

IMPACT OF HUMAN ACTIVITIES ON FOREST BIODIVERSITY IN BRAMHAPURI DIVISION, CHANDRAPUR, MAHARASHTRA (INDIA)

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Abstract: Conservationists in the recent years view local peoples' support for protected areas management as an important element of biodiversity conservation. Human activities such as logging, livestock husbandry, cattle's grazing, crop cultivation, infrastructural development, Killing of domestic livestock and use of fire are causing widespread loss of biodiversity. Bramhapuri Division is rich with natural forests. The forest land is continuously deforested and the remaining forests are degraded because of agricultural practices and the absence of management plan. While cattle's grazing causes additional damage to the habitat. Forest fires are a constant problem in the dry season, consistently burning between 2% and 16% of the forest each year. Killing of domestic livestock by tigers and leopards as a frequent phenomenon in the areas of neighbouring villages. This has an adverse impact on the economic condition of the local people and results into antagonism towards the management.

The objective of the research was to investigate the impacts of human activities on forest biodiversity also to investigate the forest cover changes and understand the vegetation dynamics in these zones. A social survey was conducted to assess the link between community practices and natural resource development. The study reveals that the role of community participation is crucial in conservation and sustainable management of natural resources. However, this community solely relies on fuel wood as the main source of energy with a limited use of alternatives sources or a shift toward alternatives sources in order to reduce the consumption of wood.

Keywords: Brahmapuri Forest Division, Biodiversity, Habit Destruction, Conservation.

Introduction: Currently, loss of habitat is the greatest threat to biodiversity, Keil P, et al (2015). Yet little is known about its effect on microscopic animal taxa. High rates of forest loss and degradation are still being reported in many areas (Food and Agriculture Organization (FAO) 2006, Newton 2007b). Bramhapuri is one of the sixth divisions located in the north-eastern part of Chandrapur district, Maharashtra at 20.36°N 79.51°E and has an average elevation of 229.5 metres (753 feet). Bramhapuri Division covers geographical areas admeasuring 3865.34 sq km. in located in the Eastern part of the Chandrapur District and the civil territories of Bramhapuri, Nagbhid, Sindewahi, Sawali, Chimur, Mul & Warora Tahsils.

The Forest Department in charge of area 1566.48sq km. is inclusive of Reserve, Protected Forest, Zudpi Jungle and Big tree forests, admeasuring 11.92 sq km. which is possession of Forest Department. The forest area occurs both in compact blocks & scattered patches too. The area in general is flat or undulating broken by the isolated hillocks & ranges of hills. The Reserve forest boundaries are properly demarcated and boundary pillars are maintained. The area is rich with natural forests. This region harbours variety of rare and endemic species of flora and fauna. The forests of this tract belong to the group "Tropical Dry Deciduous Forests" and sub-group "5A/C3- Southern Tropical Dry Deciduous Forests."

Precious minerals such as coal lie under large tracts of forest. But forests are of immense ecological importance and provide humans with the ecosystem necessary for survival—food, fresh water, climate and natural hazard regulation. Human impact on biodiversity is significant; humans have caused the extinction of many species. Societies have used and managed the natural resources of their habitat in sustainable ways for centuries or even millennia, but as many have pointed out, this view can be criticized for conflating conservation with sustainability (Winterhalder 1983, Alvard 1995, Smith 1995, Low 1996). The objective of the research was to investigate the impacts of human activities on forest biodiversity in Bramhapuri Division, As noted by Lindenmayer and Franklin (2002), the future conservation of forest biodiversity will depend largely on how such unprotected forest areas are managed.

Methods: Well-designed questionnaire formats were used for collecting information on deforestation, forest fire, cattle grazing sites, wood collector for burning, pilgrim sites, road & rail track sites, dam construction, human-tiger conflicts from field areas and from victims or their families. Based on the information gathered, affected areas were visited to collect the information on the area profile, level of the conflict, human casualties, livestock killings, place, time and seasonality of incidences and causes of conflict. Selected villages located on the edge of the forest were surveyed to determine the areas frequented by tigers. Information on compensation paid for the losses was also recorded. A social survey was conducted to assess the link between community practices and natural resource development & Data collected from websites.

Observation: There is no doubt that human civilization has had a negative impact on biodiversity, particularly since the industrial revolution. The forest land is continuously deforested and the remaining forests are degraded because of agricultural practices and the absence of management plan. The largest share of deforestation is attributable to the expansion of mechanized agriculture, followed by cattle ranching and small-scale agriculture. While cattle's grazing causes additional damage to the habitat.

Beside timber the other major causes of deforestation is agricultural expansion, often state-sponsored. In more recent times it is new policies and programmes of development; rapid industrialisation, urbanisation and growing consumerism that have resulted in the wide scale destruction of the forests. Forest fires are a constant problem in the dry season, consistently burning between 2% and 16% of the forest each year. Killing of domestic livestock by tigers and leopards as a frequent phenomenon in the areas of neighbouring villages. This has an adverse impact on the economic condition of the local people and results into antagonism towards the management.

Most of pilgrims sites in Bramhapuri Division forest. Impacts of the use of motorized vehicles in these sites can cause disturbance to wildlife. Poor Community of this division solely relies on fuel wood as the main source of energy. Bander Coal Company Private Limited (BCCPL), Mumbai, was to extract 175.110 mt of coal from over 1,170 hectare forest land near TATR in Chimur tehsil in Chandrapur district. The Brahmapuri Forest Division and Tadoba-Andhari Tiger Reserve (TATR) officials have said 'no' to proposed coal mining in Bander near TATR, Because, this is only tiger corridor between TATR-Melghat which will be destroyed by mining.

Result & Discussion: This study aims to investigate the forest cover changes and understand the vegetation dynamics in these zones. "These forest corridors are like umbilical cords, without which biodiversity will perish," The study reveals that the role of community participation is crucial in conservation and sustainable management of natural resources. However, this community solely relies on fuel wood as the main source of energy with a limited use of alternatives sources like kerosene and gas; this may necessitate a shift toward alternatives sources in order to reduce the consumption of wood.

According to a Greenpeace report, the government has already allowed diversion of 2,558 hectares of forest for coal mining in Chandrapur district since 2000. More importantly, the National Tiger Conservation Authority (NTCA) considers conservation of tiger corridors vital to prevent segregation of tiger populations and even the state forest department has admitted that tigers and leopards are commonly seen in the area. As many as 48 tigers have been found to inhabit outside the protected areas in forests of Chandrapur district in Maharashtra, taking the total number of such animals to 120 in the zone which is home to Tadoba-Andhari Tiger Reserve (TATR). They include 20 breeding tigresses, indicative of the fact that these healthy habitats can sustain the tiger population. It has again proved that stability of tiger population in TATR is due to healthy presence of other tigers in its surrounding areas.

Collecting non-wood forest products in the dry deciduous is often associated with burning: The fire removes the leaf litter layer, and freshly fallen fruits become visible and easier to collect. The open cast mine, with a capacity of 2MT per annum, is located 12.25 km from the TATR and will supply coal to the Chandrapur Super Thermal Power Station, run by Maharashtra State Power Generation Company. "Even though the state government has not yet notified the eco-sensitive zone, the fact remains that any type of mining should not be allowed within such sensitive area.

About 90% of the forest fires in India are created by humans. The normal fire season in India is from the month of February to mid-June. Clearing the forest for large-scale agriculture or to make pasture for livestock

is the second most dangerous threat. (Shashi Chawala,2012). Pilgrims sites, motor vehicles in forest are often viewed as disturbances that directly interfere with signal processing or communication, or directly harm animals. However, such sounds may also distract individuals and thus potentially interfere with their ability to make biologically important decisions about food selection, mate selection, and predator detection.(Alvin Aaden Yim-Hol Chan & Daniel T. Blumstein, 2011) Within the forest fragments that remain, human disturbance was found to be chronic and widespread. Forest patches are being subjected to tree cutting, browsing by livestock, construction of roads and tracks, and human-set fire, often in combination. Such disturbance has a negative impact on tree species richness (Ramírez-Marcial et al. 2001, Aravena et al. 2002, Galindo-Jaimes et al. 2002, Cayuela et al. 2006b,d, Echeverría et al. 2007a,b, Rey Benayas et al. 2007). The imaginative approaches at the interface of ecology, statistics, mathematics, informatics, and computational science can improve scientists' understanding of complex ecological systems and our approach to biological conservation and resource management. (Dhananjaya Reddy, 2015).

The suggestions to save the biodiversity in Bramhapuri forest division is that deforestation for agricultural expansion, programmes of development; rapid industrialisation, and Urbanisation by Government should be minimised. Poor Community of this division those solely relies on fuel wood as the main source of energy should provide subsidised gas. To search causes of Medium-intensity surface fire in an open Southern Tropical Dry Deciduous forest. An irrigation canal under construction running through the forests in Bramhapuri forest division adjacent Tadoba Tiger Reserve should build underground. Construction of road and rail tracks for transport without loss of Biodiversity in forest. Wood uses for funerals should be replaced by electrical crematorium. Cattle grazing site provide by authority to save killing of domestic livestock by tigers. We need biodiversity for its invaluable ecosystem services, providing oxygen, food, clean water, fertile soil, medicines, shelter, protection from storms and floods, a stable climate and recreation.

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