

did not exist or where the existing schools refused to admit children of the depressed classes Government have been opening schools for them. 91 such schools had been opened, but recently about a third of these schools had to be closed on account of the apathy of the parents. Instructions are given in handicrafts such as basket-making, rope-making and sewing and the pupils are also supplied with slates and books free at Government expense. With a view to encourage thrift among these communities Government organised 98 co-operative societies and they were originally under the Labour department, but since 1931-32 they are being gradually transferred to the Co-operative department. In depressed class settlements where there was no facility for getting drinking water, Government have constructed 164 wells; and where pathways leading to their locations did not exist, they are constructed at Government expense.

CHAPTER V.

AGRICULTURE AND TRADE.

Page 193.—*Add* after paragraph 3 the following:— Considerable confusion having arisen over these terms at the settlement of 1934-35 * they were abandoned eventually and the following three classes of wet lands were adopted:—

First-class wet lands are lands yielding three or two wet crops, the irrigation of which is ordinarily by direct flow.

Second-class wet lands are lands yielding two wet crops, the second irrigated mainly by baling, also lands yielding one wet and one dry crop, *patla* and *mogaru* lands and other low-lying wet lands which owing to their favourable position have an unfailing supply of water for the first crop.

Third-class wet lands are all less favourably situated wet lands. It should be noted however that *bail*, *majal* and *betu* are terms still used by the people of the district roughly to cover the lands placed in the first, second and third classes respectively.

Add after the last paragraph:—At the re-settlement of 1934-35 it was again found very difficult to come to any conclusion as regards the sale value of lands for the different classes. In most sale and lease deeds, the lands are still described in terms of the "warg" which is of unknown extent

* Please see Mr. E. W. Bouchier's Re-settlement Scheme Report for South Kanara (printed in B.P. No. 85, Land Revenue and Settlement, dated 3rd July 1934), from which part of the notes that follow have been extracted.

or of 'muras' of seed required to sow it which varies considerably, and they included also lands of several descriptions. The Settlement Officer (vide page 19 of his Scheme Report) states that the selling value of land is calculated on the net rent it yields, at Rs. 100 for each mura of rent (forty-two seers). At this rate good lands on the coast which can be let for 15 to 20 muras per acre will sell for Rs. 1,500 to 2,000 and lands in the interior yielding a rent of 6 to 7 muras an acre will sell from Rs. 600 to 700 an acre.

Page 194, last paragraph, line 7.—For "Uppinangadi" read "Puttúr."

Page 195, paragraph 1, last two sentences.—Substitute :— Stock.
The price of an ordinary pair of bullocks is now (1936) between Rs. 30 and 40 and that of an ordinary pair of he-buffaloes between Rs. 50 and Rs. 60. Cart animals of good Mysore type cost between Rs. 150 and 200 per pair. Many of the large land owners among the Bants keep very fine racing buffaloes. The milch cattle of the district are poor except in towns where good she-buffaloes and Sindhi cows are found. These are imported to the district from outside. Efforts are being made to improve the cattle of the district by maintaining breeding bulls at the Veterinary Hospitals and granting premia to private people and local bodies by the Agricultural Department. There are ten breeding bulls under the above category in the district at present and efforts are being made to increase the number. Cattle owners are advised to raise fodder crops, such as guinea and elephant grasses and other fodder crops. Demonstration and propaganda are also done in the preparation of silage from hill grass.

Sheep are not bred in the district; they are brought from Mysore for meat. Goats are bred to a certain extent, but they are of poor build. In the coastal towns good goats probably introduced from Kathiawár or Arabia are found and they are maintained for milch purposes.

Government have opened for the treatment of cattle diseases a veterinary hospital at Mangalore and a dispensary at Puttúr. All kinds of domestic animals are treated in them and castrations and various other operations are also performed. A dispensary was opened at Udipi, but it had to be closed for want of sufficient work. There are besides five touring veterinary surgeons in the district, Mangalore and Udipi taluks having a touring surgeon and the other four taluks one each; and they tour for at least 20 days in a month and attend to outbreaks of such contagious diseases as rinderpest, foot-and-mouth diseases and anthrax, inoculate as many cattle as possible against rinderpest and treat also non-contagious

Cattle
diseases
and their
treatment.

ailments. With a view to prevent the increase of progeny of bad cattle they castrate scrub bulls by Burdizzo Castrator. This method of castration has become so popular with the ryots that at certain seasons of the year when pasture is abundant the surgeons are kept busy. Propaganda work is also done in respect of elimination of bad cows which are barren for a long period and which yield very small quantities of milk and produce bad progeny. The response in this direction has not however been altogether satisfactory. Lectures are also delivered at fairs and festivals and during Health Week with the aid of magic lanterns on the various contagious diseases of cattle and it is explained how the services of the department can be utilized to the best advantage of the ryots. Two Sindhi bulls of the Agricultural department are stationed for the last few years at the veterinary hospital, Mangalore, and their progeny have shown considerable improvement in milking capacity.

There is no indigenous breed of cattle in the district and the ryots purchase their cattle and buffaloes at the Kulgunda cattle fair. This is the only annual fair held in the district; and large numbers of animals are brought to it for sale. The Madras Cattle Diseases Act, 1866, is put into force during the period of the fair and a veterinary assistant surgeon is deputed for duty there. Cases of foot-and-mouth disease are commonly met with in the fair and animals suffering from them are impounded and treated. Buyers come from all parts of the district and from North Malabar. Leaflets on cattle diseases and their prevention and cure and the maintenance of good bulls and milch cows issued by the Veterinary department are distributed at the fair and the method of castration by Burdizzo method is also demonstrated.

Agricultural
implements.

*Page 195, paragraph 2.—Add:—*The price of some of the above implements is much less now (1936). The plough for instance now costs only one rupee and the sickle, bill-hook, fork for manure, mortar for beating rice, and knife cost 4 annas, 6 annas, 8 annas, one rupee and twelve annas respectively. The present prices, it may be noticed, tally in the other cases with the prices in 1894. Labour for preparing these implements is paid in kind in most cases and their cost therefore remains more or less at the level of prices in 1894. The price of iron being low now the cost of iron implements such as sickle, bill-hook and knife is lower than that in 1894.

*Paragraph 3 ending in page 196.—Substitute:—*As may be inferred from the cost, the instruments are of the rudest and most primitive description, but rude as they are, they are not ill-adapted for the puddle cultivation of rice for which they are mainly required. Attempts have been made to introduce

small improved iron ploughs of the types of Monsoon, Meston, Kónkon and Cooper No. 25, and it is estimated that about 800 such ploughs were in use in the district in 1936. Progress has been made in the introduction of small agricultural machinery such as iron mills for crushing sugarcane and sprayers for spraying arecanut trees against mahali disease. Since 1913 iron mills have completely replaced the wooden ones throughout the sugarcane areas. During the three years 1934 to 1936 the use of sprayers has been demonstrated and about 500 sprayers have come into use in important arecanut centres in the district.

Page 197, paragraph 1.—*Add*:—On the whole it must be said that the ryots of this district pay greater attention to the selection and use of manures. The bedding of leaves (*sappu*) in cattle-pens from kumaki and non-kumaki assessed wastes and from other dry lands still goes on and a leaf manure known as *gobara* is got out of it. Green leaves are available in large quantities all over the district except very close to the coast. One can see during the dry weather ryots, men and women, carrying headloads of leaves to their cattle-pens. These are spread in cattle sheds for about a month at the end of which a most fertile manure is obtained. The evils of the system under which cattle are tethered constantly in the noxious atmosphere of putrefying refuse mingled with rotting leaves is not said to be so bad as described in the above paragraph. *Sappu* and *gobara* are used as manure for all kinds of cultivation. Fish manure is however limited more or less to the tobacco cultivation in the Kásaragód taluk and to the sugarcane cultivation in the Udipi taluk. Of late years there has been less fish manure available for the above purposes because fish shoals are said to have disappeared from off the coast and this manure can be got only at prohibitive prices, if at all. Another manure which is popular and paying is river-mud or silt known as *kesaru*. It is taken from marshy river-beds and is employed on the coast and in villages where beds of rivers and streams are suitable for the removal of such mud. Artificial manures are hardly known in the southern taluks. In Udipi, however, the Settlement Officer found that a private concern had managed in one year to sell 28 tons of a manure known as Nicéphos of two grades, one for sugarcane and one for paddy cultivation. This manure yields nitrogen and phosphoric acid and its preparation is a trade secret of the Imperial Chemical Industries. Ammonia-sulphate and super-phosphate are also in demand as manures; and there are depots in Udipi, Mangalore and Coondapoor, both Government and private, which sell a certain amount of artificial manure. The demand for such manures is said to be increasing as the ryots come to realize

their superiority over the other manures in use in the district. Ash is also used for manure. Most of it comes from the houses of villages and a certain amount from the tile and other factories in the district. The green manure crop of Kolinji (*Tephrosia purpuria*) has become very popular in the taluks of Udipi, Coondapoor and Mangalore, especially near the coastal towns where the kumakis (dry land reserved for green leaf) are poor and narrow. The bone manure in conjunction with green leaves or green manure crops has resulted in heavier yields of paddy and is becoming popular.

Page 198, paragraph 3 ending in page 199.—Add:—The average annual acreage under the various products for faslis 1334 to 1338 as given in Appendix VII of the Re-settlement Scheme Report is extracted below:—

Rice 579,490 acres, coconuts 46,491, Arecanuts 17,087, Horsegram 22,734, Black-gram 11,387, Green-gram 7,879, Ragi 6,495, Gingelly 2,736, Pepper 6,038, Cardamoms 1,767, Chillies 5,746, Sugarcane 3,601, Tobacco 1,456, Betel leaf 1,007, Castor seeds 179, Turmeric 945, Cotton 197, Hemp 361, Coffee 22, Plantain 2,606 and Ginger 446.

A comparison of the above figures with those given in the Manual will show that except in the cases of green-gram, gingelly, castor and coffee, the area under other products has greatly extended.

Rice.

Page 202, paragraph 2.—Substitute:—The third-class wet lands grow only one wet crop which is generally broadcast and is harvested at about the same time as the transplanting and the harvesting of the first crop on first and second-class wet lands. The return from the third-class wet lands is very poor because of their situation and the scant attention paid to the cultivation. The first two classes of wet lands grow to a large extent a second wet or *suggi* crop which is either transplanted or broadcast according to the situation and the amount of labour available. Nurseries for the second wet crop are raised on dry lands or on the poorer classes of wet lands. *Suggi* crop is harvested in January. When the first crop is cut, a good length of stalk is left in the ground to be used as manure and ploughed into the ground for the second crop. While harvesting the second crop, however, the stalks are cut close to the ground and they give a good yield of straw. *Kolike* or third wet crop is sown broadcast in January and harvested in April or May and is grown only on the best wet lands and to a limited extent. In certain villages there exists a curious custom of allowing a small piece of good wet land to lie fallow to propitiate family deities.

Page 203, paragraph 2.—Add:—A special form of broadcasting similar to the *nuri* system of Malabar is found in certain parts of the Udipi taluk. This consists in sowing the seed in small groups by hand, the sowers following close behind the plough as it turns the furrows. It is said to cost less seed and less manure than in the usual haphazard broadcasting and to yield better. This system is also found occasionally in other parts of the district and is adopted for the second and even the first wet crop. This form of broadcasting is known as *pundi bithu* (Tulu) or *musti bija* (Kanarese) and the seed is mixed with *sudu mannu*, ashes and powdered cattle manure and sown carefully in handfuls in regular order. The outturn is excellent and pays for the extra labour involved. The first crop is usually the best and the second better than the third, but when the third is broadcast on the above system the outturn is said to be better than the first or the second. This was so in Alevur and Belle in the Udipi taluk.

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—
Broad-
casting.

Patla wet lands are found near rivers and streams and cannot grow two wet crops because they flood during the first crop season. When the water drains away, these lands are covered with a thin layer of silt which helps to produce a bumper crop in the second crop season. *Patla* lands near Bantvāl are noted for their fertility. The term *patla* is used by villagers for second-class wet lands growing a single crop even when they are not subject to submersion. For instance, in Návūr village near the Kudre-Mukh, second-class wet lands are called *patla* because only one crop is grown on them for lack of labour to raise a second crop. Mogaru lands are rare, being found only on river-islands and river margins, and are *vagaru* or saline owing to the influx of water from rivers subject to tidal influence. They also grow a single wet crop, but late in the season.

Page 204, paragraph 1.—Add:—Paddy is the most Paddy.
important crop in South Kanara. The selected strains of *Tavalakannan* and *Kashama* paddy varieties from Taliparamba Agricultural Station have proved successful for the first crop season in South Kanara. The *Tavalakannan* variety has, by its erect and non-shedding habits and the higher yield become more popular especially in the water-logged areas. The yield is generally 20 per cent higher but the purity of the selected seed gradually gets spoiled, unless new seeds are introduced or bulk selection is adopted locally. For the second crop the selections of the Paddy Specialist (viz., G.E.B. 24, Coi. 1 and Coi. 3) are becoming popular because of their heavier yield and superior quality of rice. The superiority of the rice alone brings the farmer about a rupee and half more per mura of

paddy. Dry paddy varieties like "Paramban-navara," "Karuthamodan" and "Thonnuran" also from Taliparamba Agricultural Station are slowly becoming popular.

Garden lands.

*Paragraph 2.—Add:—*The important garden trees are the coconuts, arecanuts, pepper-vine and the jack. The wild mango, tamarind and palmyra are not conspicuous. Graft mango trees are more or less confined to the town of Mangalore and its suburbs. They yield fine mangoes which find a ready sale at high prices. There is scope for expansion of graft mango cultivation as there is always a large demand for good mango fruits. The jack tree is found everywhere and its fruit is largely consumed by the poor and also used as fodder for cattle. Regular pepper cultivation is more or less limited to the kumari villages of the Kásaragód taluk. The pepper kans are supposed to grow pepper. A little pepper is found in the areca gardens of the Kásaragód and Puttúr taluks. The cultivation of tapioca and pineapple was introduced some years ago and is extending. Tapioca is veritably called the "food of the poor man" from its qualities of easy production, of nutrition and cheapness in price. There was much opposition to its cultivation at first as the farmers, out of some misconception, disliked it; but with the progress of time, they have taken to it with zest and it has now proved a very paying dry crop.

Coconuts.

*Page 205, paragraph 1.—Add:—*The coconut grows best on sandy soil. There are few palms in the interior and where they exist they look emaciated. Almost all bunds of wet lands except those close to the ghats grow coconut palms. There is a tendency to overcrowd plantations with numerous trees under the impression that the more the trees the more the yield. Where there are more than 75 trees to an acre, the yield is not satisfactory. Coconut palms on the banks of rivers and on islands in the midst of rivers and on Saint Mary's Island about 4 miles out to sea from Malpe, thrive splendidly and come to bear in four to six years. In the Government farms at Niléshwar and Kásaragód opened in 1916 the best method of coconut cultivation is followed, and experiments in spacing, culturing, and manuring varieties are conducted and it has been shown that it is possible to grow coconut even at high situations without any irrigation if only precautions are taken to store and conserve the moisture brought down by the seasonal rains and numerous demonstration plots have been opened in various places to demonstrate the system. The plants and trees need not be irrigated, but it is enough if the surface soil is constantly stirred with a light instrument to break the capillarity of the soil and so to retain moisture in the ground. This method is cheap and seems to be successful and is being adopted

by the people. The coconut palm is however not exploited to such an extent as in Malabar.

A serious pest of coconut, known as *Nephantis Serinopa*, made its appearance for the first time in 1922 in Mangalore and subsequently spread to Kásaragód, Udipi and Coondapoor taluks. By systematically operating on the affected trees and rearing and spreading parasitic insects, the agricultural department has checked the spread of this pest. The spraying of Bordeaux mixture on the trees affected with leaf-rot, another coconut pest, has had a good effect. A third pest known as the bleeding disease has also been successfully treated by agricultural officers by removing the affected portions and by the application of tar soon after the operation on the fresh cut surface.

Page 206, paragraph 2.—Add:—The areca-palm comes next in importance to paddy and coconut and three distinct parts of the district are famous for the growth of this tree. The first is the Vittal mágáne in the north-west of the Puttúr taluk and the north-eastern portion of the Kásaragód taluk. This is the home of the Havík Brahmin who is an expert in areca cultivation. Gardens are situated in shady places on the sides of valleys and ravines. These gardens are well-spaced with palms numbering about 400 to 600 to the acre, the annual yield of an acre being about three to four candies. The nut is large and heavy and a candy contains 35,000 to 45,000 nuts. The gardens are well-manured and watered and carefully weeded and fenced. The areca palms in this area are sturdy and healthy and seldom visited by diseases or attacked by monkeys. The next region is the belt of land lying close to the ghats in the Puttúr taluk, especially the Beltangadi tract. The areca palms here are poorer than in Vittal and are not so carefully tended except that most elaborate arrangements are made to irrigate them in the dry months by damming rivers and leading the water to the gardens along long artificial channels of stone and mortar and even cement. The palms are said to be planted too close to each other, the average number to an acre being 800 to 1,000 and the Settlement Officer counted a thousand palms on 89 cents of land. The average yield is about two or three candies to an acre and the nuts are small, a candy containing 45,000 to 55,000 nuts. Monkeys attack the nuts and the fungoid disease known as *mahalli* rots them. The Agricultural Department is trying to help the people in combating this disease. Selected trees are being sprayed with a solution recommended by the department, which seems to have good effect. The third region where areca trees are largely grown is Honnár-mágáne in Coondapoor taluk at the top of the Kollúr ghat and surrounded entirely by Mysore territory.

Areca nut or
betelnut.

This tract contains three villages and the areca gardens in them are not as good as those in the other two regions. They, however, have the advantage that the moist climate provides water for the gardens without irrigation almost throughout the year. The nuts in the first two regions are sent to Mangalore while those from the Honnár-magáne are taken to Shimoga for sale, a distance of about 60 miles. The Settlement Officer proceeds: "A good areca garden is a joy to behold. It is cool and shaded. The slender stems of the palms rise in delicate and serried order like the columns of some Gothic work of architecture and are roofed with a beautifully-patterned green tracery. In between the arecas, are plantain trees with their large fan-shaped leaves grouped picturesquely round the areca-stems which are further decorated by pepper vines winding up them. A few jack and coconut trees give a touch of solidarity to the whole picture."

Plantains.

Plantains are grown all over the district in small plots and are also found in areca gardens on the bunds of wet lands and round the scattered homesteads. The *devabale*, the *pubale*, and the Mysore varieties are those most commonly grown. The *nendram* plantains or the banana of Malabar are grown south of the Chandragiri river.

Sugarcane.

Page 207.—*Substitute* for paragraph 2:—Though paddy easily ranks first in importance it is not the only crop grown on wet land. In the northern taluks of the district especially, sugarcane has become more prominent and it is an important money crop covering about 4,000 acres in the whole district. It is a ten to eleven months crop usually raised on second-class wet land and requiring constant watering in the dry months. In 1909 when the Agricultural Department took up sugarcane experiments, the cultivation of sugarcanes was very much limited in this district. Local canes such as Restháli, Karikabbu, Hullukabbu, and Dasakabbu, were then the only varieties grown. The first and the last varieties (green and brown canes) are still grown in Mangalore and Kásaragód taluks respectively for chewing purposes. But it must be said that the improved varieties have almost completely ousted the degenerated ones mentioned above. Dasakabbu is retained in some places because it yields harder jaggery than Red Mauritius. The Red Mauritius cane and some Barbadoes and Java varieties tried and found successful at Taliparamba Agricultural Station in Malabar were introduced into this district in 1912. They are heavier yielders and less subject to jackal attacks. The difficulty in the first instance was that the local wooden mills were unable to crush the hard Red Mauritius canes. More effective iron mills had to be introduced of which there are over 1,000 in use at present. Further the local

method of making jaggery was very primitive, i.e., in small vessels on pit furnaces. The introduction of iron mills to help better expression of juice and improved furnaces with bigger pans to save the fuel used in boiling also went on apace with the new varieties of canes. The profits by the use of these improved appliances in jaggery-making amount to about one candy of jaggery per acre from a normal crop. Incidentally however, the pan and furnace have also become very useful to boil paddy to be husked into rice, since land rent is in most cases paid in kind as rice in South Kanara. The saving of fuel in paddy boiling is clear when 400 lbs. of paddy has been found boiled in the improved furnace and pan with fuel which ordinarily boils only 120 lbs. paddy over the local furnace.

But for the irrigation difficulty existing in the district and for want of fish-guano at certain seasons the acreage under sugarcane would have been much more than at present. Certain villages like Uppúr in Udipi taluk are noted for their sugarcane.

Page 208.—*Add* after the third paragraph:—An agricultural society by the bank of the Kalianpúr river near Uppúr village called the Udipi Co-operative Agricultural Society, Limited, works a crude oil engine for pumping water, crushing sugarcane and converting the juice to jaggery and for extracting oil from the coconut. It has a share capital of Rs. 9,000. It turns at a small cost the sugarcane and coconuts brought by the members into jaggery and oil respectively and hands these products back to them.

Page 222.—*Add* at the end of the chapter the following:— Trade.
For a further account of the trade of the district, see notes at pages 270 to 298 of this book under Volume II, Chapter VIII, Occupations and Trade.
