

DEFORESTATION IN INDIA OVERVIEW AND PROPOSED CASE STUDIES

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I. INTRODUCTION

India is a vast country - encompassing a large canvas of habitats, and ecological niches; rich in bio-diversity and simultaneously supporting a rich, and vibrant diversity of human cultures.

The environments are as diverse as can be imagined ; from the Himalayas in the north, the long coastline touched by the Arabian Sea on the west and the Bay of Bengal in the east to the islands of Andaman and Nicobar and the Lakshadweep. From the deserts of Rajasthan and Gujarat in the west to the teak forests of Central India to the thick and towering rainforests in the Northeast. Large parts of India like most other parts of South Asia and for that matter the rest of the world were till recently covered in thick forests.

This region is probably best known for the civilizations that flourished in the valleys of its great rivers like the Ganges, the Yamuna and of course the Indus. These were civilizations that reached a high degree of sophistication, and urbanization. What are much less known are the innumerable, small, vibrant, diverse and extremely sustainable forest cultures that survived and flourished and continue to do so even today in the areas where the forests still exist?

II. LOCAL TRADITIONS AND CONSERVATION

There are several continuing examples of many such small communities; taking self propelled initiatives outside the formal structures of law and governance to protect their forests. In their endeavor to safeguard their environment and protect their forests they are often in direct conflict with powerful political and economic structures which are themselves driven by major vested interests.

The best known case of this is the Chipko movement in the Himalayas (Hegde, 1998; Weber, 1987). The villagers rallied together to save their forests by hugging the trees from the axe of the contractors who were issued licenses without the consent of the local people. Much earlier to this movement, though similar in its action is the story of the Bishnois in the desert state of Rajasthan (CSE 1984-85). The religious tenets of the community prevent them from causing any harm to any living thing. A few centuries ago a situation arose when the ruler ordered the cutting down of the trees of the area. The people of this community protested. They hugged the trees to protect them and in the process paid a very heavy price. The king's men ruthlessly chopped down the protesters before chopping down the trees. Even today the villages of the Bishnois are a pleasant sight where trees

grow all around inspite of the desert like environment and various animals like the endangered Blackbuck find freedom and safety in a people's sanctuary.

In addition, across the country there are innumerable sacred groves (Gadget, 1975; Gadget and Vartak, 1976; Induchoodan, 1991; WWF, 1996); patches of forests that have had a sacredness and sanctity attached to them for centuries. Often it is a forest dedicated to the local deity and in many places like in the western ghats these remain the only surviving examples of the rich and virgin forests that once clothed the mountains.

More recently we come across the well-documented cases where communities are taking the initiative in protecting their forests. For instance Jardhar (Kothari, 1995) is a village in the Garhwal Himalayas about 12 hours drive away from New Delhi. Here the village has come together on its own initiative to protect the forests on the hills around their village. With the help of the Delhi based environmental group Kalpavriksh they have even prepared a community register of their biological, ecological and environmental knowledge. Additionally they have a 'Beej Bachao Andolan' (Save the seeds campaign) wherein the villagers have taken it upon themselves to save the great agricultural diversity of their area and have started a seed bank on their own.

Similar is the case in the Alwar district of Rajasthan where the coordinated action of a series of villages; protecting the forests, preventing grazing, tree cutting, and building a series of small bunds across the water streams has actually brought the river Arvari back to life (Patel, 1997). The river which had over the years turned into a seasonal stream now once again flows perennially. Enthused by the initiative of the villagers the government too responded positively and schemes like those under Joint Forestry Management are being implemented in the area.

Many such initiatives, experiences and experiments are going on in the country today. These are however not necessarily the trends, but just the exceptions to a rule. There is a basic conflict of interest here. For the various small communities like the ones mentioned earlier forests mean home and are an important (and often the only) source of livelihood and survival. The same forests have a different interest for others; the government may look at it merely as a source of revenue while for industry it is only the timber or the raw materials. This results in huge, though remote controlled processes of deforestation and destruction that the locals neither understand and have absolutely no control over. However life in the great plains where most of the political and monetary muscle lies goes quite unaffected (at least immediately and directly) by what happens in these forests far away.

III. ROLE OF THE BRITISH

In recent history large-scale destruction of the forests began with the British who wished to utilize the timber and the natural resources for the expansion and continuation of the empire. An idea of the commercial onslaught on India's forests by the British has been pieced together by Gadgil and Guha (1992). Quoting from a number of sources, they show how the British navy's need for durable timber

was increasingly being met from India from teak *Tectona grandis* forests.

Vast tracks of forest were chopped to create the vast railway network that criss crosses India today. The main aim was the fast, cheap and efficient transport of inexpensive raw materials to the ports from the hinterlands of the country for export to Britain's industries and to ensure the fast movement of security forces to maintain the hold over the empire.

For instance, between 1869 and 1885, over 6,500,000 deodar *Cedrus deodara* sleepers were extracted from the Yamuna Valley forests in the Himalayas, which in turn was necessitated because the supply of teak and sal *Shorea obusta* from peninsular India was getting exhausted. Wood for railway sleepers and as fuel for powering the locomotives facilitated the expansion of both the railways and the British Empire.

The other major cause of deforestation immediately after independence was agricultural expansion, often state-sponsored. Much of the rich moist deciduous forests of the humid Terai region in northern Uttar Pradesh for example were cleared to provide land to immigrants from the newly created Pakistan. Most of the woodland once covering the Indo-Gangetic plains was also gradually converted to fields or grazing lands (Subramaniam and Sasidharan, 1993). Indeed between 1951 and 1980, according to the Forest Survey of India (1987), over 26.20 lakh hectares (26,200 sq.kms) of forest was converted for agriculture purposes all over India. (Kothari, 1993)

IV. PRESENT SCENARIO

Many environmental historians hold the opinion that the large-scale destruction of the forests in India is rooted in the commercially oriented forest use and ownership policies of the British government and these have continued in their essence for several years even in post independence India. In more recent times it is the new policies and programs of development; rapid industrialization, urbanization and growing consumerism that has resulted in the wide-scale destruction of the forests.

In certain parts of the country; particularly the rainforest regions of the north eastern states bordering China and Burma and the remote islands of the Andaman and Nicobar, a lot of the forests have been fed into the plywood mills. Other parts of India have witnessed a spurt of large projects from big dams and thermal power projects to huge mines and massive industrial complexes. Many of these have been located in what were once thick forest areas. So these forests got drowned in the backwaters of the dam projects or got cleared for the mines or the industrial complexes.

What has been equally bad if not worse is that these projects very insensitively alienated the communities living in the forests, depriving them of their basic sources of survival, forcing them to move away; making them refugees if their own land.

With this destruction of the stake in and responsibility for the well being of the forests the people who have lived in and tended the forests for generations were forced to participate in and share the blame for destruction of the forests. This process continues even today in various forms in many parts of the country, resulting in the rapid decline in forest cover.

As mentioned earlier efforts are on to tackle these at various levels. Efforts are being made to simultaneously sensitize the govt. machinery (with its deeply entrenched colonial legacy) and to increase the confidence and involvement of the local communities in the conservation of the forests.

Another paradoxical situation has arisen recently. Though not related directly to the destruction of the forests, it still has great ramifications for the protection of India's wilderness areas. Various areas (amounting to roughly 4.5 percent of India's total geographical area) have been declared as sanctuaries and national parks to safeguard the rich wild wealth. Many local communities who lived in these forests were often moved out by force, or their accesses to the resources were curtailed in the belief that it was the best for the forest and the protection of the wild creatures. It is only now being realized that far from being useful this actually is detrimental, both, to the human communities that live here and to the forests that are to be protected and conserved. This process too has alienated a number of communities who could have otherwise been critical partners in the protection of the forests.

In very recent times there have been a number of cases where these very protected areas have been officially denotified to be handed over to larger commercial and industrial interests to mine the minerals that are found there or to set up complexes like oil refineries or cement plants, defeating in the process the very purpose of declaring the areas protected in the first place. This is a development that is strongly resented by the communities that once lived here and is also being opposed at all levels by environmental groups.

V. THE ROLE OF KALPAVRIKSH

Kalpavriksh has over the last couple of decades been involved in the above mentioned issues in various capacities and at various stages. Today one of the areas we are intensely working in are the processes of community involvement in the protection of forests; documenting already existing examples, preparing case studies and initiating processes that encourage joint management of forests and protected areas by the forest department and the local communities. A significant move has been the 'Building Bridges' dialogue where attempts are being made to bring together the diverse groups of people who are the major stakeholders in the issues related to forests. These include the local communities, government agencies like the forest department, conservationists, wildlife researches and enthusiasts and social activists. In various meetings over the last year or so many of these have come together for the first time and important common ground is being found, especially against destructive pressures by industrial and commercial forces.

As part of the Underlying Causes (UC) of deforestation case studies Kalpvriksh along with two other NGO's, Vrikshmitra (Friends of Trees) and the Parisara Samrakshana Kendra (Centre for Environment Conservation) hopes to be able to present at least 3 case studies from 3 different parts of the country comprising different forests, different social and political circumstances and different community responses.

The study sites are:

- a) Gadchiroli district in Central India
- b) Uttara Kannada district of the Western ghats
- c) Little Andaman island from the Andaman and Nicobar islands in the Bay of Bengal

1. Gadchiroli District

Gadchiroli in Central India is one of the most forested districts in India with a predominantly tribal population. This case study is to be conducted by Mohan Hirabai Hiralal of the NGO Vrikshamitra in association with the residents of the village Mendha in the district.

1). Present Scenario

In recent years there has been an accelerated process of deforestation in the district of Gadchiroli. As in most cases it is the locals and the tribals who get blamed for the deforestation that is happening here whereas a closer look at the situation reveals that one of the major cause is without doubt policies of the government. Simultaneously the district has many tribal villages that are striving for more legal control over their forests. There is much village level self initiated forest protection committees that are attempting to regulate the unsustainable use of their forests. The case study will focus on the underlying causes of deforestation in this district and the effectivity of the local initiatives to control them. One such village is Mendha.

Legally the forests here belong to the state. Entry into and use of the forests by the locals here has been severely restricted by the various government agencies like the forest dept. At the same time however the state itself continues to carry out commercial forestry extraction and a part of the forest has been leased out to the paper industry for bamboo extraction.

2). Role of the Local Community

Mendha is a significant case because of the initiatives of the villagers, and their decisions which have contributed immensely in the conservation of the forests of the area. The village has established a very strong community organization of its own. It has various institutional structures like the Van Suraksha Samiti (VSS) or the Forest Protection Committee which takes the forest related decisions. The village has also been successful in establishing good relations with some sensitive government officials and Non Governmental Organizations and succeeded in facilitating inter-departmental co-operation among the various government

agencies working in the area.

The entire process has led to the confidence of villagers in their own capacity to take responsibility over matters directly affecting their lives. One of the most important results of this has been the revitalization of importance of forests in the lives of the tribals and the need to protect, conserve and decide about it themselves.

In the last seven years the villagers have taken up a number of soil and water conservation programs, built a water hole for wild animals, controlled forest fires to an extent and framed regulations for the controlled extraction of biomass from the forest. They have also succeeded in stopping the indiscriminate and destructive extraction by the paper mill. They carry out daily patrolling and with the help of the Forest Department have punished those who have been caught violating the rules Forest Protection Committee (Pathak, 1998). Over the years the forest department has also recognized the work done by the villagers, and shown its appreciation by supporting the villagers against socially and economically powerful offenders.

The village has also brought its forests under the Joint Forest Management (JFM) scheme of the state government. This has not only formalized their position as the custodians of the forests but has also opened up the possibilities for negotiating benefits from the official forest related activities. In another significant move the village council has made it mandatory for all government and non-governmental agencies to seek its permission before carrying out any forest related activity in the village and the surrounding forests and this includes the powerful external commercial forces like the paper industry.

2. Uttar Kannada

Uttar Kannada is a heavily forested district in the state of Karnataka in the western part of the country. Roughly 80percents of the land here is still under forest cover. The district is unique in that it traverses five important terrestrial ecozones. From the west to the east there is the narrow coastal plain, the evergreen and moist deciduous forests of the Western Ghats, the dry deciduous forests and further east the scrublands, making it one of the important centres of biodiversity in the Western Ghats.

People have traditionally been involved in agroforestry and have maintained unique multi-tiered spice orchards dominated by betel nut (*Areca catechu*).

1). Destruction of the Forests

Forest cover in the area has been steadily coming down over the last several decades. The major causes have been many developmental projects like the paper industry, hydro projects and even a nuclear power plant. The West Coast paper mill has been responsible for the disappearance of a large chunk of forests. The mill has unfairly high subsidies and have been allowed to go on inspite of not having adequate effluent treatment facilities. They have even managed to get portions of the Dandeli Wildlife Sanctuary denotified for the purpose of bamboo extraction and continue to press for more denotifications of the protected areas.

The Supa dam was built over the river Kali in 1976. Large tracts of forests were submerged in the reservoir. The townships that were created for the government employees and for the dam also resulted in further destruction. There is a proposal for a similar project over the river Sharawati but it has met with stiff opposition from the local communities. The forest department too has played a major role in forest decimation, particularly with large-scale commercial forestry operations, which are among the largest in the state.

2). Action of the Local Communities

In the late 1970's local communities got together and began protesting against the indiscriminate destruction of the forests which had been relatively intact over centuries. They launched a movement called Appiko, akin to the popular Chipko movement of the Himalayas (Hedge, 1998). Since then various local groups have become involved in forest-related research and activism. In recent years they have also protested against coastal destruction; lobbying against major aquaculture projects, a barge mounted power plant and a huge five star tourist resort. They have also exposed some of the harsh realities of the capital intensive Overseas Development Agency (ODA) funded JFM project in the area.

Pandurang Hegde who spearheaded the Appiko movement and is now with the Parisara Samarakshana Samiti will be conducting the case study on the underlying causes of deforestation in the district along with other volunteers individuals and groups.

3. The Andaman Islands

The Andaman islands are a special field of interest to me in particular and recently. I spent nearly four months looking at the logging industry in the islands.

1). The Local Tribes

The Andaman Islands are of great interest and importance. Situated roughly 1,200 Kms from mainland India in the Bay of Bengal they are home to 4 tribal communities and an additional 2 that live in the Nicobar group of Islands. The Andaman tribes are the Great Andamanese, the Onge, the Jarawa and the Sentinelese, whereas the tribes from the Nicobar group are the Nicobarese and the Shompen .

The 4 groups that live in the Andaman Islands are of the Negrito origin and probably share a certain affinity to the other tribal groups in the region like the Semangs of Malaysia. Many theories exist of their origin but it is not yet fully clear how, why or when they came here. What is well known however is that the tribes here have been and continue to be extremely hostile even today and avoid all contact with the modern world outside. Of the 4 groups the Great Andamanese and the Onge have accepted the intrusions and contacts with the modern world (and have suffered excessively for that). The processes and forces of modern development have so destroyed them and their cultures that it is unlikely that they will be able to survive for too long as a viable group of people. In any case only 28 individuals survive of the Great Andamanese and about 100 of the Onge

(Census of India, 1995). The other 2 groups - the Jarawas and the Sentinelese have however fiercely safeguarded their identity and kept their distance.

The explanation for the behavior of the tribals lies in the history of these people. From what little is known the outside world has always treated these tribals very badly and only exploited them. The Arab traders, for example who plied their trade along these routes many centuries ago were known to have often taken these people for slaves. However the major intervention from outside came in the 1850's with the establishment of the British penal settlement for convicts from mainland India. Large tracts of forests that these tribals inhabited began to be cleared.

2). Destruction of the Forests

The establishment of the penal settlement and then independent India's resettlement and rehabilitation policy for the islands saw a huge influx of people. Thousands were brought here from mainland with the promises of land and resources. Vast tracts of forests continue to be cleared to accommodate all these people. It was then also realized that a source of employment; a source of income generation needs to be created to help these people survive here. The obvious industry thought of and promoted from the 60's has been the timber and plywood industry. Thus a situation was created wherein there was no option but to open up the forests for exploitation. Huge incentives and subsidies were offered to entrepreneurs who were willing to take the risk of establishing industry here.

This process has gone on uninterrupted for close to 4 decades now. Population too, based largely on large scale immigration has grown phenomenally adding considerable pressure on the forests and other natural resources of the islands. The results of the deforestation are clearly visible in a number of places. There is increased runoff; soil erosion is high which has choked the reefs surrounding the islands and many endemic and rare species of plants and animals are becoming rarer. Only recently has the realization dawned that the islands are a treasure house that needs to be valued and safeguarded with care.

Following this growth of awareness there has been in recent years a reduction in the official quotas of timber that can be harvested from these forests; a development being strongly resented by the industrial lobby. Consequently the private plywood industry has production facilities and capacities lying idle. In an ironic and interesting "robbing Peter to pay Pan" situation, private industry now begun importing timber from Malaysia and for the last financial year this import amounted to a substantial 25percents of the intake in the industries.

3). Fate of the Tribals

However what is extremely important in the context is the fate of the tribal communities. There has been no consideration for the fact that the first and foremost right over these forests and the islands is that of the tribals who have lived here for centuries and who would be completely destroyed if their forest home is so destroyed. Here we also have the classical case of a rich storehouse of biodiversity which could be lost even before it is comprehensively documented.

The Onge tribe for example uses a plant that recent modern research says may be highly active against the dreaded malarial parasite, *Plasmodium falciparum*, which causes the debilitating and often fatal malignant and cerebral forms of malaria (Kothari, 1997). Discoveries like these could change the face of medicine and benefit humankind in unimagined ways but only if the tribals are respected and their forests are protected from destruction.

4). The Onge

The Onge tribals live on the 700 odd sq. Km. Island of Little Andaman which is covered in thick evergreen forests. Like the Jarawas and the Sentinelese today, the Onge too were a hostile tribe at the turn of the century. Eventually they were befriended by the British. However they were the only group of people who lived on the particular island and this was the situation till as recently as the 1960's. Then the earlier mentioned policies of rehabilitation and resettlement of the Indian Government came into effect. Suddenly thousands of outsiders were settled here and the timber extraction operation was started in a big way. The combined effect of opening up of the island, the introduction of an alien people and culture and the destruction of the forests have devastated the extremely small community of the Onge. The community has always been a small one. Today there are only about 100 members of the Onge tribe that survive. Already vices of modern civilization like alcohol and tobacco have made deep inroads here and the exploitation of the tribals at the hands of the settlers goes on in many ways.

Policies of a government has not only initiated a powerful process of the destruction of some virgin forests it has also probably put a small viable forest community down the road to their doom.

In 1966 the Census of India report predicted that the possibility of preventing their (the Onge's) ultimate extinction seems remote of importance and significance in the case of the Onge is also the statement made in 1975 by Robert Allen who was sent to these islands by the International Union for the Conservation of Natural resources (IUCN) (Whitaker, 1985). He commented:

"personally, I do not accept the census (1966) statement that the possibility of preventing their ultimate extinction seems remote. As a general rule, hunter - gatherer peoples have every chance of surviving as hunter - gatherers and of living well, provided:

- 1) they want to;
- 2) their economic and spiritual territory is conserved;
- 3) they receive appropriate medical help;
- 4) their numbers are in equilibrium with their environment;
- 5) they do not become demoralized, losing faith in their own way of life.

He added:

"...by economic territory I mean the full area of forest and coastal waters

used for hunting, fishing and gathering by a healthy stable population.... here is where the interests of hunter-gatherers like the Onge and the Jarawa, of peoples and governments like that of India and of conservationists coincide. If Little Andaman were declared a protected area, for use by the Onge alone, a unique area of tropical forest would be conserved, while at the same time assuring the Onge way of life. If an ethnobotanical program were also begun, studying and recording Onge plant knowledge, the Onge could be shown how much we value their environmental understanding, while the rest of the world would be shown both the potential of tropical forest plants and also how harmoniously some peoples can live in environments which at present we only know how to exploit by destroying."

More than ever it is today that these statements are of immense importance in the context of the Onge. Sadly enough if one looks at the history of the Onge and of the island of Little Andaman one realises what has happened in the last 3 decades is exactly opposite to what had been hoped and suggested by Allen.

The case study I propose envisages an in-depth look and analysis of the status of the forestry operations in the island of Little Andaman and the effect it is having on the Onge tribals and most importantly make suggestions to save the island's forest and the Onge who will otherwise be destroyed with the destruction of their forest home.

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