



Research Article: (ISSN print 1863-5954; ISSN online 2197-5523) <https://namibian-studies.com/index.php/JNS>

Forest policies pertaining to the formation of protected areas. A case study of Nagarhole National Park and eviction of the tribal people.

Authors: Douglas Marowa^{1*}, Manoj Pokkiyarath²,

¹ Amrita School for Sustainable Development, Amritapuri, Amrita Vishwa Vidyapeetham, India

² Amrita School of Business, Bangalore, Amrita Vishwa Vidyapeetham, India

***Correspondent Author:** briddids20003@am.students.amrita.edu ORCID [0000-0002-1563-7288](https://orcid.org/0000-0002-1563-7288)

Abstract

Nations inherited and adopted policies to control and preserve forest areas from colonial laws, consequently separating people from nature, and anticipated sources of food and livelihood. India is not an exception, forest policies were used to evict Jenu Kurubas tribe and creation of Nagarhole National Park. The article examines forest policies relating to the creation of forest areas, eviction, and resettlement of these tribes in Rangayana Koppalu village. It identifies management and rehabilitation programme policy gaps and advises filling them. We performed FGDs and in-depth interviews with 50 participants, selected through purposive sampling, to gather information. Participants were chosen based on their experience and familiarity with pertinent policies, with the elderly being the primary target because they are the repository of historical rehabilitation information. Critical review of literature, and narration of incidents quoted by respondents and mapping of those incidents. Forest policies were instrumental in the formation of protected forests and national parks, but these laws are skewed towards conservation and silent on rehabilitation procedures. Rehabilitated families suffer from food insecurity and subpar livelihoods. Some rules had provisions for a participatory approach to forest management that may have been used to involve communities in forest management and avoid displacement. Implementation of policies is not coordinated among ministries. It is necessary to keep forests, wildlife, and tribal affairs all under one ministry to overcome the problem of each ministry's jurisdiction and achieve sustainable forest management. Create forest policies that take the local community's reliance on the forests into account, promoting the preservation of the forest and the community's continued usage of it.

Keywords: Forest, policy, protected areas, eviction, rehabilitation, livelihood, food security

1.0 Introduction

The establishment of protected forests and conservation zones, free of all human impact and habitation and with severely constrained access to resources, was facilitated by the colonial territorial system of conservation (Adams & Mulligan, 2003). According to Mathews (2005), these colonial territorial structures and legislation served as a foundation for the creation of Nagarhole National Park. To protect, maintain, and conserve the forest, nations all over the world have passed laws and regulations. India is not exceptional because it has a forest act, officially known as "The Indian Forest Act, 1927. Act No. 16 of 1927, 21st September 1927". The regulations governing forests, the transportation of forest products, and the taxation of timber and other forest products are all contained in the Forest Act of 1927. The split did not consider how crucial woodland are to human survival and growth. Their significant contributions include the provision of products to people, and habitat for a wide variety of animals, air purification and hydrological cycle control (Chao, 2012; Miura et al., 2015).

According to Myers et al., (2022), woodland management or tenure is mainstreamed around the globe, and organisations in charge of overseeing its operationalisation and putting policy into practice determine the outcome. To the countries, a forest policy is a crucial set of instructions for preserving forest resources and their interactions with other land uses (Joshi et al., 2010). India's total forest and tree cover, according to MoEFCC (2021), is 80.9 million hectares, or 24.62 percent of the nation's total land area. The Ministry emphasised that the nation's overall forest and tree cover increased by 2,261 sq km when compared to the evaluation from 2019. This indicates that the government is converting more land from other uses to protected forests, displacing the indigenous population, and relocating them to rural settlements. Even though more than 14% of the population of India lives near woodlands (MoEF, 2002), which offer both material and immaterial forms of livelihood, directly measurable results, and ideals like safeguarding biodiversity and regulation of the environment contamination and visual appeal, and cultural significance (Kumar, 2002). Forests have a significant role in people's physical, economic, and spiritual well-being (Byron & Arnold, 1999). The issue is that, despite all the anticipated benefits for food and livelihood discovered in the forest, the government applied forest policies to relocate the Jenu Kurubas tribe, who had been living in and relying on the forest and turned the area into a protected area. As a result, this chapter examines the forest policies relating to the creation of Nagarhole National Park as well as the eviction and resettlement of this tribe in Rangayana Koppalu

village. The goal is to highlight policy shortcomings in management and rehabilitation programmes and to make suggestions for potential policy and implementation gaps interventions. Additionally, the review would show how the country's forest cover has increased as the policies were put into practice.

2.0 Literature review

2.1 Forest policies and the formation of Nagarhole National Park

State-specific approaches to the forestry resources available in their areas were used before to colonial control in India as there was no formal, unified forest policy. It was during the middle of the eighteenth century when the British declared the first policy statement, released in 1894. Probably because they likely felt there was no necessity at the time (Joshi et al., 2010), no indication of a specific proportion of the land area in India that should be covered by forest was made. Since then, India has seen a shift in emphasis from timber production to forest conservation, community-based agroforestry, and social forestry, which has changed people's perceptions of forest resources. The socio-economic, cultural, and ecological set-up of the people living in or near the forest were impacted by this change in land use, which has ramifications for livelihood and food security. There has been lobbying for a 33% forest cover overall since the National Forest Policy of 1952, with a 60% forest cover in mountainous and hilly areas. The National Forestry Commission report from 2006 and the National Forest Policy from 1988 both reaffirmed this goal (Myers et al., 2022).

The National Forest Policy of 1894 placed a strong emphasis on managing State Forests for the general good. The policy did not give forestry the prominence it deserved and instead ranked forestry below the country's agricultural demands, particularly in terms of land usage. It also provided for the management of user rights and privileges in the forest area. Although the 1894 strategy stressed that meeting local needs came before income considerations, the realisation of maximum revenue nonetheless served as the overriding principle. The prevalent opinion is that the 1894 Forest Policy gave agriculture priority over forestry and sought to establish a state monopoly over the use of the forest's resources (Gadgil & Guha, 1995). In 1952, India's National Forest Policy placed a first-time emphasis on having at least 33% of the country's land area covered in forests. A system of regulated and complementary land use that prevents mountainous areas from degrading, erosion of river banks, invasion of sea sands on coastal tracts, and shifting sand dunes in desert areas, were highlighted as critical national

needs. Additionally, care was taken to guarantee a supply of small timber, feed, and firewood. According to the policy, there is a common misconception that forestry does not have an inherent right to property but that it may be permitted under certain conditions on leftover land that is not needed for any other use. Regarding the percentage of forestland, it was claimed that various areas naturally have varied percentages of land that should be preserved continuously forested. India should strive to keep a third of its overall land area in forests. For the Himalayas' protective purposes, around 60% of the area should be retained under forests as a precaution against denudation (GoI, 1952). The National Forest Policy of 1988 declares the same objective of having a minimum of one-third of the total land area covered by forests. To minimise erosion, soil degradation, and instability of fragile ecosystem, the policy suggested to keep two-thirds of the area in hills and mountainous areas under forest cover. Additionally, it placed a strong emphasis on preserving and conserving forests to maintain sustainability and restore the balance of nature (MoEF, 2007).

Other policies include The Wildlife Protection Act 1972 and Amendment 1991, which protects flora and fauna, and their habitats, water bodies and woodlands that support them (Wildlife Act, 1972). To stop drastically rising levels of organised poaching, the Act was first updated in 2002. The Wildlife (Protection) Amendment Act, 2006, which was passed in 2006 and went into effect on September 4th, made additional changes to the Wildlife Protection Act of 1972. The National Tiger Conservation Authority and the Tiger and Other Endangered Species Crime Control Bureau were to be established pursuant to the Act (Wildlife Act, 2006). The 1980 Forest (Conservation) Act was passed to maintain forests at greater levels and control the use of forest areas for non-forestry activities. Before the Central Government's consent, the Act was necessary to de-reserve forest lands and/or divert them for non-forestry uses. The Act (Forest ACT, 1980) protects the preservation of the forest and its resources. The creation of resources for doing afforestation (plantations), supported natural regeneration, safeguarding forests, development of infrastructure related to forests, the Green India Programme, wildlife protection, and other related forest activities was made possible by the Compensatory Afforestation Fund Act of 2016 (CAFA, 2016). The Forest Rights Act of 2006 affirms the entitlements of tribal tribes that live in the forest and other indigenous peoples to the forest resources on which these communities have traditionally relied for a range of purposes, including subsistence, housing, and other societal requirements. Additionally, it recognises forest land owned by Scheduled Tribes and other traditional forest dwellers whose rights could not be registered to establish a system for documenting rights to forests and the type of proof

needed for acknowledgment and vesting in respect of forest land. (Forest Rights Act, 2006). The National Forest Policy of 2016 is also available in draft form, aiming to empower local communities and maintain an ecologically sound environment through the management of forests sustainably. The Policy aims to combine the concepts of ecological approach and collaborative forest management (Forest Policy, 2016). This proposed policy maintains the requirement that one-third of the land be covered by forests, but it also calls for another one-third of government-owned woods to be managed under community forest management (CFM). The policy emphasised the need to encourage sustainability in privately owned, community-managed, and community-owned forests. It is anticipated that environmentally friendly farming will significantly enhance people's standard of living and earnings (Ahmad et al., 2023). The population would experience food insecurity if sustainable practices were not adopted due to the quantity and distribution of rain being altered by climate change (Gusti et al., 2023). However, elements such as land policy, use of land, water supply, soil preparation, and diverse facilities for farming can also impact the cultivation of crops (Putri et al., 2023).

According to the literature reviewed above, forest policies were implemented to protect the biodiversity of the forests at the price of human well-being. The idea that flora and fauna areas are unpolluted and wild comes from a traditional western conception of preservation, which blames indigenous populations for the reduction in biodiversity and regards them as invaders and illegal hunters. Relocation and displacement are therefore seen as the only viable options to protect nature (Dowie, 2009). Due to its location in one of the globe's mega-biodiversity regions, India exhibits significant biodiversity richness, with 90,000 fauna species currently known to exist, accounting for 7.28% of the globe's documented wildlife, and about 47,000 species of flowering and non-flowering, these numbers form about 12% of the globe's documented flora (MoEF, 2007). Historically, India has given adequate attention to its woodlands, and as a result, its woods have been seen as an endless supply of resources (Marcot, 1992). The Jenu Kurubas tribes of the Mysore district were driven out of the forest because of policies, legislation, and the abundance of biodiversity, and the forest was eventually turned into Nagarhole National Park. Even though Joshi et al., (2010) cautioned against viewing the forest policy as an additional, parallel endeavour that would be in opposition to or in direct competition with current methods of sustainable development, this is what occurred. Instead, existing Indigenous techniques can be used as a starting point for a national forest policy and then integrated into the new processes.

2.2 Eviction of Tribal people; the Jenu Kurubas tribes of Mysore district

According to Fanari (2019), attempts to conserve nature around the world have required the eviction of people from forested areas. The interest in protecting the environment at the global level, which is frequently done at the expense of populations living in and around major biodiversity sites, was further exposed as the reason behind this. Forest conservation has been difficult since the costs and benefits of creating protected areas are not distributed fairly, bringing the issue of displacement and dispossession. In 2004, one indigenous representative at the United Nations Declaration on the Rights of Indigenous People, highlighted that the rise in protected areas around the globe and the ongoing restrictions placed on local communities have created a situation where conservation has become the top threat to indigenous territories (Dowie 2009). The stewardship of these designated areas depends heavily on assumptions from the western idea of preservation; it necessitates the omission of basic needs alongside other resource uses; only properly educated officials are capable; local communities and their knowledge have no place in this management. As a result, most protected areas forbid or severely restrict human residence and resource use. The raw materials from these protected zones support the sustenance of millions of people who live inside them, and several million more do so in surrounding or adjacent areas (Kothari et al., 1995). Likewise, the Jenu Kurubas tribes, who formerly inhabited the Nagarhole forest, were not exceptional.

The 643 sq. km. Rajiv Gandhi National Park (Nagarhole Tiger Reserve), according to Desai & Praveen (2010), has a very high population of tigers and prey near to their potential carrying capacity. Both the biodiversity itself and the people who depend on natural resources for their livelihood are at risk when people are removed from protected areas like Nagarhole (Cernea & Schmidt-Soltau, 2003). The impacted communities suffer from loss of livelihood, income, and poverty, as well as decline or loss of the wildlife (Brockinton & Igoe, 2006). The exclusionary approach to forest protection shapes the conduct of conservationists, who continue to bar local communities from accessing their lands and forest resources and present them as adversaries rather than potential partners in the management of the environment. The Forest Rights Act and Convention on Biological Diversity both recognise community conservation approaches and indigenous land rights at the policy level, notwithstanding this. These laws grant native peoples the freedom to live in their natural habitats and to utilise the resources found in forests (Agrawal & Redford, 2009).

The Jenu Kurubas tribes were forced to leave their homes after the Nagarhole was turned into a National Park, though the Forest Rights Act covered all forest rights. With Wynad (344 sq km) and Bramhagiri (180 sq km) Sanctuaries to the west-southwest and the Bandipur Tiger Reserve (880 sq km) to the south, the habitat in the Nagarhole National Park is a component of a sizable, contiguous tiger landscape. As a result, the reserve is a crucial tiger habitat with a high likelihood that tigers will survive for a very long time. Within the boundaries of the 643 sq km Tiger Reserve, 54 communities housed a total of 1550 landless tribal families, or 6145 people. To relocate residents who volunteered to leave the Tiger Reserve, 1931 hectares of forest land were redirected. These lands were distributed among three clusters in the revenue district of Mysore: Shettihalli-Lakkapatna in Hunsur Taluk, Sollepura in H.D.Kote Taluk, and Nagapura in Hunsur Taluk. In 1999, Project Tiger provided early monetary support for the voluntary migration procedure. By 2010, 348 families, including eight families under the Option I monetary compensation system, had voluntarily chosen to relocate and left. The process' agonising slowness has been greatly exacerbated by the Deputy Conservator of Forests' numerous transfers, who ought to be in charge. However, there was a sincere voluntary demand for resettlement by tribal members during the eviction. The fact that the State Forest Department provided all that was promised to legitimate beneficiaries including land, housing, and other amenities like schools, access roads, electricity and water, greatly influenced the tribal people's willingness to participate. A significant catalyst role in enabling a dignified transition for tribal people was played by the significant motivational efforts of local NGOs and their continued efforts to hand-hold the resettled people and help them get access to various government welfare schemes (Desai & Praveen, 2010).

Therefore, the primary objective was to review the forest laws relating to the creation of Nagarhole National Park as well as gather incidents during the eviction and resettlement of the Jenu Kurubas tribes in Rangayana Koppalu village.

3.0 Methodology

The researchers used descriptive research design with narration and critical look into information on forest policies, the formation of national parks and tribal rehabilitation. A purposive sampling technique was used to select key informant for the in-depth interviews. A total sample of 50 individual participants (20 elderly, 30 government officials and others) was used in this study. Targeted elderly people as they carry the historical information of the

rehabilitation from the forest lands, whilst the other key informants were selected based on expertise and knowledge on policies or understating on issues of forest, agriculture, health, education, livelihood or food issues. This was done to cover issues relating to life in the forest, how and when they were rehabilitated, changes in the livelihood, land allocation, farming practices, housing, employment issues through focus group discussions and personal interviews from the selected participants in the village, at district offices and at Nagarhole National Park. Thereafter, convenience sampling was used for the focus group discussion. The data was based on literature reviewed on forest Acts and policies from the India government and literature on tribal studies. Information was gathered during the preliminary and final visit to the village through some interviews and focus group discussion. There was a critical review of literature, and narration of incidents quoted by respondents and mapping of those incidents by the researchers.

4.0 Results and discussion

4.1 Policy review and implementation

According to the review, the following Acts were crucial for the establishment and management of forests in India: National Forest Policy 1894, National Forest Policy 1952, National Forest Policy 1988, National Forest Policy 2016, National Forest Policy 2018, Indian Forest Act of 1927, Wildlife Protection Act of 1972, Wildlife (Protection) Amendment Act of 2006, Forest (Conservation) Act of 1980, Forest Rights Act of 2006, Compensatory Afforestation Fund ACT of 2016.

A review of each Act or Policy's effects, advantages, and contributions to the forest, wildlife, or Tribal people revealed that the bulk of them were biased towards the conservation programme, leaving the Tribal people behind. It was noted that only one Act, the Forest Rights Act of 2006, grants communities the right to access and make use of forest resources. National Forest Policy 2016 and National Forest Policy 2018, which are both still in the draft stage, aim to strengthen participatory forest management while also empowering indigenous forest dwellers. Below is an analysis on the benefits or contribution of the Acts and policies to the forest and the Tribal people, sourced from literature reviewed in the year 2022.

Table 1. Policies' contribution to forest and Tribal people: Source; Authors, (2022)

The ACTs and the Policies	Impact, benefit or contribution to:	
	Forest and wildlife	Tribal people
The Indian Forest Act 1927	The movement of forest produce, the duty imposed on timber and other forest produce, and the law dealing to forests be combined.	Provides for the creation of a village-forest
The Wildlife Protection Act 1972	Safeguards wild creatures, birds, plants, and the water sources, forests, and habitats that they depend on.	Forbids the utilisation of wildlife resources for sustenance and subsistence by Tribal members
The Wildlife (Protection) Amendment Act, 2006	Creates the Tiger and Other Endangered Species Crime Control Bureau and the National Tiger Conservation Authority.	Prevents the use of wildlife resources for sustenance and subsistence by Tribal members
The Forest (Conservation) Act, 1980	Increases the level of protection for the forests and controls how forest lands are diverted for non-forestry uses. For the de-reservation of forest areas and/or their diversion for non-forestry uses, it was crucial.	Prohibits using forest resources for food and livelihood by tribal people
The Forest Rights Act 2006	The Act gives the populace authority and responsibilities for sustainable use, conservation, and ecological stability, improving the ecological preservation system while guaranteeing the specified people and other indigenous woodland settlers' means of subsistence and food security. This is done for the benefit of the forest and wildlife.	Gives entitlement to the forest resources to tribal tribes and other indigenous forest dwellers, who depended on them for a range of purposes, including subsistence, housing, and other societal, cultural, requirements.
Compensatory Afforestation Fund ACT of 2016	Establishes funds to be used for forest projects including afforestation, forest protection, infrastructure development related to forests, wildlife protection, and other forest-related activities.	There is no connection or plan to compensate the evicted tribal members because of afforestation activities.
National Forest Policy 1894	Provided an evolution from timber extraction to protecting forests, then community-driven agroforestry and social forestry, providing a shift in outlook on forest resources	No timber extraction, instead encourage more afforestation
National Forest Policy 1952	To maintain ecological equilibrium, 33% of the land must be covered by forests. Identified protection forests, national forests, and village forests as functional categories for forests.	Removing the native population's reliance on shifting agriculture in forested areas
National Forest Policy 1988	To protect, conserve, restore, and maintain equilibrium on the forest and other natural resources, including cultural heritage, as the resources are depleting.	The pressure on the forest and other natural resources from tribal people was perceived as increasing.
National Forest Policy 2016, (Draft)	To fulfil current and future ecological needs while enhancing the forest ecosystem	To strengthen and support communities
National Forest Policy. 2018, (Draft).	To protect current and future generations' ecological and economic security by managing forests sustainably for the flow of ecosystem services	Boost cooperative management of forests

The analysis showed that national and state laws and policies in India supported the eviction of local inhabitants from protected areas. Lasgorceix & Kothari (2009) claim that efforts were made to hasten the establishment of National Parks in India through the strengthening of Acts or Laws. The key informant interviews confirmed and underlined the same that:

- a) A unified system of management was set up by the Wildlife (Protection) Act of 1972, which was revised in 1982, 1986, 1991, 2003, and 2006. It also permitted the development of several classifications of protected areas and placed restrictions on the privilege to reside within protected places, such as nature reserves.
- b) Nation laws reinforced several pieces of state policies, including as the Maharashtra Project Affected Persons Rehabilitation Act, 1986, updated in 1999 and addressed the resettling of individuals affected by construction or environmental preservation initiatives.
- c) The centrally supported scheme on relocation relating to protected areas employed the 2007 National Policy on Resettlement and Rehabilitation, which stipulated that relocation should be voluntary and in accordance with this national policy.
- d) The Centrally Sponsored Schemes oversaw handling the relocation's finance. Ministry of Environment and Forests stated that the beneficiary-oriented scheme for tribal villages in Project Tiger regions, national parks, and wildlife sanctuaries provided funding for relocation from protected forest till 2008. The compensation payout, which was originally set at Rs 100,000 under this programme, has been enhanced to Rs 1 million under the 11th Five-Year Plan's programme on Integrated Development of Wildlife Habitats. The families were given a rehabilitation package through a federally funded tribal development programme that prioritises benefiting beneficiaries in Project Tiger national parks and wildlife refuges as compensation for the relocation was revealed through group discussions and interviews included the following provisions.

Table 2. Provisions of the centrally sponsored scheme

Targeted usage	Rs allocated per family)
Improvement of the land (2 ha for each household)	36,000
Building of houses (5,000 square feet of ground)	36,000
Facilities for the community	9,000
Land fields for food and fuel	8,000
Creation of grazing land	8,000
Movement of household items	1,000
Monetary reward for relocating	1,000
Contingency costs	1,000
Grand	1,000,000

Source: Authors; in-depth interviews, (2022)

- e) The Scheduled Tribes and Other Traditional Forest-Dwellers (Recognition of Forest Rights) Act of 2006 established human rights within all forest areas, including protecting forests, as well as the establishment of vital wildlife habitats within the forest areas, in which human rights may be altered or eliminated and people may be displaced with their consent.
- f) The Judicial Orders, a 2000 Supreme Court decision, prohibits state governments from directing the destruction of trees and grasses from designated forest areas. Although the decision was made with the intention of allowing timber to fall within protected forest sections, it was interpreted to mean that all rights were being suspended.

The above reinforcements had severe implication on the livelihoods and food security of communities living inside and around protected forest areas, creating the conditions for induced and forced relocation from within protected forest areas. However, it was reviewed that there were some provisions on some of the policies which could have been utilized to manage and avoid the eviction and rehabilitation, especially in the India Forest Act of 1927, the Wildlife Protection Act of 1972.

According to India Forest Act of 1927 section 28 quoted as “Formation of village-forests part (1) The State Government may assign to any village-community the rights of Government to or over any land which has been constituted a reserved forest and may cancel such assignment. All forests so assigned shall be called village-forests”. The interpretation means there is a provision for humans and nature to live together in an environment called village-forest. Therefore, despite having this clearly give provisions for the formation of a village-forest, the government decided to ignore that section and evict the Jenu Kurubas and resettle them in Rangayana Koppalu rehabilitation village.

One elder man (92 years old) was quoted during the interviews that *“We have been living in that forest in harmony with the wildlife, managing the forest as a source of livelihood. I was born and raised in that forestry. My parents were violently moved out of the forest, not even told where we were going to be settled.”*

The part (2) of same section 28, indicated that “The State Government may make rules for regulating the management of village forests, prescribing the conditions under which the community to which any such assignment is made may be provided with timber or other forest-produce or pasture, and their duties for the protection and improvement of such forest.” This would have been very helpful and a starting point, in support of the Draft National Forest Policy

of 2016, section 4.3 which also states that there is need to conserve the forest by empowering the communities and experience the benefits of participatory forest management. Draft National Forest Policy of 2018 section 4.1.1 (h) also articulates the issue of “strengthen participatory forest management.”

One elder woman (92 years old) was quoted during the interviews that *“My parents were moved away from the forest, despite that they could understand the importance of not degrading the forest as all creatures, that is people and wildlife depended on the same natural resources found in the forest. We could get fresh water, game meat, fruits and medicines just to mention a few. Whilst the animals could get water, grazing land, shelter, and meat for the carnivores.”*

It was necessary to confirm that they used to dwell in forest, therefore the elderly people showed the researchers some of the items their parents brought with them including traditional tools, pots, leather ropes from the forest and had this to say, *“life in forest was simple and good, we used wood tools, leather, clay utensils for our farming and barter trading.”*

It was then worsened by the fact that when the villagers were relocated, not everyone got land, only 33 villagers were given land. The villagers who were not given land were vulnerable to hunger and were said to be the first to provide cheap labour in the nearby farms. During the focus group discussion, one man was quoted saying *“We need land for farming, only 33 of our grandparents were given land for both crop and livestock farming. Unfortunate one of those who could not get land were my grandparents, we are providing cheap labour to the farms around and the money is not enough, some of us we are sourcing pieces of land to farm outside the village as we have interest in growing our own household food and to dispose extra food where possible.”*

Accessibility to the national park for basic livelihood and food is no longer available, therefore illegal entries are happening leading to human wildlife conflicts. This has also led to Forest Officers having battle wars with the villagers as they try to illegally get access. In this case, corruption cannot be ruled out. However, the Wildlife Protection Act of 1972, section 11, “Hunting of wild animals to be permitted in certain cases” and 12 “Grant of permit for special purposes.” These sections give a provision for permit grant and access to the national park in any orderly manner.

One man was quoted during the focus group discussion saying, *“The national park is now sealed, it is a prohibited area, however there are a lot of illegal entry points into the park. It’s either you go through the fence, which is made up of iron bars or deal with the officials. When you enter the national park, it will be at your own risk as wildlife can attack you or officials on duty can arrest you.”*

Unfortunately, the government did not consider the provisions in these sections (11 and 12) of the Wildlife Protection Act of 1972 to avoid such illegal forest activities like poaching on animals, firewood and other forest products.

4.2 Policy and implementation gaps

Based on the reviewed impacts, benefits and contribution to the Acts and the policies to both the conservation and tribal population, it came out that these Acts and Policies are biased to conservation. It was only the Forest Rights Act 2006 and two policies which are at drafts level, National Forest Policy 2016 and National Forest Policy 2018, that gives tribal people the rights to forest resources and to empower the traditional forest dwellers through incentivising well managed forest and strengthen participatory forest management.

It was also noted that these Acts and Policies are silent on the rehabilitation, none the policies have a provision for rehabilitation programme, starting from the involvement and decision making of those who were going to be affected, the compensation, aftermath livelihood and food security. However, it was noted that compensation was only introduced in 2008 in the study area as a Centrally Sponsored Schemes for funding of the relocation. It was also noted that policy, institutional and financial gaps are hindering the achievement of national forest targets. The national target has been a state monopoly on forest resources of 33% forest land cover.

One government official during key informant interview said and quoted *“Achievement of the targeted forest land area is affected by illegal firewood poaching and deforestation, institutional we are not well resourced and structured to achieve the national target. There has been outstanding payment of wages to forest employees, current two months are outstanding.”*

It was revealed that two-thirds of the potential of this target is with trees grown under agroforestry, and its domain is with Ministry of Agriculture (MoA). This means forest trees grown in agroforestry operations will be managed under the Ministry of Agriculture (MoA). Whilst, during key informant interviews, the reality is that forest policy decisions and technical issues are under the Ministry of Environment, Forests and Climate Change (MoEF&CC). They

are involved in the planting of the trees at an agroforestry site identified by the Ministry of Agriculture. It was also revealed that the Ministry of Environment, Forests and Climate Change (MoEF&CC) oversees forest policy, use them to address policy decision and technical issues. Whilst at the national level, forest and livelihood objectives are under the Union Ministry of Tribal Affairs (MoTA) giving them power to forest produce and implementation of the Forest Rights Act (FRA), 2006. The policy and implementation gap revealed was less co-ordination among ministries for the implementation of Forest Rights Act to achieve sustainability of forests and improving the livelihood of forest dependent communities. It was noted that the implementation of the activities for improving livelihood is with the state forest departments.

During the key informant interview, one government official said *“It was unfortunate that progress in implementing has been affected by double standard in the decision making and different ministries’ involvement in one common policy area. Different ministries are involved in forest issues at different angles, either on policy, decision making or implementation.”*

During the review it was noted that in the policies there is a lack of recognition of the customary rights of people in these forests. As the policies were biased towards conservation, separating the humans with nature, people’s customary usage, access patterns and their traditional rights over these forests were removed or reduced including access to their cultural sites, graves and ritual places.

One woman during focus group discussion said *“The policies were unable to consider the tribal people’s traditional, culture and spiritual connectedness to the forest. Instead, our grandparents, parents and ourselves were separated spiritually from our dead ancestors.”*

It was noted that there are two National Forest Policies which are both at draft level, the 2016 is being developed with the help of India Institute of Forest Management, whilst in 2018, the Ministry of Environment, Forest and Climate Change, Forest Policy Division started developing another national policy. The objectives and content are very close, why can they not come together and develop the most wanted revised National Forest Policy for the nation.

4.3 Interventions to address the policy and implementation gaps.

The researchers suggest keeping forests, wildlife and tribal affairs under one ministry to resolve the double standard on decision making, implementation and technical matters under one roof. It would increase focus and address major issues derailing the achievement of sustainable

participatory forest management. There is a need to develop and gazette forest policies that consider the local community's dependence on the forests leading the promotion of conservation and sustained use of the forest by the community. These policies should strongly recognise traditional customary rights and enhance the community's capacity to conserve their forests.

4.4 Themes identified after qualitative data coding.

As reflected in the qualitative data collected, the villagers revealed that they never wanted to get out of the forest, however the forest authorities had to apply the government directive whereby voluntary, forced and induced relocation were given as choices to the villagers.



Plate 1. Conducting an interview with a key informant, Source: Authors; (2022)

One elderly person around 70s was quoted saying *“Because of the forced or induced relocation, my parents had to live behind some of their assets as they were forcibly evicted”*. This entails that they never wanted to move out of the forest as also deduced from outcome of the coded data.

The analysis of the qualitative data through Microsoft Excel coding revealed three themes that were adversely affected, which were food security, land use and livelihood. The qualitative information also indicated that the major outcomes of eviction of the tribal population from the forest were loss of indigenous knowledge system on farming, agricultural land change that has threatened to food security, human wildlife conflicts and poverty.

Table 3. Coded qualitative data

Open Coding	Axial Coding	Sub Themes	Themes
18 open coded statements	• Eviction of the Tribal people from forest • Life in the forest was better and productive. • Not everyone was allocated land for farming. • Subsistence farming in the village stopped. • Intensive farming of bananas started in 2019	• Loss of Indigenous knowledge system on farming • Agriculture land and change of farming systems. • Threat to food security	Food security
14 open coded statements	❖ Evolutions in farming systems, crops and use of chemical ❖ Villagers are not involved in policies decision implementation. ❖ Ministries given different mandates, policy decisions and implementation on forest. ❖ Panchayat lacks capacity to manage the community forest resource, no guideline from nodal ministry. ❖ Policies not considering traditional and Indigenous Knowledge systems	❖ Gaps on forest policies and policy implementations ❖ Policies under threat of non-compliance ❖ Change of land use	Land use
33 open coded statements	➤ Life threatening as people are attacked by wildlife. ➤ Spread of diseases due to crowded population in the village ➤ Capacity building on forest management and food for sustainable livelihood ➤ Financial instability as no loans or any remittance, beside wages ➤ Failure to attain formal education neither informal education	➤ Human wildlife conflict ➤ Poverty and unemployment ➤ Uneducated current and future generations	Livelihood

Source: Authors; In-depth interviews and focus group discussions, (2022)

It was revealed during in-depth interviews with the key informants that the forest authorities evicted the indigenous people through voluntary, forced or induced relocations. The researchers, through interviews and focus group discussion had to then analysis of these types of relocation to find out how they were applied and to find out the benefits and consequences. It was noted that the guiding principle was based on willingness or lack thereof. These types of relocation were noted by the villagers, as attached to the belief that they were enemies and

not wanted in and around the national parks. This agreed with the idea raised by Dowie (2009), that the indigenous people were considered as invaders, hunters, and culpable for the degradation of forest biodiversity and considers removal and eviction as the sole measures to rescue the ecosystem.

A key informant was quoted saying “*Voluntary relocation was applied when the concerned villagers or families on their own and without situations created by the formation of the national parks would ask for relocation*”. This was supported by one elderly woman, who said “*My parents and uncles had to voluntarily consider relocation to Rangayana Koppalu village anticipating for new life as they were said to be brought into the mainstream of living a normal life with all the other India people*”. Therefore, it means to her family, the relocation brought hope and joy to live well in the rehabilitation village.

Key informant interviews revealed that forced relocation would always happen despite opposition or unwillingness of the concerned villagers. In the 1990s, 350 families were forcibly removed from Rajiv Gandhi National Park (Nagarhole National Park) by the government through its structures, such as the forest authority, and relocated to a rehabilitation hamlet. This caused some disputes with authorities and significant resistance, villagers resisting relocation because there was no compensation for the loss of forest-based livelihoods and no land available for agriculture (Lasgorceix & Kothari, 2009). It was noted that most of the villagers were not willing to relocate from the forest as thus where the livelihood and food security was based. They indicated that their Jenu Kurubas ancestors had taught them to hunt, produce honey and practice some subsistence farming within the forest, therefore new life without forest was difficult for them. According to Viswanathan & Shivakoti (2007), shifting cultivation in tribal communities provided sustainable livelihoods since people could make money selling forest products like honey and fruits. Additionally, the forest provided them with medication and cultural support, which decreased illness and death among the families. According to the interviews, the Jenu Kurubas people rely heavily on the forest for their daily needs, people dwell in woodland areas where, for a significant portion of their history, people lived alone in peace with the environment. They have great knowledge of the forest, including a wide range of plants and fauna, and have a strong connection to the forest, it was observed. The cornerstone of their life has been gathering honey, wax, and other forest products like roots and tubers; however, in recent years, they have been discovered selling them in the market through organised trading groups, both legal and criminal, which has caused a commotion among conservationists.

It was revealed by the elderly people that they are still finding it very difficult to cope with the new life, as they cannot be employed in nearby farms because of age. Aged and young were evicted as a result of the Indian Supreme Court's decision that ordered the states to evict nearly one million households residing in forests, forced relocation was done (Rithe, 2019). Conservationists filed a lawsuit, arguing that forest inhabitants thwart attempts to preserve the ecosystem, and the Supreme Court issued a ruling in response (Nandi, 2019). When the Supreme Court's decision was put into effect, local communities lost control of conservation management to the federal government, and forest dwellers were forcibly relocated to rehabilitation villages like Rangayana Koppalu.

The key informants revealed that induced relocation usually happens because of circumstances brought by the protected forest area. One Forest Officer was quoted saying *“The relocation will be sought or accepted by the villagers because the environment created would not be conducive for dwelling in the area. And that these circumstances could include severe pressure and harassment by officials, deprivation of natural resources that are essential for their livelihoods, denial of basic developmental facilities, or sandwiching between a development project and the protected forest areas”*. The villagers during focus group discussion indicated that much they did not want to be relocated, the developments that were being done in the Nagarhole National Park had no basic human requirement instead iron bars were used to fence the area.



Plate 2. Iron bars fence around the Nagarhole National Park, Source: Authors; (2022)

In addition to Nagarhole, Kothari & Asher (2005) reported that a total of 85 tribal families were forcibly transferred in 1994 from Orissa's Chandaka-Dampara Wildlife Sanctuary to the villages of Krishnanagar and Tulsadeipur. Despite the fact that the Forest Act of 1980 contains a clause allowing for the diverting of forest land for facilities, including the felling of no more than 75 trees per hectare to build facilities like schools, hospitals, anganwadis, stores, roads, and community centres.

The study also showed that the creation of the Nagarhole National Park restricted access to affordable food and livelihood opportunities for the tribal inhabitants. Elderly participants in the debate showed that life was now very challenging since they were unsure of or unaware of the future. Their means of obtaining a living and methods of obtaining sustenance are not assured. They remembered being able to gather inexpensive forest and non-forest goods for both their own use and for sale while residing in their forest huts. Numerous socio-economic effects follow the removal of human habitation from protected areas. The residents in their rehabilitation village noted a lack of social economic development that may enable them to create revenue in addition to travelling outside the village for necessities. They have absolutely no access to the infrastructure needed for income-generating initiatives, and there are no such facilities. The literature analysis confirmed this; Lasgorceix & Kothari (2009) found that some rehabilitation facilities were not adapted to the needs of the displaced Tribal people, including a lack of infrastructure for companies. As a result, the key theme areas that were severely impacted by the implementation and reinforcement of the forest policies were food security, land use change, and livelihood, as evidenced in the qualitative data coding.

4.5 Review of forest land area and the nature of the wildlife in Nagarhole National Park

There has been a slight growth of forest land cover as land is being converted into protected areas including the formation of national wildlife parks. The study revealed that it has been mostly tribal land which was taken and converted into protected forest. This had negatively affected the livelihood and food security strategies of the villagers. However, because of these forest policies there have been signs of forest growth as more land has been converted or transformed into protected areas including the formation of national wildlife parks. The analysis conducted by the researchers reviewed that from 1987 and for the past seven years from 2015 to 2021, the forest cover in square kilometers has been increasing. In 1987, the forest cover was at 21.05% and tree cover at 2.7% to give a total forest and tree cover of 23.81% of

the geographical area. The figures for forest cover and tree cover increased to 21.34% and 2.83% respectively in 2015 to close at 24.17%. In 2017, the area covers moved to 21.54% and 2.86% and ended at 24.40% as the forest and tree cover combined. The area cover increased again in 2019, forest cover moved to 21.67% and tree cover was at 2.89%, the total cover was 24.56%. Currently as of 2021, the total forest and tree cover stands at 24.62% with forest cover at 21.71%, then tree cover at 2.91%. It was noted that the target of 33% forest is far from to be achieved as the current cover is at 24.62%, this suggests that the government will continue to relocate and rehabilitate the Tribal population.

Table 4. Analysis of the Forest and Tree cover in India 1987 and 2015 - 2021

Class	Forest cover (km ²)									
	1987		2015		2017		2019		2021	
	Area	(%)	Area	(%)	Area	(%)	Area	(%)	Area	(%)
Very dense forest	96,467	2.93	98,216	2.99	98,712	3.00	99,278	3.02	99,779	3.04
Moderately dense forest	299,708	9.12	301,660	9.18	306,685	9.33	308,472	9.38	306,890	9.34
Open forest	295,837	9.00	301,670	9.18	302,724	9.21	304,499	9.26	307,120	9.34
Total forest cover*	692,012	21.05	701,546	21.34	708,120.8	21.54	712,249	21.67	713,789	21.71
Tree cover	90,746	2.76	93,035	2.83	93,967	2.86	95,027	2.89	95,748	2.91
Total forest and Tree cover	782,758	23.81	794,581	24.17	802,088	24.40	807,276	24.56	809,537	24.62
Shrubs	40,107	1.22	44,380	1.35	45,367	1.38	46,297	1.41	46,539	1.42
Non forest#	2,555,350	77.73	2,541,543	77.31	2,533,981	77.08	2,528,923	76.93	2,527,141	76.87
Total geographical Area	3,287,469		3,287,469		3,287,469		3,287,469		3,287,469	

Source: Author, (2022); Analysis based on the trends from MoEFCC. (2021)

In addition to the regular analysis, it was important to also conduct an analysis on the forest cover in National Tiger Reserves and Tiger corridor areas of the country where the Tribal population are not yet evicted. It was noted that the forest cover has been on a decline as the MoEFCC. (2021) reported that the total forest cover in the tribal districts was at 37.53% of the geographical area compared to 2019 the forest cover, which was at 422,351 km² and equivalent to 37.54% of the total geographical area. As suggested in the literature review that national policies were targeting 33% forest cover and these results reflected a positive trend to that target. The National Forest Policy of 1988 emphasised the need to expand the amount of forest to 33% of the total area through large-scale afforestation and social forestry initiatives, as well as from deteriorated nonproductive land outside of forest regions and from registered forest

areas. According to Joshi et al., (2010), the policy supported or encouraged agricultural forestry and agroforestry initiatives on private land, as well as cooperative forest management involving villagers and other rural residents.

Forest regulations have been important in the creation of national parks, such as Nagarhole National Park, in terms of animal management. The National Forest Policy of 1952 made the requirement for 33% forest land cover, not the Forest Policy Statement of 1894 (Gol, 1952). It was stated that just 24.62% of the aim has been reached in the 70 years since the target of 33% was established. Progress would suggest that the implementation of the policy has been very slow. The in-depth interviews with the key informants revealed that the Nagarhole National Park's notification for the formation of a National Park came out in 1983, and in 2008 the Park was declared a tiger reserve. The key informants further revealed that the slowness on implementation was because of the resistance by the Tribal population to be relocated and rehabilitated outside the forest.

Even though there have been other protected areas established before and numerous more locations maintained by people for centuries, the study noted that Hailey National Park, established in 1936, was India's first modern protected area. According to MoEF (2008a), India had 657 protected areas as of 2009, including 99 national parks, 513 wildlife sanctuaries, 41 conservation reserves, and four community reserves. When the Wildlife (Protection) Act of 1972 was first implemented in the early.



Plate 3. Forest Rangers at Nagarhole National Park, Source: Authors; (2022)

According to Kothari et al. (1995), however, the oversight of these preserves originated from the western idea of forest preservation, where it needed a separation for sustenance requirements and alternative product uses, and only individuals educated in conservation work were said to be competent, and indigenous communities' expertise and experience were not taken into consideration. Now, Nagarhole National Park is home to a variety of creatures in addition to tigers, according to information obtained from interviews and group discussions on the park's wildlife state. Herbivores, carnivores, and several other creatures can be found in the National Park, as emphasised by forest rangers and other important informants. The herbivores include the Indian elephant (*Elephas maximus indicus*), the chital (*Axis axis*), the four-horned antelope (*Tetracercus quadricornis*), the gaur (*Bos gaurus*), the barking deer (*Munitacus muntjak*), and the wild boar (*Sus scrofa*). The Bengal tiger (*Panthera tigris tigris*), the Indian leopard (*Panthera pardus fusca*), the dhole (*Cuon alpinus*), the golden jackal (*Canis aureus*), and the sloth bear (*Melursus ursinus*) were the predators and carnivores identified as being present in the park. Arboreal mammals include the Indian giant flying squirrel (*Petaurista philippensis*), the red giant flying squirrel (*Petaurista petaurista*), the slender loris (*Loris tadigradus*), the bonnet macaque (*Macaca radiata*), the grey langur (*Presbytes entellus*), and the Indian giant squirrel (*Ratufa indica*).



Plate 4. Elephants on the banks of Kabini river, Nagarhole National Park, Source: Authors; (2022)

Small predators like the jungle cat (*Felis chaus*), leopard cat (*Prionailurus bengalensis*), small Indian civet (*Viverricula indica*), Asian palm civet (*Paradoxurus hermaphroditus*), stripe-

necked mongoose (*Herpestes vitticollis*), and European otter (*Lutra lutra*) have all been found in the Nagarhole National Park. Other animals include the Indian pangolin (*Manis crassicaudata*), the chevrotain (*Tragulus meminna*), the mouse deer, the hare, the black-naped hare (*Lepus nigricollis*), and the Indian porcupine (*Hystrix indica*).

The literature from Lal (1994); Pascal et al., (1982); and Rahmani & Islam (2005), which stated that the Nagarhole has a diversity of mammals including herbivores, carnivores, birds, reptiles, and insects, confirmed these findings. As a result of the interviews, it was discovered that the Nagarhole's vegetation is primarily made up of deciduous woods with teak, rosewood, thorny wattle, sandalwood, and silver oak. These allegedly had economic commercial worth. In the understory, there were plants including *Kydia calycina*, *Emblia officinalis* Indian gooseberry, *Gmelina arborea*'s beechwood species, *Solanum*'s horse nettles, tick clover, *Helicteres* species, and *lantana* and *bonesets*' invasive varieties. The Indian kino tree, *Pterocarpus marsupium*, the crocodile bark tree, *Lagerstroemia lanceolata*, the rosewood tree, *Grewia tilaefolia*, and axlewood *Anogeissus latifolia*. It was also observed that the forest contains various notable tree species, including clumping bamboo, flame of the forest, and golden rain tree.



Plate 5. Tourist departing Nagarhole after game viewing, Source: Authors; (2022)

The researchers spent a couple of days visiting Nagarhole National Park to observe the socio-economic activities taking place there and found out that the income was being generated from daily entry and penalties. As a result, the Nagarhole National Park supports India's economic

growth. There is a need to identify and comprehend that conservation, if performed through the lens of growth and development, might significantly help to the socio-economic development of a country, according to Gupta (2021).

Conclusion

The operationalization and implementation of forest policies led to the creation of national parks and other protected forests. The policies were instrumental in the formation and management of protected forest areas, and subsequently the eviction of the Tribal people. However, the reinforcement of these rules had an impact on residents' means of sustenance and perception of security about their access to food. Communities were forcibly and intentionally evicted. Even though some laws, contained measures that could have been used to manage and prevent eviction and restoration. These laws emphasised the need to encourage sustainability in privately owned, community-managed, and community-owned forests. It is anticipated that environmentally friendly farming will significantly enhance people's standard of living and earnings. The population would experience food insecurity if sustainable practices were not adopted due to the quantity and distribution of rain being altered by climate change. However, additional elements such as land policy, use of land, field conditions, water supply, soil preparation, and diverse facilities for farming can also impact the cultivation of crops. Therefore, before evicting and rehabilitating people, forest policy should consider conducting a cost-benefit evaluation and prior to the conversion of forest into protected national parks, policies should also provide for adequate provisions for stakeholder consultations.

Author Contributions: Conceptualization, D.M and M.P; methodology, D.M. and M.P; data collection, D.M; data analysis, D.M. and M.P; writing original draft, D.M; writing - review and editing, M.P; supervision and monitoring, M.P. All authors have read and agreed to the

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

Acknowledgments: This article has been funded by the E4LIFE International PhD Fellowship Program offered by Amrita Vishwa Vidyapeetham. We extend our gratitude to the Amrita Live-in-Labs® academic program for providing all the support.

Citation

Marowa Douglas and Manoj Pokkiyarath. (2023). Forest policies pertaining to the formation of protected areas. A case study of Nagarhole National Park and eviction of the tribal people. Journal of Namibian Studies, 34(2023): 6249–6275 ISSN: 2197-5523 (online). <https://namibian-studies.com/index.php/JNS/article/view/2561>

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