

# Deforestation in Uttarakhand in the Nineteenth and Twentieth Centuries

Dhirendra Dangwal



Photo: Dhirendra Dangwal

The British began extending their control over forests in India (including Uttarakhand, or Uttarakhand) after passing the Forest Acts of 1865 and 1878. This was driven by the increasing demand for timber, and hence the growing significance of forests as a source of revenue. Forests also acquired strategic importance with the growing requirement for timber for the expanding railway network. During the period of colonial rule tree-felling in Uttarakhand can be distinguished into three phases. In the first phase (1815-1865) the demand for wood was low and there was only limited interest in managing forests. The demand for timber began to grow toward the end of this period, and it gained momentum in what can be seen as the second phase (1865-1913). During this phase the government built roads and improved waterways to ensure rapid transport of wood. As a result, between the 1860s and the early 1910s timber production, on average, increased from 0.72 to 4.5 million cubic feet per annum. In the third phase (1913-1947), timber out-turn fluctuated and was quite low between 1925 and 1935. However, the felling of trees peaked during World War II.

Several factors contributed to the increased extraction of wood from forests. Some scholars attribute increased extraction to the growing local population. However, they overlook the fact that the amount of timber exported out of the region far exceeded local consumption. Villagers definitely collected large quantities of fuelwood from forests, but this was mostly in the form of dry fallen wood. Other demands for wood came from urban centres; the

forests of Uttarakhand constituted the main source of timber and firewood for the inhabitants of the Gangetic plains. Moreover, in the twentieth century, the establishment of industries increased the demand for raw material and fuel from these forests.

Nevertheless, it is largely unknown that the demand for timber and fuel by the railways during the colonial period put tremendous pressure on these forests. According to one estimate, the railways consumed approximately one-third of the timber out-turn of the country in the early twentieth century. Wooden sleepers were used to lay tracks. Initially, only sal, deodar, and teak were used; later, creosoted chir sleepers were also found to be sufficiently durable for use as sleepers. As the railway network expanded (from 1,349 km in 1860 to 65,217 km in 1946-7)

the demand for wooden sleepers increased many fold. Moreover, as it was expensive to transport coal over great distances, wood was also used as fuel for trains in many places.

Till recently, only the conversion of forest land to other uses has been regarded as deforestation. Such an approach does not take into account the declining quality of forests. However, in reality forests were overexploited, since wood extraction was unsustainable. This would have led to forest degradation, if not denudation, though the degradation would not have been apparent till much later. I suggest that recognizing the degradation of forests due to timber extraction links deforestation to the production of wood, and not just to land conversion. This historical dimension to deforestation has not been adequately analysed by scholars.

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Dhirendra Dangwal is at the Department of History, Himachal Pradesh University, Shimla, India (dhirendra\_dangwal@yahoo.com).

contentious history of conservation, and could mobilize only those who saw biodiversity as threatened, and planning as one of the necessary solutions. One person familiar with the NBSAP resented how 'the very format in which management plans were required – identifying gaps, setting timeframes and monies required' actually confined participants to a limiting structure. This format did not provide space for discussing the kinds of dynamic processes and activities that others favored (NBSAP interview, July 2003).

The format of planning itself required a certain set of strategies to be identified, fixed, and written down. Here, state agencies exerted significant pressure. Because their participation was necessary and unavoidable, government agencies exercised a disproportionate amount of influence in determining the final form of the planning document. Much to the chagrin of several participants, officials in state agencies refused to compromise on certain issues, and forced discreet changes in the plan's language to suit their offices.

## Contradictory Participations

Yet officials in state agencies could not control the NBSAP process entirely. Not all NGOs and activists who participated were equally bound by the demands of state control. The different frameworks, innovativeness, and creativity of these groups introduced a degree of agency and institutional diversity that is not generally seen in planning exercises. With the space opened up for participation, various researchers, and community and NGO activists joined the planning process to make sophisticated critiques of various

## Revisiting India's Biodiversity Planning Process

Nikhil Anand

After much active negotiation with countries of the North and South, India signed the Convention for Biological Diversity in 1992. The Convention required every member country to formulate its own National Biodiversity Strategy, and Action Plan. In 1999, the Indian Ministry of Environment and Forests (MoEF) nominated Kalpavriksh, an NGO long engaged with conservation and environment issues, to coordinate the process. I review the ways in which NGOs, state agencies and activists participated in the preparation of India's National Biodiversity Strategy and Action Plan (NBSAP) between 1999 and 2004.

Biodiversity is a concept particularly conducive to collaboration—it is an idea that holds interest for both scientists and the wider public. Taking the need for a widely consultative process seriously, Kalpavriksh made special efforts to encourage and solicit participation from a range

of actors. They sent out a call for participation in eighteen languages, through both the radio and print media, and nominated over seventy groups to produce as many plans at the state, ecoregional, thematic and substate levels. They also invited experts to present sub-thematic reviews, and constituted a core group that sought participation from a wide range of sectors including different central and state ministries, citizens, and corporate entities. In the words of the MoEF, the NBSAP was 'India's biggest environment and development planning process.'

## The Power of Structure

From its very inception the core group was mandated to produce a series of planning documents on biodiversity, for which they sought extensive participation. In preparing and formatting this document, power was exercised and consolidated at different levels. Its framing as a *planning* process for *biodiversity* determined who would take part and what could be said. The process inherited the

threats to biodiversity.

While several of the threats and their attendant interventions seemed familiar to conservation practitioners (e.g., park fences for reducing threats from grazing livestock), the plan also identified ‘root causes’ that generally do not get included in plan documents. As a result, the final NBSAP draft, compiled from the different state and regional plans, also contained criticisms of the state itself, including a critique of its chemically driven agricultural development paradigm, and its command-and-control forest policy.

For several participants, engagement in the NBSAP process was contingent and strategic. It was inclusion in the NBSAP process that gave certain groups legitimacy to speak, act and collaborate. As activists, researchers, and state officials developed professional relationships, they frequently took

the work of conservation beyond the constraints and demands of this planning effort. Understanding the ultimate implementation of the plan as unlikely, they sought to make it as open and inclusive of their agendas as possible. Activists saw their participation as a temporally limited space within which they could maneuver, and as an opportunity to establish a degree of plurality and creativity within a project of government. By working restively and conditionally with a government planning process, some participants sought to engage *tactically* to reach particularly defined ends different from those that the state desired.

That this was a precarious and temporary opportunity was soon made very clear by the Ministry of Environment and Forests. First by stalling its completion, then by delaying its confirmation, the Ministry resisted the final draft

presented by the Technical and Policy Core Group (TPCG). Then, on 5 October, 2005, it summarily rejected the plan, citing *technical inaccuracies* as the reason. In doing so, the Ministry went from celebrating the initiative as an example of good governance to calling the document ‘unscientific.’ They proposed to start the entire NBSAP process over again with a different NGO, perhaps with a more diluted version of participation. Kalpavriksh, meanwhile, has made both the process documentation, and the final technical report available to the public.

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Nikhil Anand is at the Department of Anthropology, Stanford University, USA. (nikhil.anand@stanford.edu).

## Dilemmas in British Conservationism in Zimbabwe, 1890-1930

### Vimbai Chaumba Kwashirai

During the first 40 years of British colonial rule in Zimbabwe, from 1890 to 1930, European farmers and miners established commercial farms and mines (in prime natural regions ‘i’ and ‘ii’; Figure 1). The Mazoe District of northeastern Zimbabwe embodied the two major pillars of the settler cash economy – mining and

commercial agriculture. Its capital city was Bindura, which, together with Trojan and Concession, were booming centres of gold and nickel exploitation, facilitated by good road and rail networks to Harare (Salisbury). The colonial state sought to orient settler farmers towards the production of export crops, tobacco, maize and cotton. It encouraged the production

of minerals, and cash and food crops, envisaging that a diversified economy would provide ‘greater self-sufficiency’ for the colony. It also envisaged benefiting the ruling British South Africa Company (1890-1923) by cutting the food import bill and raising the value of land, as well as by building and sustaining a stable European community.

White miners and farmers depended on state support in expropriating natural resources at the expense of the indigenous population, which was largely composed of the Shona and Ndebele.

The extractive economic activities of colonialists directly caused a fundamental transformation in soil and forest use. This led to widespread deforestation and soil erosion, resulting from unregulated clearing of vegetation and timber cutting, especially in the Mazoe River valley. The rehabilitation of lands around abandoned Mazoe mines was expensive and often difficult due to waste material polluting the soil, vegetation, and water. The state provided preferential treatment to miners in meeting their timber and energy requirements because they contributed the bulk of state revenue. This policy was a source of protracted conflict over soil and forest exploitation between miners and farmers. Soil erosion and deforestation were major environmental impacts arising from the competing interests of mining and agriculture. Environmental degradation highlighted the negative effect of settler farming, particularly the perennial

cultivation of the same crop – notably tobacco and maize – on the same field. Land was ‘mined’ for short-term economic gain. The settler community was unwilling to acknowledge and deal effectively with the problems of deforestation and erosion. There was no radical change in individual or collective attitudes towards natural resource management.

The ignorance, neglect, and greed of early settler society contributed to the permanent loss of biodiversity and wildlife from various habitats. Much wild flora and fauna gradually became extinct as a result of new techniques of farming and mining, such as the use of artificial fertiliser-chemicals and processes, respectively. However, with Responsible Government in 1923, new conservation initiatives were introduced to control the exploitation of resources. Nonetheless, old habits were difficult to change and the rapacious

exploitation of natural resources by some farmers and miners persisted well into the late colonial era. There were wider impacts on African men, women, and children who worked for the colonial system as ultra-cheap labourers, earning parsimonious wages under conditions of overwork, inadequate food rations, and the absence of proper housing. African poverty and environmental degradation were the two outstanding consequences of British colonisation, specifically in the Mazoe District, and in Zimbabwe more generally.

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Vimbai Chaumba Kwashirai is a Leverhulme Research Fellow at the University of Liverpool, UK (v.c.kwashirai@liverpool.ac.uk).

**Area under different farming regimes**

Region	Area (million ha)	Percent of Total	Description
i	0.62	1.6	<i>Specialised and diversified farming:</i> High annual rainfall (> 1000 mm), temperature <15°C. Suitable for dairying, forestry, tea, coffee, fruits, maize, beef ranching.
ii	7.31	18.8	<i>Intensive farming:</i> Annual rainfall 750-1000 mm. Ideal for rain-fed maize and tobacco, beef, cotton, winter wheat and vegetables.
iii	6.85	17.6	<i>Semi-intensive farming:</i> Annual rainfall 650-800 mm, mostly as infrequent heavy storms, with severe mid-season dry spells. Marginal for maize, tobacco and cotton. Favours livestock production with fodder. Requires good management to retain moisture during growing season.
iv	12.84	33.0	<i>Semi-extensive farming:</i> Annual rainfall 450-650 mm, subject to seasonal droughts and severe dry spells during the rainy season. Found in hot, low-lying land. Marginal for rain-fed maize. Ideal for drought-resistant fodder crops.
v	11.28	29.0	<i>Extensive farming:</i> Annual rainfall < 450 mm and too low and erratic for most crops. Very hot, low-lying region. Suitable for animal husbandry, and for growing drought-resistant fodder crops under irrigation. Below the Zambezi escarpment, this region is infested with tsetse fly.