The first two schools are under the Director of School. Industries.

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The Kanara School of Commerce at Mangalore is an aided institution with a strength of about a hundred pupils. mercial subjects like book-keeping, banking, auditing and shorthand and typewriting are taught here.

## CHAPTER VII,

## COMMUNICATIONS.

Pages 125 to 137.—For the existing chapter substitute:—

At the close of the eighteenth century when the district Before was acquired by the East India Company there were only a few roads in it, and throughout the whole peninsula there was not one complete road of any length on which it would have been possible to employ wheel-carriages; their use therefore was very limited and the distant traffic of the country had nowhere the advantage of them. Trucks were used by those who collected stone for dams and tank embankments; and in some localities the harvest was brought in by carts upon wheels either formed of solid pieces of timber or cut from a single block of stone. These carts were drawn by several pairs of bullocks and carried only a ton but they were never used for distant journeys. Even the main streets of many of the larger towns were not practicable for wheels; and where the most wealthy used light carriages, they rarely left the precincts of their village.

The only "made-roads" then (if they deserved the name) were the mountain passes which in the later wars were opened for the passage of artillery; but they had generally been destroyed by the monsoon rains before the country came into the possession of the Company. The only proof of attention to the great roads was to be seen in the fine avenues of trees, which measured several miles in length, but as the roadways beneath them never had been properly formed or drained, and care had not been taken to keep the pathways practicable, they were roads no longer, but in most cases from being worn down by former traffic and washed by the rains of the monsoon, they had become the drain of all the country that they passed through and were so much more rugged than the land on either side that their only use was as a guide to travellers who took a course as nearly parallel as the ground permitted. The backwaters of the West Coast and the rivers near the sea were turned to some account, but the boats in use were canoes made

Vol. II. Chap. VII. from single trees generally and very ill-suited. Considerable traffic was carried on by means of coasting craft but that was expensive, slow and dangerous. Unlike the donies of the east coast, the pattamars had a better form of sail, but the indolent manner in which they were worked, the number of men required to manage the unwieldy sails, the time lost in waiting for favourable winds and the difficulties of shipping or landing goods rendered this form of conveyance both risky and costly.

While traffic was greatly impeded by the difficulties mentioned above, heavy transit duties, the pernicious sayer and petty charges of a hundred kinds—all collected in the most vexatious way—were imposed on every article excepting grain. The trade of the country fell to its lowest ebb and nothing was produced in the country beyond the food and the clothing required by its people.

50 years later.

The condition of some of the roads early in the nineteenth century is referred to by Dr. Buchanan in his book of travels. The position in the country 50 years later had undergone a great change for the better. Mr. F. N. Maltby, the Collector, "When I joined the district in wrote in 1850 as follows: 1831, there was not a practicable line of road in the whole country and wheeled carriages were unknown beyond the town The change which I now observe is therefore of Mangalore. peculiarly striking. Six excellent ghats are now open and 508 miles of good made-road will be completed in the present They have, as always must be the case, proved the cause of increasing industry and extending cultivation. it must be remembered that they are still nearly the only existing road in a province nearly as long as England and having the area of Wales" (North Kanara district was also under Mr. Maltby then).

The ghat roads.

The mountain passes had been opened at the close of the eighteenth century by the Indian Rajahs for the passage of artillery and troops, but after the war they were no longer kept in order and became so rugged that cattle could hardly climb them. The traffic of the country profited to some extent by these military lines and most of the present trunk roads had been laid only for military purposes, to connect arsenals and cantonments.

About 500 pagodas were received in the shape of ferryrent from the Kanara district in 1817, and scarcely any bridge worth the name existed in the district then. Roads continued to be systematically neglected since then until a Corps of Pioneers was employed in laying out the more important roads and among others in opening the passes of the Nilgiris and the Western ghats; and among the most laborious undertakings of the time were the Bisli, the Higgelah and the Periah ghats,

all abandoned except as local passes for Munjerabad, Sampáje and Periambady, respectively. In the course of the years 1837 to 1843 some important lines were opened or improved and one of such lines was the road from the western boundary of Mysore through Coorg to Mangalore, the object being to facilitate the movement of troops and stores between Madras and Mangalore and the stations on the west-coast, for there was at the time a revolt against the Government in Kanara and the road was intended to enable troops to go with ease through some of the taluks. Sampaje line to Mangalore which was traced by a young officer of engineers and carried on under many different executive officers was completed with perfect success, though more money was spent on it than was anticipated owing to incomplete previous enquiries. There was, however, no great cause for complaint as a magnificent carriage road was opened for a distance of 20 miles through a most difficult country including a pass of 2,500 feet in height at a cost of less than 4,000 rupees a mile. This Sampáje ghat was the first of the great western passes opened on an easy slope for hill travellers and is a noble monument of the genius of the late Lieutenant Fast who died two years after his work on this ghat was completed while carrying out a similar undertaking in the Coimbatore district.

In 1846, road-making and maintenance were transferred Subsequent from the Board of Revenue to a Road Superintendent for the whole Presidency. This was a failure and after some years the roads were handed over to Collectors first and still later to the local boards.

The total length of the roads in the district in 1893 was In 1893. 1,811 miles and there were only four districts in the Presidency which had a larger mileage than this. The chief roads then were the coast road from Baindúr to Kavóy (135 miles long), the Calicut-Panemangalore road traversing the Kásaragód taluk passing through Hosdrug and Vittal; the roads from Mangalore to Mysore frontier by the Sampáje and Agumbe ghats, the latter passing through the taluks of Mangalore, Kárkal and Udipi; and the Kodikal ghat road via Chármadi to Bantvál and thence to Mangalore and running through Puttúr and Mangalore taluks. Details of these roads and other roads in the district have been given under the various taluk Gazetteers at the end of this volume. Four hundred and thirty-seven miles of road had avenues, the cost of maintaining which was more than covered by the sale-proceeds of their produce.

Roads in the district are at present classified as follows: Roads classi-Under the first-class come the trunk roads which are maintained by the district board and the municipalities. Government make a grant of Rs. 570 a mile towards the upkeep of these

Vol. II. CHAP. VII. Vol. II. CHAP. VII. roads with a view to supplement the amounts the board and the councils find from their own resources to maintain them to the requisite standards. In recent years, especially after the abolition of the tolls, the finances of the board and the councils have been affected and they find considerable difficulty in keeping their roads up to their standard. Trunk roads are inspected by the Superintending Engineer and the Government grant is made only on this officer certifying that the expenditure has been incurred and that the condition of the roads warrant the payment. Class II roads are motorable roads which are metalled or surfaced with gravel or laterite. roads are also maintained by the district board which is assisted by a fixed Government grant; but the Collector of the district has to certify that the roads are properly maintained. The next class of roads are those maintained by the district board out of its own funds unassisted by any Government Under the fourth and last class come the village roads looked after by panchayat boards. These latter are not satisfactorily maintained and are attended to when needed to the extent to which funds are available. They are generally unfit for traffic except during the dry months.

Recent statistics.

There are 1,467 miles of road (of which 869 are motorable) in the district now (1936); eight other districts boast of a larger mileage (Tanjore claiming the largest length 2,657 miles). This works out to a mile of road for every 2.74 square miles, which is more than the Presidency average of 4.41 square miles per mile of road. In 1933-34, the expenditure on all classes of roads was 2.72 lakhs of which Government granted 1.38 lakhs and the district board paid from its funds 1.34 lakhs. The local district board spent in that year 199 per cent of its income on roads, though ten other districts had spent a larger percentage, Guntur, Coimbatore and Madura leading with 39.7, 35.1 and 34 per cent, respectively. Of the 869 miles of motorable road only 698 were metalled and it is easy to imagine the condition of the rest of the motorable roads with laterite surface on which every passing motor vehicle raises clouds of dust which are a danger to people using these roads and to the public health of the villages along them.

The trunk roads.

Of the first-class or trunk roads there are two in the district the Mangalore-Mercára road, 65 miles, and the Mangalore-Mysore road, 41 miles, or 106 miles in all. The first road includes in it the Sampáje ghat road, and the second which branches from the first at 14.7 miles from Mangalore, is known as the Chármadi or Mangalore-Mysore ghat road. Notwithstanding the Government grant of Rs. 60,530 for these roads, they are not kept up to the trunk road standard as the funds allotted are inadequate and considerable improvement in both roads is necessary. The surface of the first road is rough,

owing to the metal being exposed and to the inadequate crust; and in the second road the crust is very thin, so that unless very drastic improvements are effected, the roads may require thorough re-metalling in a few years. There is a great deal of goods and passenger traffic on both these roads, which makes it all the more imperative that there should be a greater outlay on their maintenance.

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The second-class roads (587 miles) are fairly well kept and Second-class their surfaces suitable for the traffic over them. Mostly laterite is used for these roads and quarries are readily available; but this is hardly able to withstand heavy traffic to the extent that granite metal does, and unless properly consolidated becomes slushy during the rainy season. During other seasons, however, the surface is smooth. The width of these roads varies from 13 to 26 feet, the metalled portions being 12 feet. The important roads are fairly wide, but in parts they require attention especially in bazaars, town limits and sharp corners, or when they run in steep gradient curves. The Government grant of nearly a lakh and a half is hardly sufficient and as the funds at the disposal of the board are limited many improvements have had to be held up. The Brahmavár—Sitanadi road is perhaps the only road whose condition was reported to be unsatisfactory. The board spent two lakes of rupees in 1934-35 on these second-class roads as against 1.58 lakhs in the previous year. There is a proposal to club all the important roads in one class and to utilize the Government grants for trunk and second-class roads only for their repairs and improvements, the board meeting the cost of maintaining all other roads from its own funds. Among such important roads will be included the Manjerabád, Bisli, Hosangadi and Nágódi ghat roads, the Mangalore-Agumbe ghat road, the Kásaragód-Jalsoor, Udipi-Karkal, Sóméshwar-Kotéswar and the Mudbidri-Bantvál roads. These roads carry heavy traffic over them.

There were 788 miles of roads under the third and fourth Other roads. classes. Obviously the district board could spend little on them, the average expenditure per mile being only Rs. 65 as against Rs. 545 on first and Rs. 342 on second-class roads. doubt there is less traffic on them. Only gravel from the roadside quarries is used for them. The road width varies from 12 to 20 feet, but the majority of them are nearer 12 than 20 feet width. They are only fair weather roads, practically unfit for use during the rainy season and even during the hot weather, the clouds of dust that they raise with the passage of each vehicle make it the despair of their users.

The Mangalore-Bantvál (Jodumarga) road, 14 miles, Mangalore-7 furlongs, is a common route for both the trunk roads and a few ghat roads; and as it gathers to itself the full traffic of

Vol. II. Chap. VII. the southern half of the district to Mangalore besides the coffee, cardamom and other produce of Coorg and Mysore along the Manjerabád and Bisli ghat routes, it is the busiest road in the district. There are 69 bus services along this road running into and out of Mangalore daily, and licences to run more have had to be refused for the reason that the road is narrow and the condition of the road cannot warrant a larger volume of traffic on its surface. There is a constant traffic of lorries also along them, especially during October to April. It would certainly be better to devote greater attention to this road and special estimates are said to be under consideration to have a more solid and substantial surface for it.

Inter-district roads.

There is lack of road communication between this district and Malabar on the south and North Kanara on the north; and the want of a through communication from Calicut to Coondapoor and thence to the Bombay Presidency, via Bevinje, Bantyál and Kárkal is keenly felt. This road is necessary not only to make through travelling possible down the coast, but also to open up the whole sub-taluk of Hosdrug which is now cut off from the rest of the district by the Chandragiri river. The hinterland of this taluk is full of villages growing pepper. A fully bridged road through this area would have a great trade value. With the completion of the bridge across the Kumaradhári river at Uppinangadi, the Manjerabád ghat road from Mysore via Saklespúr, Shirádi, Uppinangadi and Máni to Mangalore has become an important trade route and it is desirable to bring the section within this district from Máni to Shiradi to the level of a trunk road, even to keep up its present condition.

Bridges.

It is impossible in the very nature of things to span the estuaries and river mouths along the coast road. There are, however, some important bridges across the main rivers in the interior, but many of them and the culverts require attention in view of the increase of heavy and fast moving traffic passing over them. The trunk roads are bridged throughout, also some of the second-class roads. Among the important bridges are those over the Nétravathi at Panemangalore and Nidgul, the Gurpúr river near Mangalore, the Paiswáni at Sullia and the Kumaradhári at Uppinangadi. Bridges are required over the Swarnánadi at Puttigé (for which an estimate of Rs. 1,41,000 has been sanctioned), the Paiswani near Bevinje (approximate cost 4 lakhs), the Puchamógar-holé at the fifth mile, fourth furlong on Bantvál-Mudabidri road (cost about Rs. 50,000), the Katil on the sixteenth mile on the Mangalore-Kinnigóle road (cost about Rs. 65,000), and the Shivapura river on the Hiriadca-Hebri road, sixteenth mile, seventh furlong (cost also about Rs. 65,000). Several culverts are also required and the Special Engineer for Road Development in 1935 has given a list of such bridges and culverts and estimated for an expenditure of eleven lakhs of rupees on them in his comprehensive scheme of improvements to the district communications. It is a question of time and funds to carry this scheme into execution.

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The nature of the country along the coast which is inter- Ferries. cepted by many rivers and the six months of rainy weather demand an efficient system of ferry service along the coast road and across most rivers inland. Where the construction of a bridge across rivers both big and small is too expensive or unnecessary, a good ferry service helps the people to get across and the transport of goods, and they yield a fairly large income to the board every year. The board spends a large sum on equipment and in 1934-35 expended Rs. 7,656 on their ferries. Those along the north and south coast roads are fairly well worked; and passengers, carts and cars are easily ferried across, especially when tide and wind are favourable. In the ferries over streams away from the coast the boats in use are mostly small ones, but where the tiny canoes or dugouts are employed, as over the Kumaradhári near Subramanya or the Nétrávathi near Dharmasthala, the passengers have to keep their balance in them while being ferried over; and the writer with a few of his companions unaccustomed to such vessels was thrown into the stream at the first of these two ferries and had a good ducking, though to the local inhabitants the canoe seems to be a wonderfully easy means of transport and most comfortable.

Table IV of the statistical tables in this volume gives a Travellers' fairly complete list of travellers' bungalows in this district and bungalows their distance from the nearest railway station. There were choultries. on the whole 98 bungalows belonging to the district board, 2 to Village Panchayats, one to the Public Works Department, one to municipality and 18 to the Forest Department. nature of the accommodation provided in them and the rent charged are detailed in that table. When it is found that some of these rest-houses are not used, they have to be abandoned. Generally most bungalows have accommodation for two travellers and are well furnished; and the bungalows at Mangalore or the taluk headquarters are convenient and beautifully located. Some of the bungalows though situated at convenient intervals along the highways are, however, found to be little used after the coming in of the motor-cars and buses and seem therefore superfluous; so as many as nine had to be abandoned in 1932-33. The board spent in 1933-34 a little over Rs. 10,000 on these bungalows, the rent levied from them almost covering the expenditure involved in maintaining them. These bungalows are resorted to only by the better class non-officials or officials and rent is charged for the accommodation; but for

Vol. II. CHAP. VII. the poor traveller the board maintains about 20 choultries. There is a choultry at Punjalacutta which is specially reserved for Adi-Dravidas going to and returning from the ghats, but all board choultries generally have one or two rooms open to all classes and provide shelter and rest to the wearied traveller. The board spends on them about a thousand rupees a year.

Railways.

As a contrast to the abundance of roads in South Kanara, railway communication here is very poor. This was the only district in the Presidency which had no railways until August 1906 when the section of the South Indian Railway from Azhikkal to Kanhangád was opened for traffic. The other sections, that is, those from Kanhangad to Kasaragod, Kasaragod to Kumbla and from Kumbla to Mangalore were opened respectively in October 1906, November 1906 and July 1907. Among the schemes originally contemplated were a line to connect Mangalore with the old Southern Mahratta Railway station at Tiptur and a line to connect Mangalore with Mysore with a continuation via Nanjangúd to Erode on the old Madras and South Indian Railways. These projects have since been abandoned. The South Indian Railway now runs from Tricarpúr near the Malabar frontier to Mangalore, a distance of sixty miles, and in the absence of a continuous coastal road from Malabar to South Kanara, this railway is the only direct means of communication by land between these two districts. The question of continuing the road as far as Udipi along the coast has been considered more than once and abandoned, as it involved a heavy outlay, for the broad rivers which run across the district form a formidable barrier unless the railway is willing to go in for a heavy programme of bridging. The proposal to construct a line along the coast being thus ruled out, the other proposal to have railway connection by a line running along the land route to Udipi via Mudbidri and Kárkal has also to be given up in view of the present conditions as it can hardly be remunerative and can ill-afford to compete successfully with the numerous bus services along that road. This route though circuitous is preferred, for there is not the waste of time and trouble which a journey along the direct coast road means.

The appendix to the end of this chapter gives a list of trunk and branch roads in the district with the names of important places on them the rivers and streams that cross them, and the bungalows with details of accommodation in them. The list was prepared with the help of the District Board Engineer and notes also the bungalows abandoned since that was compiled.