause considerable damage, an approach to within 50 or 60 miles being dangerous, since the wind then blows with violence. The most disastrous of comparatively recent times were those of February 12 and April 29, 1892, the two together destroying 48.3 per cent of the sugar crop.[4] Next to these comes that of February, 1902, which destroyed 18.2 per cent; since then severe cyclonic damage has occurred in 1911, 1916, and 1926. The curve of annual production shows their incidence clearly. But, it is only when cylcones pass too near the island that their rôle is destructive; normally they are beneficial, for in their absence the rain-bearing winds are weak, and it has been found that droughts generally occur in years of weak cyclonic circulation. Despite the serious damage experienced by the sugar crop through cyclones, the exposure to cyclone risk has been one of the factors favouring the predominance of sugar cane in the island, owing to the relatively greater resistance offered to the wind by the cane as compared with other crops.

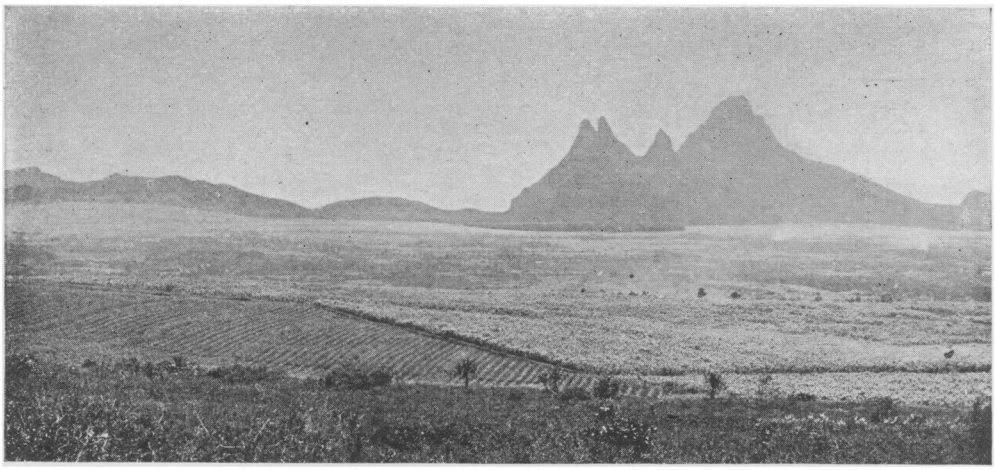

FIGURE 4.—Les Trois Mamelles, Mauritius. The picturesque remains of volcanoes rise from the cultivated plains of the interior. (Courtesy of Imperial Institute, London.)

The other natural calamity to which Mauritius is most subject is

[4] Mauritius Almanac, 1925–1926, p. E. 39.

drought. Since that of 1886 droughts have been serious in 1897, 1907, 1921. Their effects have been, however, relatively less than those of cyclones. Naturally, it is the marginal districts of the west that are most susceptible. These districts, too, have suffered most from the destruction of the forest, a destruction itself mainly carried out to extend the area under cane.

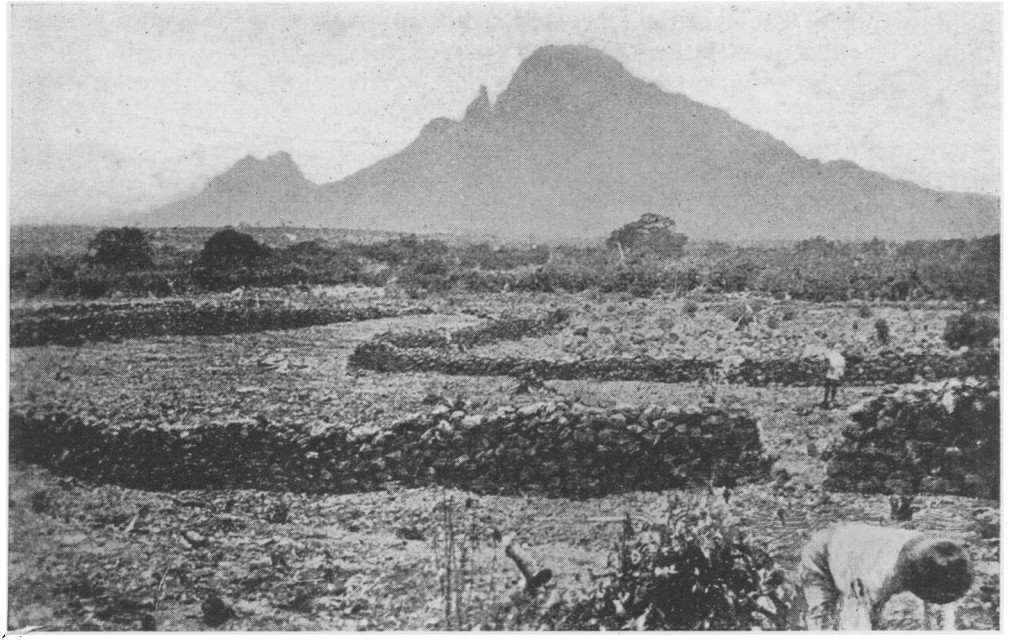

FIGURE 5.—In the drier north of Mauritius, the lava sheet has weathered into large boulders which are a serious hindrance to mechanical cultivation. The boulders are collected in long walls following the contours. (Courtesy of "Empire Production.")

SOILS

The sugar cane, though adaptable to a varied range of soils, thrives best in those that are not only fairly rich but well drained, while ease of working is a particularly desirable feature in countries where labour is scarce. In Mauritius, practically all the cane is grown on the Red Soils, which cover the greater part of the island save in the west and part of the north, where Black Soils occur. The Red Soils, as elsewhere in the Tropics, are the result of prolonged weathering, in conditions of great heat and moisture, of the parent rock, here a basic lava. These soils are fertile loams, of great moisture-retaining capacity, but at the same time open and very easily drained. Drainage is also greatly assisted over a large part of the Colony by the relief. They are easily cultivated even after heavy rain, which is also a matter of great importance for the sugar cane. Thus, their physical qualities as a whole make them particularly suitable for cane-growing.

In Mauritius the Red Soils are divided into three types:

(1) The Free Lands are those on which the most intensive cultivation is carried on, and they represent the Red Soil in its normal condition. They cover, roughly, a great part of the southeast (Grande Savane, and

parts of Grand Port and Flacq) and the open plains of the central district of Moka, an area where over half of the acreage and about two-thirds of all the production are found. The yields reach up to 40 to 60 tons, and even up to 70 tons per arpent. Savane, Moka, and Flacq are the districts in which the highest average yields of cane are obtained.

(2) In other parts of Flacq and in Pamplemousses the Gravelly Lands predominate. These also are very good, particularly as regards drainage. In fact, their rapid-drying qualities may become a danger in very dry years.

(3) Still more to the north the Rocky type is found. Here, in the comparatively dry part of the island, the lava sheet has weathered into large blocks. While the soil is consequently difficult to cultivate and presents a serious hindrance to implemental cultivation, the rocks have not entirely proved a drawback in that they help to prevent evaporation, a considerable advantage in the drier north, and also to maintain the temperature. As a result of the greater expense in cultivation, ratoonage is prolonged.

The Red Soils are rich in iron, in the form of oxide, very poor in lime and in potash, and extremely poor in phosphoric acid. Leaching takes place rapidly. Intensive cultivation soon led, therefore, to the need for fertilisers, and today the Mauritius cane lands are heavily fertilised, practically all the growers, including the Indians, being alive to the need for maintaining fertility at a high level. Although the lime-content is small the addition of lime is not as a rule necessary, very little lime being required by cane. The deficiency in phosphoric acid soon, however, became a limiting factor, and led as early as 1845 to the introduction of guano. This proved an important stimulus to production and the response, as seen in the subsequent rise in total production, was rapid. The

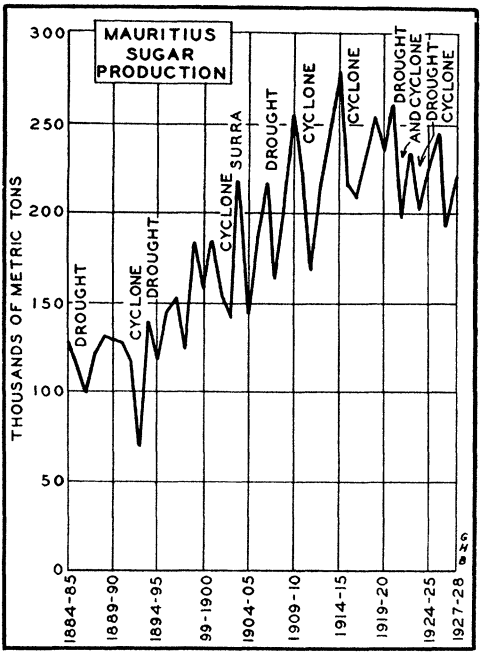

FIGURE 6.—Sugar production in Mauritius. (Data from Geerlig: "The World's Cane Sugar Industry," and Reports of Mauritius Dept. of Agric.)

nitrogen-content is very high, a very great advantage, and the soils are rich in nitrogen-fixing bacteria. The organic content of the soil has long been very carefully maintained, stable manure and factory waste being regularly applied with very beneficial results, while the use of molasses as manure, particularly for plant cane, has been practised since 1860 and has been a general characteristic since 1900. Not only does the molasses supply plant food, its potash content being particularly important, but it has a sterilising effect on harmful organisms and also improves the condition of the soil. The

FIGURE 7.—La Ferme Reservoir in the dry West of Mauritius is formed by diverting the surplus water of two streams and irrigates over 3,000 acres. (Courtesy of "Empire Production.")

practice of turning in legumes into the soil, as a means of maintaining the nitrogenous content, is also a well-established and characteristic feature of Mauritius cane agriculture, chiefly *Phaseolus lunatus* and *P. vulgaris* being used. The subsoils are peculiarly infertile and thus the average depth of cultivation is as low as 10 inches. The danger of turning up this infertile layer is a serious hindrance, and it has been suggested that the introduction of the disc plough may in this way have lowered the yields.

The Black Soils occur in the west and north, in districts where the annual precipitation is less than 50 inches. These compact soils present difficulties, apart from their coincidence with relatively arid conditions, which have been obstacles to the spread of cane cultivation.

CRITICAL IMPORTANCE OF THE LABOUR FACTOR

The climatic and soil conditions have favoured the predominance of the sugar industry but here, as in the British West Indies, its development has been possible only by the introduction of East Indian labour. The European population, in all only about 20,000, mainly of French descent, does not engage in manual labour, while the rest of the non-Indian population is for the most part engaged in general services of a non-agricultural nature. Since the abolition of slavery in 1834 and the final liberation of the negro slaves in 1839 the sugar industry has relied on India for its labour supply. The annual net immigration of Indians has throughout the century of its history shown large fluctuations. It reached its maximum in 1854, though the proportion of Indian immigrants in the total population did not reach its highest peak until 1861. Thereafter, the Indo-Mauritian population, that is, the Indians born in Mauritius, gained. The increased restrictions of the Labour Law of 1867 marked the end of the period of greatest influx. In that year, for the first time since the beginning of Government regulation of immigration in 1842, there was a net emigration, and since then there have been only minor fluctuations to either side of the migration balance. In 1910 assisted immigration was discontinued, the direction of the Colonial Office, after the Royal Commission of 1909 having declared its opinion that the Indian population of the Colony was sufficient, if all were employed. Eleven years later, according to the 1921 Census, the Indian population numbered 264,537, or 71 per cent of the total population. There had been a falling-off not only in the quantity but in the quality of the immigrants, and this was coincident with increasing prejudice in India against emigration to the Colony and indentured emigration in general.

The labour problem originates, however, from causes operating

FIGURE 8.—East Indian labour in Mauritius. Cane cutting—the men cut the cane, the women and children strip off the leaves. (Courtesy of Miss M. I. Freeland.)

within the Colony. In the first place the normal growth of an immigrant population has led to a decrease in the proportion of the effective labour-force to the whole, since the proportion of males to females has decreased, and there being also a greater proportion of old people. Amongst economic causes the chief is the progress of "morcellement," the breaking-up of the estates into small holdings, which results in a scarcity of hired labour on the remaining estates. The rapid extension of this process began after 1910, under the stimulus of low prices, many of the estates selling land to former labourers on easy terms, usually on condition that the land remains under cane. In this way the proportion of cane land held by Indians increased from 30.3 per cent in 1909 to 43.1 per cent in 1917, and then more slowly to 46.2 per cent in 1922. Much of the increase in cane area in the post-war boom years took place on Indian lands. Morcellement proceeded most rapidly on the relatively inferior lands of the drier north and in those parts of Grand Port and Savane where transport conditions are less satisfactory. Co-operative credit societies have assisted and stabilised the process, especially in these more difficult areas. The Indian population living on the sugar estates has been declining rapidly, and at the end of 1925 only 25 per cent was on the estates. The number of able-bodied Indian males between the ages of 20 and 49, who are essential for the heavy work on the estates, has been declining still more rapidly. The scarcity of labour was accentuated in the post-war boom years, when on the one hand the estates were anxious to get more labour to extend cultivation while prices were high, and on the other hand the high prices for cane enabled many of the small Indian planters who had formerly eked out their living by hiring themselves out as labourers to cease doing so. Many Indian women, too, who had formerly worked in the fields, now stayed at home, while the higher wages enabled those men who still worked on the estates to work fewer days. The after effects of the terri-

ble influenza epidemic of 1919 were then felt, too, with great weight. Further negotiations with the Indian Government on the migration question were stimulated during those years, but without satisfactory agreement.

The proportion of the Indian population engaged in agriculture generally has been declining, too, from its maximum in 1881 at an increasing rate in each successive decade. There has been a drain of the agricultural population in the chief town, Port Louis. The Mauritius Government's own vigorous public works policy has itself increased the possibilities of non-agricultural employment, thus accentuating the difficulty.

Since the areal limits of sugar production have been reached, the operation of labour shortage as a limiting factor is felt because of the difficulty of intensifying cultivation and raising yields. It is, however, difficult to separate the effects of labour shortage in this respect from those of the progressive "morcellement" and corresponding increase in the area of operation of the relatively inefficient small planters. Total production in the staple industry has continued to increase at a rate sufficient to cause quantitative production per head of population to also increase, but in both cases there has been in recent years a slowing-down. As demand for labour has continued during this period, it is evident that the product can still find a market, so that the optimum population has not fallen. It cannot, however, be said that the actual population is below what would be the optimum, assuming that it were working at normal efficiency. The temporary decline in efficiency due to the increase of peasant proprietorship may be adequate to explain the tendency of the rate of increase of production to decline. If this is so, the introduction of fresh immigrant labour, even were it available, would be inadvisable especially in view of the industry having reached its areal limits. The solution of the difficulty will eventually come by increased output per head as efficiency increases.

The labour problem is being partly met in Mauritius, as elsewhere, by the increased use of agricultural machinery on the estates. The use of the tractor has extended rapidly in the last few years under the stimulus of rising costs, until by the end of 1926 there were 117 in use.[5] Hindrances to this development are that the tractors are not yet adapted by the makers to Mauritius conditions, a drawback that will doubtless be removed as the market grows; the deficiency of skilled labour essential for the further mechanisation of agriculture; the small size of the fields and rocky nature of much of the surface in the north; and the extension of peasant proprietorship which enhances the obstacle of initial cost. On the other hand, the tractor permits more rapid work and can use the power alcohol which is a potential by-product of the molasses. Plough-driven furrows are replacing the old hand-dug cane-holes, and subsoiling ploughs are in use for after-cultivation. P. de Sornay quotes figures[6] which show that the use of the plough reduces labour costs by 42 per cent in the case of plant cane and by 36 per cent in ratoons.

A more gradual but far-reaching line of attack on the labour problem

[5] Mauritius Dept. of Agric. Ann. Rept. for 1926.

[6] P. de Sornay, *La Canne à Sucre à l'Ile Maurice*, 1920, p. 642.

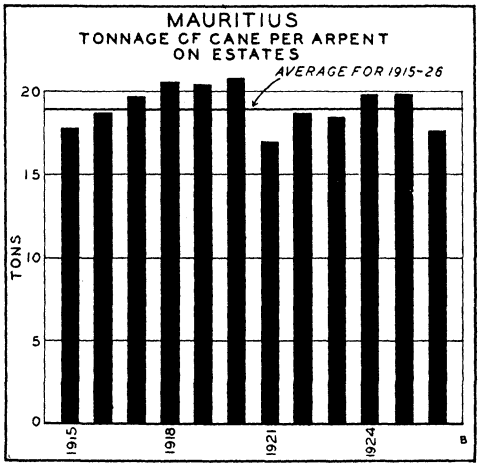

FIGURE 9.—Tonnage of cane per arpent on estates in Mauritius.

is in the direction of improved public health. The density of population—538.5 to the square mile in 1924—makes sanitation a difficult problem. As in most other parts of the Tropics, the diseases that have the most deleterious effect on the economic life of the community are malaria and hookworm. Dr. A. Balfour, in his report of 1921,[7] stated that "despite the many natural advantages of the Colony, its general unhealthiness had reached a degree unparalleled in any similar tropical Dependency of the Empire." He concluded that the chief weapon in the difficult task of rendering the island healthy would be education. The malaria problem is rendered difficult by the fact that at least three species of Anopheles mosquito, with different habits, act as vectors. Favourable breeding places are abundant on the sugar estates. The Government has initiated an energetic campaign against the mosquitoes. With the other scourge, hookworm, examinations hitherto made indicate that about three-quarters of the population is infected, the proportion of infection on the sugar estates, and especially on those of the more humid districts, is probably much higher. Largely due to the campaign initiated by the Rockefeller Foundation, treatment is being widely adopted, and experience elsewhere in the Tropics has shown that the effects of such measures on efficiency are immense.

[7] Balfour, A. Rept. p. 1.

DEVELOPMENT OF PRODUCTION

The total production of sugar in Mauritius showed an upward trend from the eighties to 1914, when the maximum thus far of 277,400 metric tons was reached; since then the trend has been downward. The area under cane rose to 172,000 arpents in 1921, under the influence of high prices; in that year, however, drought reduced the crop seriously. The downward trend in area since has been at a rather more rapid rate than the rise in the corresponding previous period. Since most of the best land was already under cultivation, the rise in area to 1921 occurred mainly on inferior lands, chiefly in the north, where the soil is poor and the climate dry. In the Black River district a very considerable increase took place on the irrigated lands of La Ferme. It was almost entirely virgin land that was brought under cultivation at this time. As so much of this was of definitely inferior type average yields fell in these years. The downward trend since has represented merely the abandonment of these lands when prices no longer made it possible to cultivate them economically. The total of possible permanent expansion of the cane area—in the irrigated districts—is small and unlikely to raise permanently the total cane area much beyond the 1921 maximum.

The other line of possible increase

in total production is by raising the yield per unit area. While there has been a rise in the standard of cultivation on the estates, this has been neutralised by the steady decrease in the area cultivated by them. Although the Indian planters are not unprogressive the small scale of their operations, lack of capital, personal inefficiency, all operate to cause their standards to lag behind. A serious feature in the situation is the diminution in the sugar-content of the canes; Mauritius is steadily losing its superiority over Java in this respect. This diminution has proceeded at a rate sufficient to counterbalance the increased efficiency of the factories in the extraction of sugar.

Mauritius has come to be dangerously dependent on one variety of cane—White Tanna—which by 1925 had spread over 58 per cent of the total cane area. Its popularity is due to its disease-resisting powers and to its being equally adapted to both upland and lowland districts. In spite of this considerable reliance on one variety of cane and to the long-continued and little-interrupted occupation of the soil by cane, the Colony has, however, been fortunate in its freedom from serious cane diseases. The most serious pest is the cane-borer (*Phytalus Smithi*).

Under the influence of increasing competition from Europe and from other tropical sugar producers, the manufacture of sugar has, since 1863, been steadily concentrated on a diminishing number of factories. Here as elsewhere, too, the business of cultivating the cane is being steadily separated from that of manufacturing the sugar. The proportion of the cane area cultivated by the factories decreased from 46 per cent in 1911 to 31 per cent in 1925. Despite

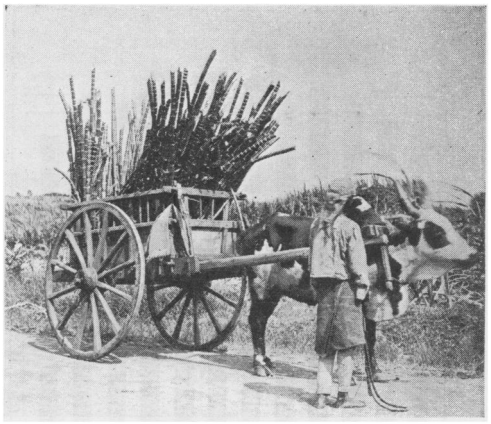

FIGURE 10.—Older method of transporting cane to factory by bullock cart in Mauritius. The small growers still send much of their cane by road. (Courtesy of Imperial Institute, London.)

the great decrease in number of factories that has occurred, the concentration of production has lagged behind the necessities of the country. The size of factories in Mauritius is still very small in comparison with that in the chief sugar-producing countries. Centralisation of the production of sugar for each district on one factory, which is the modern road to economic production, demands more capital than is readily available in the Colony, where the European population clings to the Catholic tradition of large families and the French tradition of equal inheritance. Costs of production are relatively high as compared with those of the great producers of raw sugars. Even the best Mauritius factories do not attain the average efficiency in the extraction and recovery of sugar of Java and Hawaii, and competition between the relatively numerous factories for cane raises the price of their raw material.

INFLUENCE OF THE MARKET

The wider aspects of competition in the world market are bringing

about a change in the products of the industry. Before the War India was the chief market for Mauritius sugars, generally taking over 60 per cent of the production. The remainder was divided between the United Kingdom, which was taking a gradually increasing proportion even then, South Africa, Australia, and Hong-Kong. With respect to the Indian market the island had the advantage of comparative proximity and relatively easily available freight facilities, most of the inward freights being from that country. So long as this market was dominant raw sugars of about 96° polarisation remained the chief product. During the War and in the years following, the bulk purchases of the British Royal Commission on the Sugar Supply diverted practically the entire crop to the United Kingdom. Since then, save in 1924, the Indian market has never regained its former preëminence and Great Britain has absorbed almost the entire output, Australia and South Africa having meanwhile become self-supporting and protected their home production by means of embargo and high tariff respectively. With this change in the situation, the Mauritius manufacturer has been encouraged to increase his production of direct-consumption white sugar of about 99.5° polarisation to suit the higher tastes of the British market, and so enters into competition with the British refiners, who formerly worked up the whole of that portion of the Mauritius export reaching the British market. These direct consumption sugars are produced by the sulphitation process, in which Mauritius was a pioneer. Great Britain now occupies a position of even greater predominance as a market for the Colony's sugar than even India ever did, and this position has been greatly strengthened by the British preferential tariff. The crop comes on the British market principally from October to March, and during November to January, when the Cuban supply is at a minimum, Mauritius has, as in recent years, been the chief source of supply for this country.

FIGURE 11.—Transport of cane to factory by plantation railway in Mauritius. (Courtesy of Imperial Institute, London.)

Since the War the export of the chief by-products of the sugar industry, rum and molasses, has been in-

significant. Both exports formerly reached high levels, but tariffs and freight difficulties have destroyed their markets. A new possibility has, however, arisen that is of great consequence to the industry, the utilisation of the molasses for the manufacture of power alcohol.

POSITION OF MAURITIUS AS A ONE-CROP COUNTRY

The excessive dependence on one crop, with all the risks of climatic vagaries and disease pertaining thereto, has led to some disquietude. The possibilities, not only of disaster to the crop, but of increased difficulty in marketing the product, are a grave danger to a country depending almost entirely on an imported food supply. The tendency to downward movement in the trade balance of the Colony since 1914 points the moral. The large Indian population has with the stimulus of high prices turned its attention to the money crop and not to food crops, and the result has been a growing import of rice, grain, pulse, and flour. The other chief imports are cottons, artificial fertilisers, machinery, coal, and coke. The position of the sugar industry makes an increasing import of artificial fertilisers and of new machinery a necessity of the future. Exports other than sugar are at present insignificant. The export of the most notable secondary product, aloes fibre, has fallen greatly since the War and experiences great fluctuations, and similar misfortunes have been experienced by the other minor products, such as vanilla, coconut oil, copra, and manioc. The internal market is too limited to give the initial stimulus to a new money crop, while foreign markets suffer from the disadvantage of distance, accentuated by the freight difficulties already experienced, or of having more easily available of highly protected supplies of the various commodities. Capital is scarce enough for the urgent demands of the sugar industry, which must always remain at any rate the chief one, and the amount of capital already invested in the staple industry makes the need for maintaining its capacity, and therefore the area under cane, insistent. The extensive practice of ratoonage makes it difficult to reduce

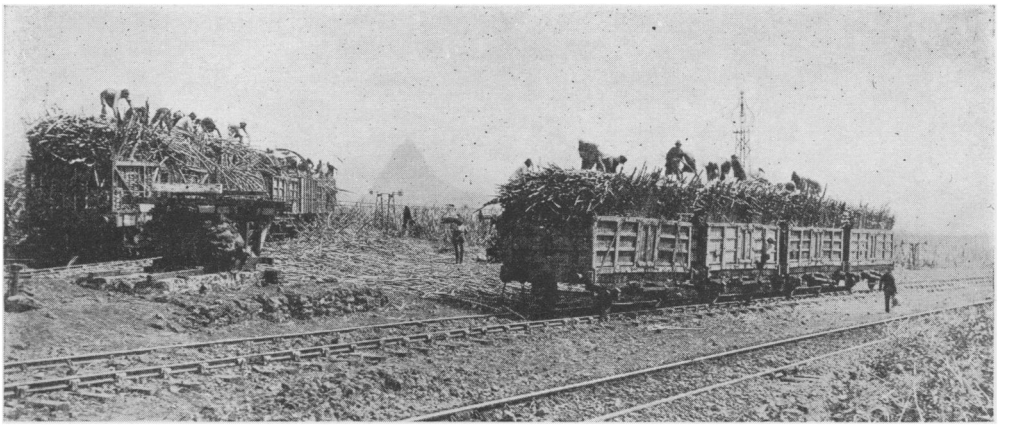

FIGURE 12.—Transport facilities are satisfactory in Mauritius. Loading the cane on railway trucks for transport to the factory. (Courtesy of Miss M. I. Freeland.)

the area under cane, and added to these difficulties is the great problem of labour supply, which, strongly as it is felt in the established industry of the island, would be even more felt in attempting to extend the activities of another industry. As for food crops, the growing of various "ground provisions" such as sweet potatoes is strongly advocated by the Department of Agriculture.

Mauritius conspicuously illustrates the economics of a small one-crop country. Climatic and soil conditions are very favourable to sugar cane and almost the entire area suitable for its cultivation has been occupied by this crop, in some recent years only one-fifth of the total cultivated area being otherwise utilised. Having once embarked on its career of dependence on a dominant money-crop, the Colony finds itself by its location, its financial position, the circumstances of the world's markets, and the economic necessities of the sugar industry itself, forced to persist in this course. In no other country can it be said with more truth that "Sugar is King." In face of this situation, with its accompanying dangers, there is an urgent necessity to stabilise the industry by resolute measures in order to maintain and raise the level of its productive efficiency. The labour shortage by compelling the increased use of mechanical and other methods of raising output per head, has already set the industry in the right direction for progress. While further immigration might alleviate certain difficulties of the present, it would probably aggravate the difficulties of the future, which can be solved only by bringing about more economic production per head. In the long run, therefore, the relatively low rate of increase in the population is for the Colony's good. In Mauritius, as in other parts of the Tropics, the immense importance of bold public health measures in raising general standards is gradually being realised, and the developments that have been initiated in this direction, though slower in effect, promise well for the future. While irrigation schemes and some few necessary improvements in transport facilities will make possible some comparatively slight expansion of the area under cane, the main efforts of the community must be directed to lowering costs of production. The process of "morcellement" that has rapidly extended has certainly added very greatly to the difficulties in the way of improvement, but some recent developments offer hopes of their reduction, and the process contains elements not only of weakness but of strength. Progress towards lowering unit costs demands, besides the overcoming of the usual forces of conservatism, the initial expenditure of a considerable amount of capital. However, the financial position of the Colony has been good so far and, while it is yet possible, the good returns of the past can be made the basis of future development.

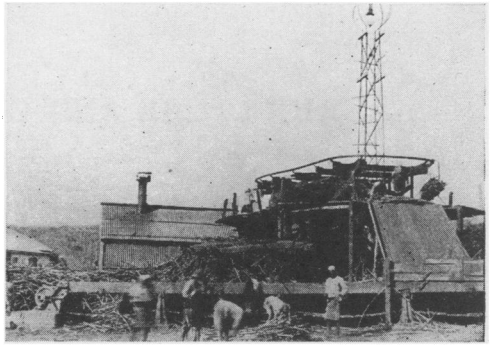

FIGURE 13.—Cane arriving at factory by aerial ropeway in Mauritius. The hilly nature of much of the Mauritius cane land makes this method of transport necessary. (Courtesy of Miss M. I. Freeland.)