

The common diseases of cattle are rinderpest and anthrax, but a large number of cattle is actually killed by wild animals. Rewards are no longer granted by Government which circumstance affects the accuracy of the figures of such deaths.

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CHAPTER X.

IRRIGATION.

There is nothing to add as there are still no Government works of irrigation in this district.

CHAPTER XI.

FORESTS.

Pages 173 and 174.—For the existing chapter, substitute :— General.
An account of the early history of forest conservancy in South Kanara is given in Chapter I of the first volume of this Manual. The district possesses very extensive forests which are roughly distributed in timber forests on the Ghat slopes and fuel and cutch forests on the plains. Sandalwood is found distributed over the plains, usually fairly near to the sea in the fields and unreserves with a little in some of the scrub forests.

In 1916 South Kanara forest district was split into two divisions, North and South. The former comprised the taluks of Coondapoor, Udipi, Kárkál and Mangalore and was divided into four ranges, Coondapoor, Udipi, Shankaranárayana and Mangalore, the two former being the most important. In 1932 the part of Beltangadi range of Mangalore South division in the Puttúr taluk to the north of the Beltangadi-Chármádi road with the exception of Mundáje Káp reserved forest was transferred to the North division, increasing the forest area of that division by 3,727·55 acres. The forest area of the North division is 417·39 square miles.

Forest settlement in the South division has been completed. On 30th June 1934 there were 249,006 acres of reserve forest in this division or an area of 389 square miles. The Mysore-South Kanara boundary of which 188 miles adjoins the reserved forests of North and South Mangalore divisions has been finally settled and has been cleared by the Forest department to a width of 10 feet on the South Kanara side and inspected once every three years according to a fixed programme.

Timber areas.

The timber bearing areas of the Ghat forests are scattered in vast areas of jungle which are largely regrowth from old *kumari* (shifting cultivation) and at present are more or less inaccessible until road systems are constructed as these Ghat forests are penetrated only by a few ghat roads such as the Nágódi, Hosangadi, Águmbé, and Chármádi ghat roads. In addition they are distant some 40 miles from either of the two main ports of export, Coondapoor and Mangalore.

Working plan.

Since about 1900 the forests of the division were worked under various timber fuel and catch schemes, but in 1932 all these old schemes were revised and brought up-to-date and put together in a working plan which includes all forest areas of the district.

Kumari or shifting cultivation.

Kumari cultivation by jungle tribes results in the destruction of the forests so far as commercial interests are concerned; and this shifting cultivation was discouraged for many years and finally stopped in 1920. Since then the forest tribes (*Kudubies*) have been living by cultivation or coolie work like other people.

Many of them have however taken service under large landholders taking an "advance" from them and have become completely and permanently attached to their masters, as they can never repay their advances and "redeem" themselves.

During the years 1931-34 attempts were made to help them by giving them *kumari* work to do in forest areas such as Ganganád and Mégáni valley on the condition that in conjunction with their field crop they raised a forest crop under the supervision of the Forest department. This experiment has proved successful, as it not only provided congenial work for the *Kudubies* but greatly improved the existing forest which was the result of the old unregulated *kumari*.

Kumaki rights.

Free felling for commercial purposes is not allowed even to holders of *kumaki* rights and in no way is the *kumakidár* allowed to make a profit directly out of his privileges. He cannot give, sell, barter, alienate or in any way make use of his *kumaki* produce for purposes of trade or profit. This ruling has however been relaxed in the case of fuel with the object of supplying fuel from *kumaki* to the larger towns. It is, however, subject to the levy of seigniorage fees.

A large proportion of the firewood used in Mangalore for domestic purposes is now brought from the villages of Mangalore and Kárcal taluks in carts and from Coondapoor taluk by sea by firewood-dealers who purchase firewood 'hadis' from *kumakidárs*. The Forest department also sells standing fuel in coupes each year in 7 felling series in Coondapoor taluk and one felling series in Mangalore taluk. The better fuel from these areas goes to Bombay and the poorer to Mangalore.

To meet agricultural demands for green and dry manure leaves and fuel and in the hope of helping simultaneously by freeing from the suppression of the low shade of softwoods the masses of young *Hopea* regeneration that is found in many of the reserves, the Chief Conservator of Forests in 1924 granted the following special concessions to ryots in almost all the reserved forests under the control of the Forest department.

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Concessions.

(a) Clearing of undergrowth in all reserves except those near the coast to a distance of half a mile from the limits of private holdings.

(b) Clearing of undergrowth in all the reserves near the coast to a distance of 200 yards from the limits of private holdings.

(c) Free removal of

(i) green manure leaves of unclassified species and dry leaves of all species and

(ii) dead fuel.

These concessions were restricted by a few simple but necessary silvicultural rules for the protection of good species. In practice however they were greatly abused and are now being gradually but progressively withdrawn on account of the abuses and for silvicultural reasons. In cases where hardship is alleged, attempts are being made to establish manure leaf removal under control, but great difficulty is being experienced. The Agricultural department is attempting to educate the ryot to the use of green manure crop as has been done recently in other districts (e.g., Madura) but in a forest clad district of heavy rainfall such as South Kanara it is difficult to bring home to the ryot the disastrous effects of robbing the forests of their only manure. This removal of manure leaves has all the more effect as the forests have in general been much degraded in the past by *kumari* cultivation.

In 1931 it was realized that many unreserves contained hadis (small pure forests) of *Hopea parviflora* and that many of these hadis contained quite a large amount of timber that was mature or over-mature and thus was not only not being utilized but also was definitely retarding and spoiling the younger pole crop underneath it. Accordingly an unreserve sleeper scheme was proposed for the conversion of this mature and over-mature timber into railway sleepers. This scheme is at present being worked and is proving beneficial to the hadis as is seen at once from the areas already worked.

Unreserved
forests.

Acacia Sundra is more or less restricted to Coondapoor range. Till about 1920 Catechu was manufactured from the trees by the Forest department with the help of Kudubies and sold to merchants from Hassan in Mysore. Since then the trees have been sold standing. This system has been found to work

Catechu trees
(*Acacia
Sundra*).

satisfactorily and forms part of the working plan under which this species in both reserved forests^u and unreserved lands are annually marked and sold standing.

Sandalwood.

At one time sandalwood existed in fairly large quantities particularly in the unreserved lands of Kárkal and Mangalore taluks. Many private distilleries existed and illicit removal (or theft) of sandalwood went on. In 1915 theft had become so extensive that Government was forced to introduce Sandalwood Transit Rules in the district but two years' experience showed that they were inadequate to cope with the situation and thefts still continued. In consequence in 1918 a conference was held by the Forest Commissioner to discuss the rules and suggest improvements. At this conference a suggestion was made to license sandalwood stills and require them to keep accounts of receipts of sandalwood and outturn of oil but this was dropped as it required separate legislation. It was also felt that further restriction might stifle the local industry altogether. The outcome of the conference was the introduction of a special staff to protect sandalwood areas and check sandalwood in transit. In spite of their efforts theft still went on and in 1922 owing to lack of funds the special staff was disbanded. Since then thefts have again increased and many earn their livelihood by this "smuggling."

South Kanara is essentially a timber district and sandalwood is largely confined to the fields and unreserves and a few scrub jungle reserved forests near the coast. Elaborate attempts to protect the sandalwood in such places would involve great expense and dissipation of energy which would be more profitably employed in improving the timber forests. The policy of Government has therefore been to get rid of sandalwood as far as possible in all places except reserved forests (where it can be looked after) and with this end in view for the last 10 years the Forest department has been extracting from unreserves and *kumakies* such sandal as is profitable to extract, in the case of *kumakies* paying the *kumakidars* one-third of the seigniorage rates as compensation.* The operation is not intended to be and never can be final. In addition to this and in order to endeavour to protect private owners of sandalwood from the raids of smugglers Government now has offered to buy standing sandalwood from private owners who wish to sell and who can prove their right of ownership. The rate offered is the current Government sale rate less extraction charges and less 5 per cent. This is 200 to 300 per cent better than the private owners can obtain elsewhere and is being largely made use of.

* Government have since ordered in G.O. No. 1569, Development, dated 12th September 1936, that no such compensation will be paid to the *Kumakidars* as they have no legal claim to the trees on *kumaki* lands.

Under the new working plan sandalwood is also being propagated by means of centres and strips in reserved forests where it is likely to succeed.

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Since 1920, sowings on an extensive scale have been successfully carried out by the department in some of the important reserved forests, chiefly in Udipi Range. The principal species sown is *Hopea parviflora* (Kiralbhogi) and the total area sown is nearly 5,000 acres. The seedlings have in general done well and are now in the stage of a very valuable under-storey of small poles and saplings.

Agricultural
operations.

The present activities of the Forest department are being concentrated on (1) making the best economic use of the forests (2) trying to open up and make accessible the hinterland forests, and (3) in general trying to restore the forests proper to something approaching their original condition before they were subjected to the pernicious system of kumari and where this is impossible to replace them with something better and at the same time to provide congenial and useful work to the jungle people.

It is one of the common comments of visitors to South Kanara that game is very rarely seen. This is due partly to the fact that in the "civilized" parts usually visited game have been driven away by the enlightened and often well-armed ryot but it is mainly due to the fact that the game has taken refuge in the immense and largely inaccessible ghat and sub-ghat forests. In such places, if one takes the trouble, plenty of game is found.

Game.

Among the carnivoræ tiger is but seldom met with but panther abounds nearly all over the district. He is found essentially round the villages, rarely in the jungle proper and is of a small variety and much like the jackal in his habits. It is not uncommon for panther to turn man-eating and in recent years several bad cases have occurred.

Game is being protected as far as is possible in such large areas with a limited staff and such things as beating, shooting over waterholes or with spot lights are forbidden.

Several swampy areas (fit for rice cultivation) inside the reserved forests of South Mangalore forest division had been disforested with a view to make them available for cultivation and incidentally to secure labour, it being impossible to work an entirely deserted forest. Owing to growth of population and cultivation, areas containing tree growth in the neighbourhood of villages and cultivation have been laid bare and turned into grassy plateaus and this process is on the increase. On these grassy laterite plateaus which seem fit to produce nothing but grass, the Agricultural department have opened "Demonstration Plots" by planting coconut and this is gradually being followed up by ryots.

Coconut
plantations.

In the North Forest Division Kiralbógi "Hadis" in Kárkal taluk and in the neighbourhood of Beltangady are eloquent indications, that the value of Forests was well understood by private owners. These Hadis are pure topes of Kiralbógi (*Hopea parviflora*) formed by private agency by merely protecting from grazing, hacking and fire, areas containing *Hopea* mother trees. They vary in extent from a few acres to a few square miles. Some of them contain marketable timber, worth thousands of rupees and more an acre.

Bamboos.

Bamboos (*Bambusa arundinacea*) are found extensively at the foot of the ghats in the district. These began to flower gregariously from about the year 1915. The flowering has since, more or less, ceased and young growth of bamboos is coming up profusely everywhere. There is yet a large quantity of bamboo in the wetter portions of the Ghats available for sale.

Minor forest
produce.

The right of collecting the minor forest produce from reserves and unreserves is sold by public auction every year by the Forest department. The more important of the minor forest produce are given below :—

Ramapatri (*Myristica malabaricum*), Kasarakai (*Strychnos nuxvomica*), Shigekai (*Acacia concinna*), Gerubeeja (*Anacardium occidentale*), Dhupa (*Vateria indica*), Soapnut (*Sapindus amarginata*), Dalchini (*Cinnamomum seylanicum*), canes, reeds and cardamoms.

Cardamom grows in cool places on the ghat reserved forests. Areas containing cardamom are leased for long periods of 30 years and more. Among canes there are many varieties and of these the well-known *Naga* cane is found only in some ghat reserves of Puttúr taluk adjoining Subramanya, a temple dedicated to Nága, the snake God. The cane derives its name from serpent, Nága (*Cobru de capello*) because of its peculiar black marks.

The sub-joined statement shows the extent of forests in each taluk in 1934 :—

Taluk.	Area of taluk in square miles.	Extent of reserve forest.
Coondapoor	619	201
Kárkal	629	152
Udipi	357	5
Mangalore	412	2
Kásaragód	762	32
Puttur	1,239	417
Total excluding the Amindivis.	4,018	809

The receipts and charges of the department for the last five years are shown below :—

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		<i>North Division.</i>		Revenue and expenditure.
Year.		Receipts.	Charges.	
		RS.	RS.	
1929-30	...	1,02,828	95,577	
1930-31	...	86,836	1,00,774	
1931-32	...	87,757	79,979	
1932-33	...	1,11,324	87,253	
1933-34	...	51,582	79,294	
<i>South Division.</i>				
1929-30	...	1,89,260	1,95,524	
1930-31	...	1,82,093	1,42,632	
1931-32	...	1,14,052	1,34,356	
1932-33	...	2,63,854	1,38,697	
1933-34	...	91,018	1,24,353	

The permanent establishment for the department consists of, in the North division, a District Forest officer, four rangers, 15 foresters, 61 forest guards and 12 watchers. In addition there is an office staff of 11 clerks and 8 peons. In the South division, the staff consists of a District Forest officer, three rangers, 14 foresters, 48 forest guards and 17 watchers. In addition there is an office of 12 clerks and 7 peons.

The following is an abstract of offences against the forest laws during the past five years :—

Year.	Injury to forest by fire.	Un- authorized fellings.	Grazing without permission.	Other offences.	Total.	Establish- ment.	Forest offences.
<i>North Division.</i>							
1929-30	39	306	28	38	411		
1930-31	81	357	37	28	503		
1931-32	72	396	28	45	541		
1932-33	73	341	33	60	507		
1933-34	81	339	54	28	502		
Total	346	1,739	180	199	2,464		
<i>South Division.</i>							
1929-30	208	289	44	22	563		
1930-31	254	246	42	29	571		
1931-32	314	264	56	43	677		
1932-33	355	186	57	48	646		
1933-34	166	223	36	16	441		
Total	1,297	1,208	235	158	2,898		