



## RESEARCH ARTICLE

**Major Trends Of Indian Forestry Development: A Brief Overview****Priyanka Guha Roy**

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**Manuscript Info****Manuscript History:**

Received: 15 May 2015  
 Final Accepted: 22 June 2015  
 Published Online: July 2015

**Key words:**

Forest, Environment, Exploitation, Desiccation

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Indian environmental historical study always centered round the colonial exploitation of natural resources. This exploitative nature was significantly concealed under the guise of desiccationist tendencies that seemed to characterize a new trend of environmental scenario within the colonial set up. Yet India possessed a distinct environmental culture that dated from ancient past. This culture treated nature gently by the mode of surplus extraction but suitable substitution was made at regular intervals. The present paper wishes to highlight the major trends that was intertwined with Indian environmental scenario. Indian historical shifts centered on three distinct phases of developments and the environmental trends changes with these shifts. The present paper underlines these shifts and reveal the differences.

*Copy Right, IJAR, 2015,. All rights reserved***INTRODUCTION**

The natural history of India had a genuine scientific investigation of Nature which started with the founding of the Peripatetic School, (Founder Aristotle: coming from the word Peripatos i.e. Cloister: A school where from Aristotle lectured) developing an intense interest in biology, which coincided with (327 B.C.) Alexander's invasion to India. The only Greek in early times who came to India and wrote about it was Scylax of Caryanda, a ship's captain sent by the Persian emperor Darius I about 509 B.C., to explore the Indus river to its mouth, and the Indian Ocean beyond (Grove, Damodaran, Sangwan: 1998). His account described the landscape, flora and the fauna along the Indus, but the original text has disappeared and very little survives in the fragments. One of these fragments says "A high mountain range extends on both sides of the Indus river, covered with virgin forests." So even so early a period, records of extensive forest cover area are to be found in different writings by celebrated travelers of the time. However, most of the Greek knowledge of India before Alexander's invasion was hearsay. Substantial descriptions of the environment and life forms of India came from the military expedition of Alexander the Great (356 B.C. – 323 B.C.). The journal and memoirs of those who travelled with him, such as Ptolemy, Aristotle, Nearchus and Callisthenes have disappeared. Luckily they were being used extensively by other authors like Diodorus, Strabo, Plutarch, Curtius and Arrian before they were lost. Their description was limited only up to the Indus and its tributaries.

Again, Diodorus' account gives an impression that India had lofty mountains, trees and all kinds of animals (Grove ibid : 1998) It is quite well known that Alexander took philosopher-scientists along with him on his expedition to the East. Plant species that received notice from the travelling companions of Alexander included banyan, cotton, bamboo and food plants and animals particularly elephants, snakes, monkeys, lions, tigers and crocodiles on the Indus river, found mention in the subjects of study. Military travelers of the 4<sup>th</sup> century B.C. also noted that the forests were used for fuel, shelter and also resources for ship building. Again and again historians mentioned 'remote tree clad mountains,' "interminable tracts of forest darkened by tall trees that reached

extraordinary heights' and 'well shaded woods'. Alexander and his generals used the woods, particularly timber for shipbuilding, providing log for siegeworks for campfires and for preparing food.

Coming to Aristotle (384-322 B.C.) we find that his principles and observations of living species introduced ecological considerations into scientific literature (Sarton:1952). He emphasized on dependence among living things and the physical environment. He thus offered a basis for the study of ecology and ecological relationships. His pupil Theophrastus of Eresus (372 B.C.- 287 B.C.) advanced beyond his teacher by using the term 'oikeios topos' or 'oikeia chora' implying a harmonious relationship between an organism and its environment. Oikos (noun) meant house, domicile, habitat, one of the roots of the modern word 'ecology'. He marked the end of ecological inquiry in the history of Greek and Roman science and his opinion of India was based on the concept of diversity of all sort of species. Theophrastus never visited India, he depended on those who travelled with Alexander.

Later, Megasthenes, Ambassador of Seleucus to Chandragupta Maurya around 300 B.C. went to other parts of India making further investigations which recorded in his "Indica". Much of this work is preserved in a book of the same title by Arrian. "Indica" mentioned about the plants and animals of the time though rarely concerned with ecology.

In the following centuries, Indian plants and animals were displayed and studied. Strabo gave a good description of Indian vegetation and the environment. Pliny, the elder, in his monumental natural history recorded many facts about the Indian animals and plants using sources from Theophrastus. In the 3rd century A.D. Claudius Aelianus or Aelian's work on "Animals" became a compendium of all the most undependable zoological stories of India told by previous authors. As the study reveals, after 4<sup>th</sup> century B.C. there was a decline in critical scientific investigation of Indian ecology by ancient Greek and Latin writers. The best thought on the subject was given by Aristotle and Theophrastus, the two great Peripatetic philosophers in Greece. They wrote at a time when Alexander's expeditions provided them information about India. But these writings furnished invaluable data of the Indian flora and the fauna though mostly about North West India and not of the Gangetic belt.

## 2. TRACING THE TRADITION OF FORESTRY DEVELOPMENT IN INDIA

Long before man's emergence in History, India, Burma and Ceylon were densely covered with forests. Extensive coal fields in West Bengal and Bihar, streams of minerals oil in Assam prove that from early geological periods Assam, Bengal and Eastern parts of Bihar were covered with deep, dark forests. Man's association with forest began from late Pleistocene i.e. 20000 year B.C. (Rajguru, Badam, Abhyankar:1984) and the share of man in the destruction of forests was undoubtedly the greatest. In the late Pleistocene period the hunter gatherer populations, the Homosapiens occupied much of the country. They viewed nature as totally capricious and beyond human control. They were kinship based groups depended on gathering plants and hunting animals for their subsistence. They mainly used wood and stone implements and sometimes deliberately destroyed the resources of their locality. They cut valued, fruit yielding trees (Rappaport:1984). For instance it has been suggested that the widespread extinction of large mammalian species during the Pleistocene period was a consequence of human overhunting. The low population density of the gatherer societies did not pose much problem at that time. At the same time the society exercised a variety of practice that helped to conserve nature. They attributed sacred qualities to individual trees. (like Ficus trees), ponds, mountain peaks. They often treated plants and animals as skin and some specific trees were categorized to be placated. (Macleod:1936). All these led to a prudent use of resources exemplified through restrained and cautions rules, that were executed for harvest.

Thus destruction and unconscious forms of indigenous conservation went hand in hand from the beginning of human civilization. Human groups whose interests were strongly linked to the prudent use of nature evolved on their own on certain conservation practices. There was a gradual transition from the food gathering to the food producing stage in Indian history during the pre and proto historic times which has been traced by archaeologists. Certainly not earlier than 10,000 B.C. and perhaps as late as 6,000 B.C. man developed what Professor Gordon Childe called "an aggressive attitude to environment" (Childe:1952). He learnt to grow food crops, made pots and to make well polished stone implements. These were found all over India but mostly in the North – West and the Deccan.

The extensive flourishing and the first long lasting urban civilization of the Indian sub – continent embraced the region of the North – West (3000 – 1500 B.C.). History shows that in India ruthless and restless destruction of forests began with the settlement of Chalcolithic people in the Punjab, Sind and Gujarat between 3500 – 3000 B.C. approximately. Provided with Bronze implements, since Iron was unknown in their days, they had no difficulty in felling trees or using them for their manifold domestic purposes, including the manufacture of bullock carts, boats and coffins. We come to know that during this period i.e. in 3000 B.C. the whole Indus region was well forested providing fuel to burn bricks and food for wild elephants and rhinoceros (Basham:1987). The excavated city showed use of wooden beams, wooden lintels of doors, roofs reinforced with bamboos. This civilization had connections with Baluchistan, Turkey, Iran and with regions near Caspian sea. The transaction must have taken place with sea sailing ship made of wood. Since there was no knowledge of coal, all burnt bricks were produced by burning wood that should have come from the forests.

This gives an indication that the region must have had forests in quantity much more than it is today. At present these areas are semi- deserts. The study of wood recovered from different excavated areas constituted Deodar (*Cedrus deodhar*), Pinus, (*pinus spp*), *Dalbergia latifolia*, *Zizyphus spp* etc. The deodar and pine must have been received from the Punjab mountains perhaps by floating. *Dalbergia latifolia* and *zizyphus Jujuba* were also components of this region. The people of this period belonged to several cultures, primarily distinguished by different types of painted pottery. What was done by the architects of the Chalcolithic cultures and civilizations in the Indus valley is also to be noticed, though on a small scale, in the archaeological artifacts of the people of the Ganges and Jamuna valley between 2500 – 1500 B.C. approximately. They cut down trees with copper axes for building huts and cattle enclosures, for fuel, and carved out land for cultivation within the forest areas. In the Ganga Yamuna Doab there was a gradual loss of forests. Sal was very prominent species in proto historic times as is recovered from the archaeological sites such as Hastinapura (Lal:1955) and Atranjikhhera (Choudhury, Saraswat, Buth:). At the same time the selective felling of valuable trees (remains of chirpine, sal, sissoo, babul, deodar, cypress, laurel, tamarisk and bamboo were found in Atranjikhhera, sissoo, sal and kurchi at Hastinapura) (Lal:opcit), further point to the destruction of the arboreal vegetation through the ages. Nevertheless even after three millennium, significant stretches of forest remained.

Thus Hiuen Tsang (Seal:1981) in the seventh century A.D. referred to extensive forests between Allahabad and Kausambi as well as in the vicinity of Kanauj, Sravasti, Kapilavastu, Kusinagara and Varanasi. Ain-i-Akbari, 900 years later, likewise mentioned royal forests near Agra, Meerut, Allahabad and Mathura, which are today devoid of forests. In spite of the long history of occupation, opines George Erdosy, leading to periodic alteration of the forest cover and the gradual denudation, irreversible ecological decline came only with the Industrial Revolution even in the Ganga-Yumana Doab<sup>37</sup>. So a watershed came in terms of radical decline of forest cover undoubtedly in the 19<sup>th</sup> century when the British gained control over India, in late 18<sup>th</sup> and early 19<sup>th</sup> century. The forest was a place which in pre-colonial era provided not only livelihood, but also hunting reserves and subsistence for people. Hunter gatherers, shifting cultivators, pastoralist, peasants, artisans, and tribal utilized the woodlands in a variety of ways. In course of the 19<sup>th</sup> century the British government gradually restricted access to the forest. In fact the tension of vanishing oak in England, coupled with the British need for timber, for constructing their great cities building ships, and running the railways provided fillip for interference in the woodlands.

### **3. FORESTRY DEVELOPMENT DURING THE COLONIAL PHASE**

With the appointment of Mr. D. Brandis in January, 1856 as Inspector General of forests the dawn of scientific forestry started in India (Ribbentrop:1900). Railways, therefore, as Madav Gadgil remarks, constituted the crucial watershed (Gadgil and Guha:1992) with respect to forest management in India as it was one of the most important motivating factors to start an appropriate department to assert and safeguard state control over forests by curtailing the previously untouched access enjoyed by the rural communities and the first attempt at asserting state monopoly was through the Indian Forest Act of 1865. This Act sought to establish the claims of the state to the forests it immediately required for the railway supplies, subject to the provision that existing rights were not to be abridged.

After 13 years another Act came into existence only after a prolonged and bitter debate which goes on even now. So one of the foremost motivations for executing a forest policy was the need to preserve and conserve the forest not for the sake of conserving, but for the supply of valuable species of wood required for railways sleepers. So deforestation had to be curtailed through legal mechanism to serve the utilitarian motives of a

transcontinental empire. The 1865 Act exercised only a tenuous control and efforts were made to execute a more strict and comprehensive piece of legislation. A preliminary draft prepared by Brandis in 1869, was circulated among the various Presidencies. A conference of Forest Officers convened in 1874, went into the defects of the 1865 Act. The conference provided the basis for a memorandum on forest legislation, prepared by Brandis in 1875. This memorandum further worked out by Brandis and a senior civil servant, B.H. Baden-Powell, culminated in the Indian Forests Act of 1878.

The chief hurdle however to overcome was the demarcation of state rights vs common property. As Brandis put it, "Act VIII of 1865 is incomplete in many respects, the most important omission being the absence of all provision regarding the definition, regulation, commutation, and extinction of customary rights by the State"(Brandis:1875) In the debate as how best to accomplish this separation of rights, three distinct positions emerged. The first, called – annexationist, upheld total state control over all forest areas. The second, called pragmatic, argued state management of ecologically sensitive strategically valuable forest, while leaving the residual areas under control of village communities. The third, populist, rejected total state control, holding the tribal and peasants must exercise sovereign rights over wood lands. In the controversy that followed Baden – Powell, upholding the annexationist position and citing historical evidence from Ancient India, where by the Government exercised unrestricted authority of all forest and waste lands, won the day. It made a clever distinction between legal rights and privilege granted as concession to villagers for the use of fire wood, small wood etc. (eg.. Tipu's edict of banning the cutting of sandalwood).

The Madras Government emerged as the vehement upholder of village and communal rights and rejected Baden- Powell's distinction as 'presumptive evidence. The intermediate position held by Brandis, who placed considerable trust in the ability of village communities to manage their own affairs. A detailed reconstruction of the issue and debates is necessary as the debate continuous even today as to how far the forest would be best managed and preserved , vesting right on individuals, community of the state. The annexationist position upheld that all land not under cultivation belonged to the state. To extinguish the rights of the peasants and forests dwellers, which they exercised for centuries until the formation of the Forest Department, was the main task before the state. The 'rights' of the dwellers came from now onwards under a new regime which was alien to them. Officials urged that such customary use, however widespread, was exercised only at the mercy of the monarch. Here they used precedents of Tipu's edict banning the cutting of sandal wood which proved that Indian rulers had reserved to themselves the right of ownership over forests and forest produce. B.H. Baden Powell claimed that the state had not, exercised that full right but the right was there(Baden Powell:1875) Thus Baden – Powell made a clever distinction between 'rights' defined as 'strict legal rights which unquestionably existed and in some cases recorded in land settlement records' as concessions for the use of forests for grazing, firewood small wood etc. which couldn't be claimed as a legal right as granted by the policy of the government for convenience of the people. So echoes were heard, which later came into effect through Forest Acts, that privileges enjoyed so long by the dwellers, for their use of leaves, forest product for daily use were curtailed and granted as a favour. The same woods were used by the Empire for railways sleepers . The 'right' of Oriental governments over the forest and waste land used by Colonial State, and Baden Powell insisted that this right passed on to and was accepted by the British Government (Baden Powell:1892) This finds echo in Richard Grove(1995) when he says that extensive pre-colonial system was taken over by company with few changes stressing on the fact that continuity existed as total control over forest by the State.

The Madras Government which emerged as the most articulate spokesman of village controversy around 1878 Act, upheld local rights. Based on report from its Collectors, the Madras Government has rejected a proposal to introduce the 1865 Act in the Presidency. It rejected Baden – Powell distinction between legal proven 'right' and 'privileges' exercised without written sanction. All instances of the use of the Forest by the people should be taken as evidence of property in the forest was argued by the Madras Government. All rights of the forests in the Presidency of Madras were the rights of tribal or communal rights, urged the Madras government(Guha:1990) They were also convinced that the new forest laws, by restricting the customary use, would adversely affect the agrarian economy.

Harmonising the interest of the state with those of the villagers was also the programme advocated by the Inspector General of Forest, Dietrich Brandis, the upholder of the 'pragmatic approach'. He said that in certain areas the state had indisputable rights, however he supported Madras Board of Revenue in rejecting Baden-Powell's view that rights had to be 'proved in writing before they could be said to exist. In most forest areas he

believed the villagers were accustomed to freely graze their cattle, cut wood subject to some restriction which rulers imposed from time to time. Pre- colonial period did not see the customary rights being totally neglected through Forest Acts and the alien power's mechanisms, devised to deprive them for their basic requirement through legislation. Brandis comparing with forest rights in Europe confirmed that similar right user were found there too. For Brandis the forest history of Europe called for a similar treatment of villager's rights in India, while for Baden-Powell the lesson of European Forest history was not to be allowed in India. Brandis coming from different background and a newcomer to colonial administration, took a very different stance and insisted that rights must be done in a just and equitable manner (Brandis:op.cit). Different perspectives on forest rights of India vis. a. vis European led to a sharp exchange of views at a major Conference of forest officials at Simla in 1875. Within official circles the balance of opinion was clearly in favour of Annexationist; and a policy of state annexation of forest came to the forefront. The concrete proposals were embodied in Brandis memorandum of 1878 (Guha:1990) along with Baden-Powell's view, and the Act of 1878 was passed with approval of all local government except Madras. This Act extinguished centuries of customary use of forest by rural population of India. The colonial rulers' struggle to control the law breaking crowd of the hinterland. Made it imperative to institute new legal and administrative framework to develop a social sensibility to dangerousness of the forest outlaw and provide the justification of the colonial forest policy. The alien law began to treat the owners of leaves, fruit bamboos as 'poachers' or 'criminal' thereby paving the way for colonial exploitation of the forest resources. Several hunter gatherer communities turned to crime when deprived of their traditional livelihood. From the promulgation of Act to the end of the colonial rule there were bitter struggles between State and hunter gatherers, shifting cultivators, peasants and artisans, that is all classes depending on forests. Moreover this Act broke the link between human and forest thereby making the tribal communities shaking off their responsibility in the maintenance of the forest cover.

## CONCLUSION

This debate thus culminated in the passage of the Indian Forest Act of 1878. The Forest Act of 1878 provided for the constitution of three classes of Forests- 'Reserved', 'Protected' and 'Unclassed'. A brief look into the Indian Forest Act of 1878 (Government Of India:1894) defined 'Reserved Forests' as the forest land or waste land which was the property of the Government or over which the Government had proprietary rights or to the whole or any part of the forest produce of which the Government was entitled was a reserved forest (Sections 3-4). In this forest no rights were to be given for trespassing, felling any tree, dragging timber, felling, girdling, burning or even collecting trees, bark or leaves. Moreover killing or catching elephants, shooting, collecting fish, setting traps poisoning water all were forbidden in these forests. 'Protected Forests' were defined as the property of Government, over which the Government had proprietary rights, the whole or any part of the forest produce of which the Government was entitled. Moreover the local Government might from time to time declare any class of trees in a 'Protected Forest' as 'Reserved' and it was seen that valuable accessible forests were quickly transformed from 'Protected' to 'Reserved' Forest. Even in these forests felling, girdling, dragging timber, damaging trees, setting fire, were prohibited. These forests were made available to villagers for their requirements of gathered material. Chapter III Section 27 defined 'Village Forests' as land assigned to village community by the local Government which had been constituted as a 'Reserved Forest'. The Government might cancel such assignment and declare it a 'Village Forest'. The village community was provided with timber or other forest produce or pastures from these forests and entrusted with the responsibility for protection and improvement of such forest. Although the option of such forest was not exercised by the Government over the most part of the subcontinent. The 'Reserved' forest consisted of compact valuable areas under total state control with limited exercise of private rights. In 'Protected' forests under state control, rights were recorded but not settled. Control was firmly maintained for preservation of commercially valuable saplings and forest for grazing and for wood collection. With the increasing commercial demand, protected areas were gradually converted to 'Reserved Forests' whereby the state could exercise fuller control. Thus 14,000sq. miles of state forest in 1878 increased to 56,000 sq. miles of 'Reserved Forests' and 20,000 sq. miles of protected forests in 1890. Thus forests were 'Reserved' and 'Protected' for commercial purposes. The third class of forests the 'Unclassed' or 'Village Forests' were said to be open for public use, the option not being exercised in most part of the subcontinent by the Government. This Act also allowed a specific amount of timber and fuel for each family while sale or barter of forest produce was strictly prohibited. Finally it recommended punitive sanctions closely regulating the extraction and transit of forest produce and prescribing a detailed set of penalties for transgressions of the Act.

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