



STUDY OF STATUS OF PRIVATE FOREST IN DAPOLI TEHASIL, DIST RATNAGIRI,MS,INDIA

Botany

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ABSTRACT

Forest cover is an important natural resource which should be conserved on priority basis for sustainable environmental management. However, escalating levels of anthropogenic disturbances have exerted tremendous pressure on the forests. An accurate and continuously updated resource data is a prerequisite for the present-day forest ecosystem management. Thus this paper try to embody the present status of privately owned forests in Dapoli . The present study focus on the account of private forest with respect to natural & cultivated plant species , area under plantation , causes of depletion of forest cover in Dapoli tahasil & there by to study the extent of loss of biodiversity in the study area. Climate and human impact - Competitive exclusion by introduced tree species, causing unfavorable climatic change It was found that there are two main factors operating concurrently, Decline of forests, clearing land by way of felling the trees and natural as well as Manmade fires. Colonization of the bare land with exotic plants such as Eucalyptus, Acacias, Cassias etc. in recent years. It was found that biodiversity is getting lost at an alarming rate in this area & an immediate remedial conservation strategies are to be implemented by private & government agencies.

KEYWORDS

INTRODUCTION:

Ratnagiri district in Kokan region of Maharashtra bears forest cover in excess of 50% of the geographical area (FSI 2009). However, by the forest department's records, only 0.77% of the geographical area is under the ownership of forest department . Which means a large forest tract is privately owned in this district. Similar situations exist in other districts of Konkan region. Owners of these private forest lands generally manage these forests as short-term money earning resources. They sell-out the forest frequently for felling thus resulting in destruction, degradation, invasion of unwanted species and overall loss of biodiversity. As a result the forest resources of the region are in a great threat of being lost. According to Panigrahy et al (2010) the Konkan region has experienced conversion of dense forest to open forest and scrubland over the period from 1985 to 2005. ²Government of Maharashtra instituted Maharashtra Private Forests (Acquisition) Act (MPFAA) in 1975 to take over management of privately owned forests which were badly managed. But it has been observed that the act has been seldom used. Through the course of the history of our earth, man and plants have co-existed under a unique relationship which now stands disrupted. ^{3,4} The hideous scars on the tropical-Semitemperate forests which harbor the greatest part of our biodiversity are examples of the widening gap between the two. In this context, it is important to find out why the MPFAA could not be implemented successfully in this region where private forests abound. It is also necessary to find out the exact differences in the approaches of the MPFAA and incentive-based programs to help replicate the beneficial alternative to other parts of the region and state.

The Flora of Ratnagiri has the same features of Bombay & Thane. Some of the plants are described by Nairne (1894) & earlier by Dalzell (1850-52), Dalzell & Gibson (1861). The northern part of Ratnagiri is less humid than southern part separated by the creek of Malwan , Vengurla. Flora is similar to the Flora of Greater Bombay , but that in South Konkan Flora is similar to the Flora of Greater Bombay , but that in South Konkann below Kumbharli pass upto Phonda , below Ramghat & Amboli is different. Here the soil is largely sandy & loamy. The rain lasts longer. There is great abundance of trees which look green throughout the year. But without humidity throughout the year , they would have become completely deciduous. Many essential oil yielding grasses e.g. *Cymbopogon nardus*, members of Asteraceae, Verbenaceae & Lamiaceae grow well. *Eucalyptus spp.* are introduced in South & North Ratnagiri . The plants of Ratnagiri are a mixture of Konkan , Karnataka (North Kanara), Malabar & Goa plants. Ratnagiri itself has equally good Flora a similar to that in other districts of Konkan . At Ratnagiri , there is good forest of mangrove. ⁵

Ratnagiri being a very large district, it was customary to speak of it as made up of two parts , North and South Ratnagiri. They are now actually formed into two districts : Southern part is called Sindhudurg and Northern part as Ratnagiri District. The flora of North Konkan or Ratnagiri contains several species which are common to Bombay,

Thane, South Gujarat, the Dangs and PanchMahal. It is not so rich in plants like Sindhudurg district, as the rainfall becomes less as one goes northwards . Cooke (1903-1908) included in his work many species of both North and South Konkan not on his collections, but solely the collections of others , made by the early botanists. His account, therefore, lacks specific mention of localities and he often describes distribution as “common in Konkan Hills”, “Konkan Jungles”, “North and South Konkan “ etc. This is unhelpful to the collectors who want to collect and study distribution of a particular species . In his Flora of the Bombay Presidency there are references to Konkan flora comprising 1038 dicotyledonous plants and 337 monocots . But when one examines the plants he has mentioned from a few localities such as Ratnagiri, Mirya Dongar, Mandangad, Chiplun, Pen, Dapoli, Dasgaon, Shrivardhan, Varasgaon, Alibag, and Kalyan, one is disappointed to note that the plants he mentioned with localities in North Konkan are from well known places and are mostly herbaceous. ⁶ The present study was undertaken to focus on the account of private forest with respect to natural & cultivated plant species , area under plantation , causes of depletion of forest cover in Dapoli tahasil & there by to study the extent of loss of biodiversity in the study area.

MATERIALAND.METHOD-

A screening of forest department records, review of relevant literature was used to assess the status of the implementation of MPFAA, 1975 over the years. Interviews with forest department officers were taken to help understand administrative hurdles in implementation. Similarly, interviews with ground-level staff were taken to help understand social hurdles.

FIELD WORK –

Two to three field tours of five to ten days duration in every 4 month, was undertaken for exploration of the study area for documentation of plant biodiversity, crop diversity, agricultural practices, storage, and utilization of plants in the study area ,and also its ownership government records of the land owners were seen.

From collected data & above analysis, Ratnagiri district has more forest cover that is 4199 sq.km in the 5116 sq.km geographical area. Dapoli tahsil has 885.43 hectares of total forest area.

After studying the forest cover & crop patterns in the Umbarle ,Gavandhani , Brahminwadi & Karanjali , I concluded that rice , mango & cashew cultivation are predominant in this region than the actual forest cover.

So, for studying “STATUS OF PRIVATE FOREST IN THE DAPOLI TAHSIL” , there was a need to analyze large sample size , meth od ology & floristic analysis of the study area should be critically analyzed with respect to density , frequency & abundance of the individual species.

RESULTS & OBSERVATIONS :**Table.1 :Forest cover in konkan: Present scenario- (Ref. A review of forestry sector in Konkan region from 1960 to 2010.)**

District	SFR-2009(sq.km) Forest Cover	SFR-2009(sq.km) Geographical Area
Thane	2912	3047
Raigad	2864	4004
Ratnagiri	4199	5116
Sindhudurg	2573	4941

Table.2: Rice cultivation inDapoli taluka -(Ref. Based on an interviews taken from local people of different villages of Dapoli taluka.)

Name of the Village	Total Rice cultivation in acres
Umbarle	41
Gavandhani	2
Brahminwadi	9
Karanjali	30

Table.3: Total forest area in Dapoli taluka- (Ref. Based on an interviews taken from local people of different villages in Dapoli taluka.)

Name of the Village	Total Forest Area in acres
Umbarle	21
Gavandhani	6
Brahminwadi	5
Karanjali	29

Table.4: Mango & cashew cultivation in Dapoli taluka – (Ref. Based on an interviews taken from local people of different villages in Dapoli taluka.)

Name of the Village	Total mango & cashew cultivation in acres
Umbarle	45
Gavandhani	4
Brahminwadi	13
Karanjali	31

Table.5: Comparison between rice cultivation,total forest area & mango &cashew cultivation in Dapoli taluka (Ref. Based on an interviews taken from local people of different villages in Dapoli taluka.)

Name of the Village	Rice cultivation	Total Forest	Mango & cashew cultivation
Umbarle	41	21	45
Gavandhani	2	6	4
Brahminwadi	9	5	13
Karanjali	30	29	31

DISCUSSION–

Climate and human impact –Competitive exclusion by introduced tree species, causing unfavorable climatic change There are two main factors operating concurrently, Decline of forests, clearing land by way of felling the trees and natural as well as Manmade fires. Colonization of the bare land with exotic plants such as Eucalyptus, Acacias, Cassias etc. in recent years. These factors are effectively operating and are chiefly controlled by Man.

The pernicious practice of felling trees and fire promote the formation of open herb- grass land formation. That forest got transformed into shrub –Herb-Grass land with the advent of Man into landscape in Sub-modern period. This process was intensified and shrub landscape got converted into the herbaceous grass land It may be suggested that the present day shrub -grass land type of vegetation can be designated as climatic climax of plant community.⁷

As climate changes, it induces the species to migrate, and we may expect community turnover and local extinctions of a particular species. Active management of small reserves may or even halt this process; however in larger areas a new conservation approach is needed. Identification of biodiversity hotspots and areas of significant threat are a first step toward protection. Understanding the resilience of communities to change and the probable response to change become

major determinants of a successful conservation strategy. The soil erosion and forest cover decline and change in the vegetation pattern and their distribution. Human habitation, high rate of soil erosion, modern agricultural practices coupled with surface and subsurface mining in the study area have lead further destruction in the ecosystem.⁸

Forest clearance associated with landscape use is clearly marked. There is a sharp increase in herbs and grasses, sedges and members of families such as Lamiaceae, Fabaceae, Amaranthaceae, Acanthaceae indicative of some sort of disturbed landscape associated with agricultural activity. There is periodic change in the balance between herb, shrubs, trees and the components of the landscape.^{9,10}

It would be inadequate to talk of Human and natural causes of environmental degradation separately. Human impact is indicated by environmental degradations. Here several factors operate in combination. The factors like farming, fire, drought, pathogen outbreak with ever increasing population demands, might have been absorbed by the reducing tree species population, the combination of these factors had produced environmental stresses which could not be withstood or reverted. Human disturbance increased in this area, giving hardly any time for the biota to recover.¹¹

Keeping in view wide spread herbaceous cover, one ought to think of future of the forest ecology. Ways and means are to be found to spread natural woods into present herb land and overcome elements like *Cassias & Eucalyptus* or weeds like *Prosopis* and *Lantana*. Otherwise the continued exotic plantation and fast expanding grasslands clubbed with hunger for pastoral and arable lands will lead further forest destruction in this area.

Private Forest Protection Plans must be prepared by a Committee constituted by the respective State Governments for their regions of the SESA, to conserve and develop forests on private holdings within the SESA incorporating the following conditions and restrictions.

Need of Management system : Private Forest Protection Plans- Such Plans shall consider ownership choice of green growth, means of livelihood, daily needs of essentials, encouraging plantations of commercial and domestic NTFPs, alternative 28 plantations like medicinal plants, spices, horticulture (cashew, garcinia, mango, coconut, areca, banana, pepper, ginger etc.) with encouragement to the usage of organic farming practices.

For the restoration of forest ecology and proper management of the montane environment, the first step to be taken is to reduce the biotic pressure & put a check on unplanned development. Ways and means have to be found to regenerate forest species in areas now covered by herbs , grasses and plantations. The slow but continuous process of plant succession has to pave the way for a thorough restitution of forest community which under the existing conditions is on the verge of extinction.

Humans, especially those living in and around forests, were earlier using natural resource just for sustenance and not for commercial purposes. With modern civilization being consumption-oriented, our natural resources and particularly forests, had to bear the brunt of indiscriminate use. Poverty, hunger, illiteracy and unmanageable population are some of the possible reasons of the apathy of developing countries towards conservation of their natural resources. With increasing human and development activities, forests have been severely fragmented and at many places degraded, causing threat of local extinction to many wild species of plants and animals. At present 70% forests have no natural regeneration and 55% are prone to fire. In the year 2002, the Government of India set a goal of achieving 25% forest and tree cover by 2007 and 33% forest and tree cover by 2012, targets which the government will find impossible to achieve unless it gives the objectives the priority they deserve, providing them support and the active involvement of the stakeholders.

It is found that biodiversity is getting lost at an alarming rate in this area & an immediate remedial conservation strategies are to be implemented by private & government agencies.

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