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ON THE HISTORY OF UTTARA KANNADA FORESTS

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THE SETTING

The district of Uttara Kannada (North Canara) lies near the centre of the west coast of India (Fig. 1). A low hilly region with a narrow coastal strip, it receives rainfall of 200 to 600 cm a year. Even today 60 per cent of its total land surface of 10 000 km^2 is under forest cover. Amongst the last to be colonized by agriculture and industry, the district has been famous for its forest produce throughout the historical period (see Table 1). It is therefore a particularly interesting locality for an investigation of forest history.

EARLY HISTORY

Before 1000 B.C.

The high rainfall areas of the west coast and Western Ghats were colonized by agriculture only after the introduction of iron in India around 1000 B.C. The district of Uttara Kannada thus remained under the control of hunting-gathering and fishing populations till relatively late. Indeed, even today it harbours nomadic hunter-gatherers and specialist fishing communities. In this relatively stable and productive tropical environment, these hunting-gathering people are expected to have developed many traditions of resource conservation such as maintenance of sacred groves and protection of trees belonging to genus *Ficus* (Gadgil, 1987). Many such traditions, presumably from the hunting-gathering times, persist to this day and are associated with primitive deities.

1000 B.C. to 300 B.C.

Agriculturalists and pastoralists must have gradually colonized Uttara Kannada between 1000 B.C. and 300 B.C. Paddy cultivation in the estuaries, requiring no manuring and little labour, is likely to have been the earliest form of cultivation and would have led to some clearing of mangrove forests. Simultaneously, the evergreen forests may have been brought under shifting cultivation. Selective retention of fruit trees, such as wild *Mangifera*, *Artocarpus* and *Garcinia*, while slashing the forest, might have begun to change the forest composition. When combined with retention of some forest patches as sacred groves, this may have been a stage of maximum diversity of patch types as well as species richness. There would, of course, have been much gathering of forest produce as well, especially of spices like pepper and cardamom for subsistence and some trade.

300 B.C. to 300 A.D.

The trade in spices flourished over six centuries from 300 B.C. to 300 A.D. The west coast ports, including Karwar and Honnavar in Uttara Kannada, were involved in overseas trade as part of the Satavahana empire. Apart from spices, the trade also included timber like teak, rosewood, ebony and sandalwood (Saletore, 1973).

CASTE SOCIETY

Beginning in the 4th century A.D. the overseas trade declined. There followed a long period of gradual saturation of the Indian subcontinent by agricultural populations and the crystallization of a caste society. This society was made up of thousands of endogamous caste groups, each with its own hereditary mode of subsistence. The district of Uttara Kannada today has over one hundred such endogamous groups (Campbell, 1883). Notable amongst these were the Haviks, a strictly vegetarian Brahmin caste specializing in growing multistoreyed orchards of cardamom, banana, pepper and areca nut in the narrow river valleys. These orchards required heavy application of leaf manure, and the orchard owners claimed ownership over the hill slopes from which they lopped this manure. The advent of Haviks and these orchards may be related to the depletion of wild pepper and cardamom.

The different endogamous groups of the caste society had so diversified their patterns of resource use that many specialized resources, such as palm leaves for mat weaving, were the monopoly of particular groups in any given locality (Fig. 2). Other commonly used resources like fuelwood were controlled by small multi-caste village communities in which the different caste groups were linked in a web of

reciprocity. This organization favoured sustainable use of forest resources. The communities enforced strict protection of some forest patches as sacred groves along with regulated harvests from other community lands. The regulations included restriction of seasons during which certain forms of harvests, such as green leaves, could be made, as well as the quantities harvested (Gadgil and Iyer, in press).

COLONIAL PERIOD

1600 A.D. to 1800 A.D.

The European powers began to influence events on the Indian subcontinent, beginning in the 16th century. Portuguese conquest of Goa and disturbances in Maharashtra caused an influx of people who took to shifting cultivation. The Portuguese entered into a treaty with the rulers of Uttara Kannada in 1633, stipulating that they be allowed to cut all the wood that would be required for their fleet without paying any price whatsoever. The British and Dutch also established trade posts in Uttara Kannada. Apart from spices, the Europeans were interested in teak for shipbuilding and poon (*Calophyllum tomentosum*) for masts.

1800 A.D. to 1860 A.D.

In pre-colonial Uttara Kannada, as in the rest of India, extensive tracts of land were controlled by local communities and used in a sustainable fashion. This picture changed dramatically with the British conquest of Uttara Kannada in 1799. The colonial interests lay in taking over control of as much of the country's resources as possible. Consequently, a British report of 1802 talks of the 'pretence' of landlords cultivating pepper on hills that the timber trees are their property, and of sacred groves as a 'contrivance' designed to prevent the government from claiming its rightful property (Buchanan, 1870).

The government take-over of the Uttara Kannada forests was a disaster. As Cleghorn (1861), the first British Conservator of Forests in south India, records, this 'somewhat ill-advised attempt...thoroughly failed in its objective...and threatened the speedy and complete destruction of the forests themselves'. Indeed, the period 1800-1860 was one of collapse of the traditional *Acacia catechu* trade from coastal Uttara Kannada, an exhaustion of the natural teak growth and a break-down of the community management of the forests to meet the subsistence requirements of the village population.

This initial failure, coupled with the tremendous increase in the demand for forest resources for the construction of railways which began in the 1850s, led the British government to systematize the management of forests under the direction of Brandis, a German forester (Stebbing, 1922). The thrust of this systematization was on demarcation of forest land as state property, either reserved or protected. The reserved forests were meant to meet the needs of the urban, industrial and military sectors, and the protected forests those of the rural population. Except for continuing the protection of some of the erstwhile sacred groves as *kans*, the reserved forests were intended to be gradually converted to teak by encouraging teak in all gaps and compulsorily clearing natural forest from a part of every compartment for planting with teak. For the rest, the focus was on extraction of more and more species of hardwoods. As Cleghorn (1861) remarked, all this was being done quite arbitarily in the total absence of any scientific information. Uttara Kannada being a predominantly rural district, most of the production from reserved forests was exported out of the district.

The rural population was expected to meet its subsistence requirements from a category of reserved forests called minor forest and a category of protected forests called *soppinabetta*. In the minor forests the local people enjoyed certain privileges such as the collection of dead wood and leaves and the grazing of cattle, but without any formal rights. Thus the local communities were deprived of the power either to keep others out of protected forests or to regulate the harvests by their own members. Consequently, common property resources earlier under communal control became open-access resources liable to exhaustive usage. The overuse of the minor forests was then made a justification for the withdrawal of privileges. Thus the area of minor forests in Uttara Kannada was 780 288 ha in 1880, 718 592 ha in 1890, 256 000 ha in 1900 and only 35 328 ha in 1910 (Masur, 1918). This progressive contraction of minor forest meant its accelerated degradation. The resulting protests led to a reversion of 10 800 ha of forest to minor forest (Collins, 1921).

The *soppinabettas*, the second category of forest for use by villagers, were strips of hill land bordering the areca nut orchards. The areca nut orchard owners of Uttara Kannada had traditionally claimed ownership of these strips; while these claims were not fully conceded, such strips were constituted into protected forests at the disposal of the orchard owners for utilization of all produce other than timber. The orchard owners also had rights to exclude others from their *soppinabetta* lands. The *soppinabetta* therefore tended to be much better managed than the minor forest lands.

The population of Uttara Kannada remained fairly stagnant over this entire period. This was attributed in part to malaria and influenza. There were, however, claims by the local people that the stagnation of population growth was a consequence of them being denied access to the forest lands and of being excluded from the occupation of shifting cultivation, with consequent impoverishment of their agricultural and horticultural lands (Masur, 1918).

AFTER INDEPENDENCE

1947 A.D. to 1960 A.D

India won independence in 1947 and launched a major drive to promote industrialization. Uttara Kannada, which was just then being freed of malaria, became a major centre for forest-based industries. The state policies at this point called for encouraging industry in every way possible. This included guaranteeing the supply of forest-based raw material on a long-term basis at nominal prices. Reserve forests were therefore given over to industry on lease for concessional extraction of timber. Such leases included those for the Indian Plywood Manufacturing Company in 1946; the West Coast Paper Mills in 1958; the Western India Match Company in 1958 and Doddannavar and Company for manufacture of packing cases in 1959-60.

This period also saw a rapid explosion of population, due to immigration as well as natural population growth, following the eradication of malaria. The immigrants included those attracted by the newly established forest-based industries as well as others who occupied the now healthy forest tracts. Amongst the latter may be mentioned the Gavli Dhangars, a group of forest-dwelling buffalo and cattle herders who migrated into Uttara Kannada from the bordering southern districts of Maharashtra (Gadgil and Malhotra, 1982).

The period 1948-1960 was thus one of major increase in the pressures of both the urban industrial sector and the local population on forest resources. It was also a period of breakdown of the traditional society hierarchy and the order based on this hierarchy. All of this led to a total breakdown of the systems of management of common property resources. The minor forests of Uttara Kannada district as well as the *soppinabetta* lands became all the more rapidly degraded in this era.

1960 A.D. to 1980 A.D.

The period 1960-1980 saw the peaking of the industrial demand followed by a fall in the supplies to the industry as the resource base was decimated. The total quantity supplied to the industry increased in step with the demand till the early 1970s (Fig. 3). After that it was sought to maintain the supply by switching to less and less desirable species and going into less and less accessible areas (Fig. 4). Thus working plans were prepared for the extraction of softwoods from the hitherto unworked and unorganized evergreen forest of the steep hill slopes. Even the sacred *kans* were subjected to 'improvement felling'.

While the demands of the industry on the forest were mounting, more and more land was being clear-felled and diverted to non-forest purposes. Such felling of course did help in temporarily satisfying the increasing demands for wood. Thus some 40 000 ha of land was released for agriculture, mainly largely around 1969; about 15 000 ha were also released for the construction of the Kali hydroelectric project. To this was added clear-felling of large areas for raising further teak and eucalyptus plantations, rehabilitation colonies and other purposes. Such forest land released for non-forestry purposes since independence exceeds seven per cent of the reserved forest.

The pressures on the minor forest and *soppinabetta* lands also continued to grow. One of the results has been large-scale encroachments on the minor forest lands, for instance for the cultivation of ground-nuts in the coastal tracts.

1980 A.D. onwards

The years since 1980 have seen the emergence of many contradictions between the development process and the need for long-term sustainable use of the resource base. This has led to a slowing down of the rate of diversion of forest lands to other purposes as an official policy embodied in the Forest Conservation Act of 1980. Nevertheless, around 8 500 ha are likely to be released in the near future for power projects and a naval base. Pressures have also begun to mount against the clear-felling of natural forests, especially as the eucalyptus plantations raised in the earlier period have not fulfilled their promise. In fact, the realized yields from eucalyptus plantations have been only of the order of 2 to 3 tonnes per hectare per year as against expected yields of 15 to 30 tonnes per hectare per year. Recent years have also seen the beginning of an interest in meeting the biomass needs of the rural population. This has led to the formulation of a number of social forestry schemes. The focus of this kind of effort in Uttara Kannada district has been on the afforestation of the minor forest lands. The effort has been largely pursued

by the state Forest Department without much involvement of the local people. This is leading to some serious difficulties the resolution of which is critical (Gadgil, Hedge and Shetty, 1987).

CONCLUSION

The forest history of Uttara Kannada may thus be thought of in terms of a gradual transformation of the mode of resource use from foraging for subsistence to processing of commodities. The utilization of forest resources in the commercial interest has largely been a process of resource exhaustion coupled with continuing alienation of people living at subsistence level from access to forest resources. Recent years, however, have seen a reversal of this trend, with greater attention being paid to fulfilment of the biomass needs of the village populations and more sustainable use of the resource base.

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Table 1

The forest history of Uttara Kannada may most conveniently be summarized in the following ten periods :

Sl.No.	Period	Social Organization	Forest Utilization
1.	Before 1000 B.C.	Hunting gathering and fishing societies	Gathering of biological resources
2.	1000 B.C. - 300 B.C.	Agricultural communities in river valleys	River valley land diverted to agriculture
3.	300 B.C. - 300 A.D.	Early Chiefdoms engaged in overseas trade	Vigorous trade in pepper, cardomom and other natural forest produce
4	300 A.D. - 1500 A.D.	Hindu caste society developed along with formation of states	Gathering of spices continues. Spice gardens developed in narrow river valleys
5.	1500 A.D. - 1800 A.D.	Influence of European colonial powers beginning to be felt. Influx of people from Goa	Vigorous trade in spices. Demand on timber for shipbuilding
6.	1800 A.D. - 1860 A.D.	Traditional social organization breaking up under British rule	Unregulated exploitation of natural teak, catechu etc.
7.	1860 A.D. - 1947 A.D.	Continuance of the British rule. Brahmin landlords and bureaucrats dominate.	Shifting cultivation banned. State takeover of forest lands. Large scale teak plantations.
8.	1948 A.D. - 1960 A.D.	Traditional social hierarchy breakdown in independent India. Commerce and industry dominant.	Diversion of land for agriculture and river valley projects. Rapid rise of forest based industry
9.	1960 A.D. - 1980 A.D.	Pace of industrial development slows down	Shortages of forest produce beginning. Largescale eucalyptus plantations. Largescale river valley projects.
10.	1980 A.D. onwards	Contradictions in the development process become significant	Pace of diversion of forest lands and clearfelling of natural forests slows down. Social forestry becomes significant

FIG. 1 MAP OF UTTARA KANNADA DISTRICT

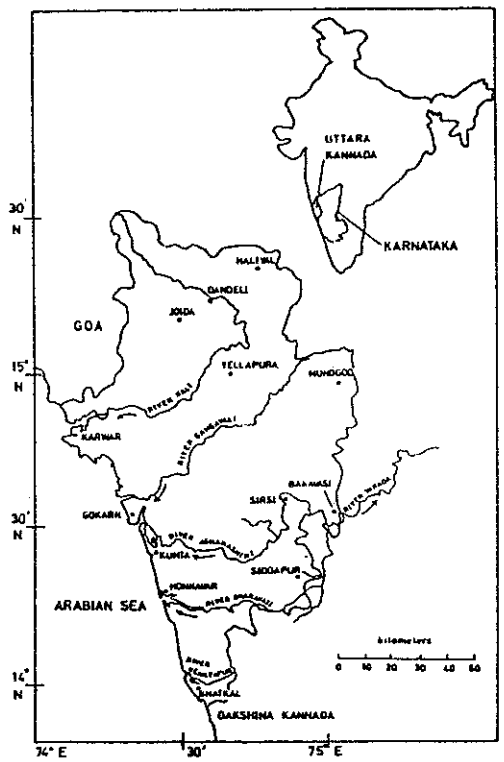


FIG. 2 USE OF DIFFERENT PLANT SPECIES FOR MAT/BASKET WEAVING BY EIGHT DIFFERENT COMMUNITIES OF UTTARA KANNADA DISTRICT

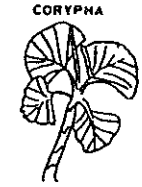
	CYPERUS	PANDANUS	CANE	BAMBOO	PHOENIX	CORYPHA
						
HOLEYA			+	+		+
CHAMAGAR		+			+	
HALAKKI		+	+	+	+	
MARATHI			+			
PATGAR	+					
HARIKANTRA			+	+		
AMBIGA			+	+		
AGER			+	+		

FIG. 3 TIMBER EXTRACTION BY INDIAN PLYWOOD MANUFACTURING COMPANY LIMITED, DANDELI

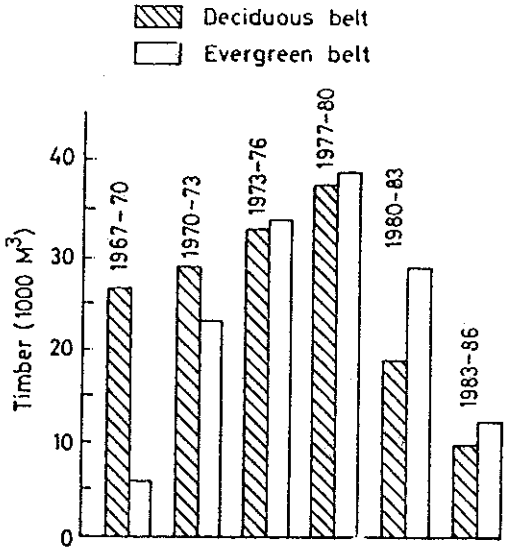


FIG. 4 INCREASE IN NUMBER OF TREE SPECIES UTILIZED BY INDIAN PLYWOOD MANUFACTURING COMPANY, DANDELI