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## "Soppina bettas" – Forests in Support of Horticulture

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### Introduction

Uttara Kannada, the northernmost coastal district of the state of Karnataka in India, lies between 13° 55' to 15° 31' North latitude, 74° 9' to 75° 10' East longitude, and receives an annual rainfall of 200 to 600 cms. With a total land surface area of 10,000 km<sup>2</sup>, even today, forest land forms more than 60 percent. The district is famous for its Pepper, Cardamum and Areca nuts, the cultivation of which is mostly confined to the wet valleys of high rainfall zones. Reliance of cultivation of multistoreyed horticulture crops on loppings of trees and shrubs is the common practice in the district. The descriptions in BUCHANAN (1801) states that great attention was paid to manuring the soil, and leaves of various wild trees were used as manure. Such a practice is mainly to arrest the loss of fertile topsoil, to suppress the growth of unwanted weeds and to conserve the moisture. Abundant "Soppu" (loppings of trees) is supplied to orchards from the forests assigned to the orchardowners which are locally called as "Soppina bettas" (leaf manure forests). Such an allotment of forest land to orchard owners, jointly or individually, in the proportion of 4-9 acres to 1 acre of orchard land is unique in this forested district. So it is interesting to explore the history of peasants forests and to focus on the strategy for development.

### Forest use in pre-colonial period

In pre-colonial Uttara Kannada extensive tracts of forest land were controlled by local communities and used in a sustainable fashion. The forests were under the control of hunting-gathering and fishing populations before this region was colonised by agriculture around 1000 to 300 B.B. (GADGIL; SUBASH CHANDRAN, 1988). Use of forest land and the collection of forest products was free and unrestricted. Cultivation of multistoreyed orchards extended to many pockets of the valleys for which more forests were cleared to bring the land under the plough. Forest produces were used to maintain the steady yield from the orchards for which the garden owners used the neighbouring forested hill slopes regularly demarcating the area arbitrarily. The use of the forest land was done through local customs. The spatial demarcation of such an area was by "Wahivat" (i.e. area under customary use) and such part of the hill slopes was claimed by the orchard owners as their property.

### Process of conservation and categorization of forests

Conservation of sacred grooves and protection of trees belonging to genus *Ficus* were the traditions of hunting-gathering communities (GADGIL, 1987). While few useful wild trees like *Mangifera indica*, *Artocarpus integrifolia*, *Garcinia sp.* were retained during the "Cumri" (shifting) cultivation, the orchard owners maintained those trees which were known for their values like manure and fodder. Initial ruling of Europeans did not affect much the orchard owners. Agriculture was encouraged at the cost of forest and as it was the main source of revenue the interests of agriculturists were amply safeguarded (SHYAMSUNDAR; PARAMESHWARAPPA, 1987). But with the British conquest of Uttara Kannada in 1799 the colonial interest lay in taking over control of as much of the country's resources as possible. The British saw the forests of the locality as an important source to satisfy their resource hungry economy.

Though conservation of forests in the early years was uncertain, it was famine, shortage of rainfall, aridification, deforestation and shortage of timbers during the war time that made the colonial powers to pave the platforms for forest conservation (GROVE, 1988). The process of conservation of forests began as early as 1800 when the Directors of East India Company restricted the felling of timber by the local people. Curtailing the free use of forest and land by the locals began through affirming the state monopoly over the valuable species like Teak, Sandalwood, Rosewood, Black wood, Ebony etc., and also by take over of woodland by the state. This was formalised by the collector of Kanara in 1811 just through a notification to prove the proprietorship by locals over the land even in the forest. As there was no record of private property all the forests were taken as the government property. "Cumri" (shifting) cultivation was banned in 1848 to save the forest patches with valuable timbers.

Farmers of Uttara Kannada were put into trouble during 1807, since most of the forests were under the control of government, they were denied the collection of fuelwood, leaves and grazing the live-stock in the forest. Forest officials harsh behaviour with the people tempted them to protest. On hearing the complaint from the agrieved, Mr. Munro, Governor of Madras Presidency abolished the post of Conservator in 1823. Uttara Kannada district was separated from Madras presidency in 1862 to annex it under Bombay presidency. There was constant pressure in Bombay presidency to check the unrestricted use of forest especially by the orchard owners. Because of the stringent laws that were in force in Bombay presidency, the orchard owners were in hardships to obtain the foliage for their orchard cultivation. Such difficulties were narrated to the collector Mr. Wedderburn (1862), who recommended to the Secretary of State as: "To save the state owned forests little forest area may be allotted to the areca gardeners so that the problem of the owner is solved and also the state owned forests are protected from the danger of destruction."

This proposal was accepted by the Secretary of State which was clear from the letter of 1864 in which there were indications of establishing specially reserved tracts of forest land to which, under certain restrictions, the rayots of villages had access (STEBBINGS, 1922). This appeared to be the first signal for apportioning the forestland for the use of orchard owners. Demarcation of government owned forest land was felt imminent and categorization of forests into government forest reserves and protected forest got more weightage under the pretext of forest conservancy.

Reservations of forests began around 1860 and the forests were categorised into two types recognising soppina bettas under protected forests to meet the needs of farming community and forest reserves being the government property. Because of irregularities in the demarcation of protected forests and impositions of several restrictions on the use of forest land the orchard owners were forced to be in the forefront of the protest movements against the colonial powers. They were in a better position to argue their demands, both, economically and socially, being the growers of cash crops and topping the caste hierarchy in the society. The ruling power took the best use of this opportunity to raise more revenue by taxing the orchard lands at higher rates than the paddy lands by allotting the degraded soft wood species dominating lands to orchard owners making it a special category as "Soppina betta" along with higher assessment.

Expansion of reserved forests with the advent of Indian forest Act of 1878 compelled the orchard owners to raise the problem of crop protection from the wild pest menace during the forest grievance meetings. Many times the Soppina betta Forests were transferred from one department to other department. After knowing the difficulty in applying the whole forest act to Uttara Kannada privileges were regularised under "Kanara privilege rules" 1924 and soppina betta privilege rules were also brought thereunder (KAMAT, 1985).

#### **Settlement of limits of betta lands**

The question of the extent of forest area to be allotted as betta forest arose at the time of demarcation of the boundaries of different forest categories. At the time of survey it was directed to the forest settlement officers to give due importance to the rights existing in the soppina betta forests and the extent of area to be allotted considering the condition of the forest. Originally in 1867 it was fixed at 5-7 acres for each acre of garden depending upon the amount of forest on the betta assigned. But, first

regulation about the soppina betta appeared in 1866. restrictions were imposed on the betta land the owner of the orchard could possess. It was limited to eight times the area of the orchard. The demarcation of betta land was based on the thumb rule:

"All lands covered with trees that are pollarded every year or in rotation to be regarded as betta and measured accordingly". (Letter to the commissioner S.D. 26th Jan. 1894) But during the survey forests rich in timber were included in reserve forests leaving disturbed patches for the exercise of orchard owners. There were demands by the orchardowners to allot 16-20 acres of betta lands per acre of garden for the unfailing supply of lopped materials. But the process of settlement of limits of soppina betta extended over a period from 1860 to 1920, finally allotment ranging from 4 acres in coastal areas to 9 acres in some parts and 5 acres in few localities of the upghat areas. The decision on such disparate distribution was justified by giving the apparent reason that:

"Owing to unsuitability and insufficiency of available forests, it has been found necessary to grant betta to below ghat villages at the rate of 4 acres to one acre of garden instead of at the rate of 9 acres as in up ghats (G.R. No. 2324, 1908)."

Allotment of soppina bettas to orchard owners was mainly to enhance the revenue considering that cultivators derived benefits from these forest lands without any cost.

### **Rights to privileges**

Use of forest land and forest products by the orchard owners was claimed to be their ancient right and the orchard owners claimed the soppina betta land and the trees as their property. But as the government was keen in usurping the forest resource, it was planning to reduce these rights into privileges. Takeover of wood land by the state, affirming the monopoly over valuable species were all the stages to prune the ancient rights of the locals. Forbidding the felling of timber by private individuals and company's right of sovereignty over the forests were ascertained through a proclamation in 1807. With the restriction of area to eight times the orchard in 1867, penalty was incurred for cuttings the trees in the betta forests without the permission. At a later stage several valuable species were declared as reserved species and thus they were made the state property. With the advent of takeover of wood land by the state and declaring several valuable species as reserved the right over land and timber vested with the government. The orchard owner was allowed to take the usufructs for his bonafide use.

The question of respecting the rights of the orchard owners came for consideration at the time of forest survey and settlement. Local orchard owners were against the curtailment of rights which they had enjoyed during the tenure of Uttara Kannada under Madras Presidency. The revenue department of Madras presidency had opined in early 19th century that the use of the green and dry leaves as manure, collection of dry wood for fuel and grazing the animals in the forest were in practice from time immemorial and such practices were accepted as "right" by the British. But forest officers regarded this ancient right as an encroachment upon the government forest. But the government had determined to waive the ancient right over land and timber except considering the right of water and right of way in the forest of Kanara as against the state. Even the government had preplanned to evade the complications arising in respecting the customary right which as evident from G.R. No. 22 F. 1894 that all private rights in reserved forests extinguished and it continued to state that in a reserve forest everything was an offence that was not prohibited. As the soppina bettas have been classed under protected forests the users were made to follow those operations which were not prohibited.

Because of interest on timber trees, the British imposed restrictions on the use of the soppina betta emphasising the preservation of those valuable species and safe guarding them was made the burden on the part of the betta user. Ancient right of free use of land and trees was reduced to privileges, thus vesting the ownership of the trees and land with the government and allowing the use of usufructs to the orchard owners.

### Degradation of Soppina bettas

Because of good market for the garden products and for remunerative price for the spices, the orchard owners took maximum care to maintain the steady yield from the orchards. Since major inflow of biomass was from the soppina bettas, the cultivators were particular in harvesting the products of the supportive resource base. Dr. Cleghorn (1861) remarked on the excellent state of preservation of these soppina bettas by the areca orchard owners. But takeover the woodland by the state and reducing the right over timber and land to privileges led to think of alienation of the property. Hike in the price for areca nuts tempted the cultivators to boost the productivity by putting more biomass obtained through over-harvest of the trees. Savanization was maximised to get more grass to feed the livestock and also to use it as mulch in the orchard. Frequent defoliation of trees by winter lopping was to stimulate the grass growth which was also effected by setting the fire. Selective retention of species such as *Terminalia paniculata*, *T. tomentosa*, *Xylia xylocarpa*, *Aporosa lindleyana* etc., has resulted in to reduced species diversity. Such an unsustainable fashion of resource use prevailed till 1950. Deterioration of the capital resource exceeded its sustainability from post 1950. Effective control measures of deadly diseases like malaria and influenza led to the explosion of the population, promising market rates for nuts improved the financial condition of the orchard owners which made them to employ hired labourers who had little stake for the sustainable use of resource base. Overlapping of the stumped trees in the soppina bettas accelerated the depletion of the resource base. Since the allotment of the bettas was joint all were taking more interest to harvest to their ability thinking least for long term sustainability. Temptation of increasing the orchard area was fulfilled by acrusion of mudquarries which were created by burrowing the adjoining betta lands to put new soil to the garden. This exerted more pressure on the existing resource base facilitating the quick depletion of the resource. Harvest of bushes and loss of grown up tissues during lopping totally halted the regeneration. Frequent sweeping of the floor for litter made the deposited seed materials transferred to somewhere else. Such a management system facilitated soil erosion even at the first striking of rain drops. So the soil has become nutrient poor and unfit for tree growth. Doubtful proprietorship over land and timber had deterred the orchard owners from financial investment for development of these soppina betta with a fear of uncertain return. As it can be seen today, most of the soppina bettas had undergone severe exploitation in the past.

### New initiatives

During the early part of 1970's orchard owners experienced the possibility of total viping of their orchards which as pointed out to be the effect of change in the environment. Some progressive farmers of the locality thought of tackling the problems using some scientific inputs either by changing the management practice or by the process of development and sustainable use of resource base. Awareness of need of halting the degradation of soppina bettas got momentum among the orchard owners from a seminar in 1980 and also in the Ecodevelopment Project involving the farmers. Farmers came forward voluntarily to take up planting in their bettas and to follow the guidance of the scientists for better management. Many have discontinued the winter lopping practice after realizing its injurious effects on the trees. Experiments conducted by Indian Insitute of Science in the farmers bettas to demonstrate the effects of removal of canopy at different level revealed that only 50 percent removal of the crown of a tree is least injurious. Few more studies were conducted to pin point suitability of a species for lopping and the results of the studies are still awaited. And it is hoped that such studies will definetely help in improving the current management system, thereby leading to sustainable resource use. Though the soppina betta users were interested in mentaining a good tree cover over their land at their own cost and effort the state forest department took least interest in acknowledging to that effect even after repeated approach by the farmers. Such lack of record of tree planting by farmers did much to loose interest by them since there is uncertainty about the right over the newly planted tree. Repeated requests by orchard owners to the colonial government as well as post independent government for right over land, timber and new growth have gone in vain.

### Assignment of soppina betta forests - other views

The cultivation of multistoreyed horticultural crops in Uttara Kannada totally depended upon materials procured from the forest. Apportioning of certain forest area for the only use of the orchard owners was much debated among the British officials. Assignment to individual holder was feared for the quick depletion of the resource and also because of the possibility of creation of disharmonious relations among the neighbours (Wingate 1891, In his letter No. 97 of 1891-92). Mr. Mac Gregor, Conservator of Forests S.C. 1891, in his letter No. 1368 of 1891-92, suggested for appending the soppina betta forests to areca orchards instead of assigning to individual owner seperately. Those forest officials who had opposed the assignment of forests to cultivators treating the soppina betta as an encroachment upon the government forest had finally agreed the need of the forest for proper cultivation of the orchard. But orchard owners' claim of ancient right was turned down and the rights were curtailed by several laws and enactments. Even after the independence of India in 1947 the tug of war continued for the allotment of forest land to a group of the community. Such an apportionment of the forest area for the exclusive use of the orchard owners, the elite group of the society of the locality, was lighted in recent years as an injustice to those which were having only the paddy fields considering the socio-political views (NADKARNI et al., 1989).

### Options for better management of soppina betta forests

There were several options put forth for better management of these resource bases with their own merits and demerits. Conversion of all soppina betta forests into reserve forests may not fulfill the need of the cultivators though it could serve the purpose of conservation. Apart from that, orchard owners may have to face the problems from wild pests which often invade the orchards, destroy the crops and take the shelter in the adjoining forests. Even converting all betta forests into community or minor forests by throwing open to all villagers may lead to quick depletion of the tree cover. Bringing these forest under community managed village forest may turnout for imbalanced sharing of the resources hampering the resource base because of the dominance of elite and better offs of the community. Continuing the present system of assignment among many orchard owners has already shown its impact in utmost care to harvest more with least interest for development. Even conferring the right over trees and land under the current joint assignment may lead to dispute among the benefiting owners. The best option could be that repealing of joint assignment and assuring the right over timber retaining the existing privileges. This will assure the betta user about the benefiting owners. The best option could be that repealing of joint assignment and assuring the right over timber retaining the existing privileges. This will assure the betta user about the benefit which he may reap after the maximum effort and management. Simplification of legal procedures for harvest, processing and marketing of the peasant-forest products may attract the peasants to involve in the forest programmes which is helpful in improving the quality of life and lead to balanced use of forest resources.

### Conclusion

State owning of vast forest area in Uttara Kannada district was the result of the measures taken by the colonists under the pretext of conservation. Such processess were thought of mainly to limit the free use of forest by local people, to increase the revenue by taxing the orchards heavily for deriving the benefit from allotted forests as soppina betta and to use the timber rich forests for commercial purposes. Reducing the rights in soppina bettas to privileges and prescriptions to maintain them was to safeguard the interest for timber. Uncertainty about the return after investment for development, joint assignment, lack of proprietorship over the land and the trees led to the use of the soppina betta on an unsustainable fashion. Restocking of the resource base is genuine need of the day and is possible by way of involving the peasants in prudent use, management and assuring them for the return which they put in for development of the resource base.

## Chronology of history of Soppina betta forests in Uttara Kannada District

Period	Important events
Before 1000 B.C.	Forests under the control of hunting-gathering and fishing communities.
1000 B.C. to 300 B.C.	Colonisation of agricultural communities.
300 B.C. to 1600 A.D.	Resource use by customs prevailed. Raising of multistoreyed horticulture. Crops in Valleys. Forested hillslopes used by orchard owners and claimed as private property.
1799 A.D. to 1848 A.D.	Conquest by British. Stepping up of restricting forest use by locals. State takeover of wood-land and affirming state monopoly over a valuable species Protests by peasants against harsh restriction on forest use. Abolition of post of conservator.  Weightage for conservation of forests.  Ban on Cumri (shifting) cultivation.
1848 A.D. to 1860 A.D.	Categorization of forests.  Soppina betta classed under protected forests. Persisting demand for demarcation of forests.
1860 A.D. to 1924 A.D.	Annexation of the district under Bombay presidency.  Narration of difficulties by orchard owners to Collector.  Consent for apportioning forests for the use of Orchard owners.  Initiation of survey and settlement.  Appearance of regulation on extent of betta and extent ranged from 4-8 times the orchard. Recognition of Soppina Betta as a separate category of forests. Allotment of degraded, soft wood species dominating forest land as betta.  Imposition of heavy tax on orchards and higher assessment on betta land.  Extinguishment of rights and regularisation of privilege rules.  Prescription for maintaining tree growth, increase in the list of reserved tree species.
1924 to 1980 A.D.	Attempts to boost the orchard products.  Unabated over exploitation of resource base. Set back in the yield from orchards.
1980 onwards	Realisation of need for prudent use of resources.  Voluntary involvement in restocking of degraded betta land. Interest towards changing the management system. Worry for lack of authentic record for tree planting, uncertainty about the reward for the efforts put in for development.

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