

Conservation of Forest: A Case Study of Minkong Forest in Mokokchung District, Nagaland

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Received : 27 October 2017

Abstract

Nagaland is a hilly State located on the extreme north eastern corner of India. It has a total geographical area of 16579 Sq.Km. The favourable climatic condition has resulted in luxuriant growth of forest. The recorded forest cover is approximately 8629 Sq. Km accounting to 52.04 percent of the State's geographical area. The forest area owned by the State government is 1008.23 Sq.Km which is 11.68 percent whereas the forest area under private/ community is 7621.07 Sq.Km which accounts to 88.32 percent. The present work is an attempt to study the importance of the village community in the conservation of forest, for which a case study of Minkong Forest in Mokokchung District, Nagaland was taken up. Minkong forest is a Protected Forest under the Department of Forest, Nagaland with an area of 275.32 hectares and a large tract of the hill ranges is under the jurisdiction of three villages i.e. Sungratsu, Chuchuyimpang and Longmisa village. The study will focus on the issues pertaining to the conservation of forest and to examine the benefits of this conservation which can be used as a model.

Key words: Forest, Community, Conservation, Village.

Introduction

The State of Nagaland is located on the extreme North Eastern corner of India, comprising mostly of hilly terrain (an offshoot of the Great Himalayan mountain system), the hills run in a North East to South West direction and height of the relief ranges from 194 metres to 3048 metres above sea level. The western margin of the State consists of plain area which merges with Assam valley. It lies between 25°6'N to 27°4'N latitude and 93°20'E to 95°15'E longitude covering a total geographical area of 16579 Sq.Km. Nagaland is bounded by the State of Assam in the north and west, Myanmar and

Arunachal Pradesh in the east and Manipur in the south. It enjoys a sub-tropical climate as a result of which there is luxuriant growth of forest. The summer mean maximum temperature ranges from 16°C to 31°C and the winter mean maximum temperature ranges from 4°C to 24°C. Rainfall occurs from mid-June to September with an average amount of 2000 to 2500 mm.

Recorded forest cover is approximately 8629 Sq. Km accounting to 52.04 percent of the State geographical area. The ownership of forest area by the State government is 1008.23 Sq.Km which

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is 11.68 percent whereas private/ community holds 7621.07 Sq.Km which accounts to 88.32 percent (Annual Administrative Report 2014-15, Department of Environment, Forest & Climate

Change, Government of Nagaland). Table.1 shows a detailed classification of the status of Forest in Nagaland

Legal Status	Forest Area (Sq.Km)	% of total forest area	% of total geographical area
(a) Government owned Forest			
1. Reserved Forests			
2. Purchased Forests	62.26	0.72	0.37
3. Protected Forests	192.47	2.20	1.16
4. Wildlife Sanctuary	34.69	0.40	0.20
	202.2	2.31	1.22
(b) Government controlled (Private owned) Forests			
5. Protected Forest	516.79	5.98	3.1171
(c) Village owned Forests			
6. Virgin Forests	4778.27	55.40	28.8212
7. Degraded Forest	2842.80	32.90	17.1467
Total (a+b+c)	8629.3	100	52.0442
(d) Ownership			
1. State Government	1008.23	11.68	6.08
2. Private/ Community	7621.07	88.32	45.96
Total	8629.30	100.00	52.04

Table 1 : Status of Forest in Nagaland

Source : (Annual Administrative Report 2014-15, Department of Environment, Forest & Climate Change, Government of Nagaland).

Based on this classification, private/community owns a major bulk of the forest and therefore they have a great responsibility for the management and conservation of the existing forest cover in the State. According to the India- State of the Forest Report-2011(Forest Survey of India), the forest cover of the State based on interpretation of satellite data of November 2008- February 2009 the forest cover was 13318 Sq.Km which account to 80.33% of total geographical area of the State. This percentage of the forest cover showed a loss of 146 Sq.Km as compared to the satellite data interpretation of December 2006- January 2007. Again in the year

2013, according to the same Report, interpretation of satellite data of November 2010- February 2011, the forest cover was 13044 Sq.Km which account to 78.68% of the State's total geographical area. This shows a loss of 274 Sq.Km in comparison with the previous assessment of 2011. It is observed that in all the subsequent years the decline of the forest cover is increasing which can be attributed to various factors like the practice of the age old method of shifting cultivation on the hilly tract, rampant felling of trees for developmental activities such as construction of roads, settlement, logging etc. Mining is also another important factor that is affecting the

forest cover especially on the foothills of Mokokchung district where unscientific exploration of coal is being carried out. In terms of forest canopy density class, the State has 1298 Sq.Km under very dense forest,

4736 Sq.Km under moderately dense forest and 7010 Sq.Km under open forest, 2 Sq.km under scrub and 3533 Sq.km under Non-Forest category. Table.2 represents the forest cover density classes during 2013.

2013 Assessment	Canopy density (in Sq.km)				
	VDF	MDF	OF	Scrub	NF
Very dense forest	1284	6	3	0	0
Moderately dense forest	14	4730	17	0	170
Open forest	0	0	6939	0	155
Scrub	0	0	0	2	1
Non-Forest	0	0	51	0	3207
Total	1298	4736	7010	2	3533

Table 2 : Forests cover density classes during 2013

Source : (Annual Administrative Report 2014-15, Department of Environment, Forest & Climate Change, Government of Nagaland).

From the classification given in Table 2, it can be observed that the open forest, scrub and non-forest categories covers 63.6% of the total geographical area of the State, while very dense and moderately dense forest categories cover only 36.4%. Therefore the forest cover of the State has declined to a large extent.

Materials and Methods

The study is primarily based on the information collected from various sources both primary and secondary data. It is mainly descriptive in nature. The present work is an attempt to study the importance of the village community in the conservation of forest. The study will focus on the issues pertaining to the conservation efforts in Minkong forest of Mokokchung district, Nagaland undertaken by the Department of Forest and the people of Sungratsu, Chuchuyimpang and Longmisa villages and to examine the benefits of this conservation which can be used as a model of conservation.

Findings

Forests are valuable assets for a country. The forest cover acts as natural sink of carbon as the trees use carbondioxide during the process of photosynthesis and gives out oxygen to the environment. The root network of the trees bind the soil that controls erosion of the top soil. It also retains water for a longer period which ultimately allows maximum recharge of ground water. The forest provides habitat for numerous animals and is a source of livelihood especially for the people in the rural areas. The protection and conservation of the forest is therefore very important for the maintenance of environmental and ecological balance from a local to regional to global levels. Conservation of forest includes protection of remaining forest covers and the increase in forest cover through afforestation of the open wasteland and reforestation of already deforested areas particularly those areas which are not suitable for cultivation such as mountainous and hilly regions.

Minkong Forest is located about 8 Kilometre away from the urban center of Mokokchung Town. This forest is a Protected Forest under the Department of Forest, Nagaland covering an area of 275.32 hectares (Annual Administrative Report 2007-2008, Department of Environment, Forest & Climate Change, Government of Nagaland) and a large tract of the hill ranges is under the jurisdiction of three villages i.e. Sungratsu, Chuchuyimpang and Longmisa village. Realising the importance of forest cover and its conservation, the village council of all the three villages have come forward to protect the Minkong forest. As a result the forest areas have expanded considerably and a large tract of the hill ranges have been declared as community-reserved forest. Strict laws have been implemented to restrict the cutting of trees, collection and gathering of forest produce, hunting etc.,. Fine is imposed on the defaulters to control the destruction of the forest. With the initiative of the Forest department a large area of this forest has been brought under secondary growth of hollock trees which can be observed all along the stretch of the National Highway 2 that passes through the forest area. The upper part of this hill range comprises of mixed forest that are natural forest with a variety of tree species. This part of the forest is said to be uncultivated for centuries. There are a variety of trees and it is home to a number of wild animals and birds. The animals include wild boar, variety of squirrels, birds like green pigeon, wild fowl etc.

On the basis of ownership, the reserved forest can be broadly grouped into two categories: State government reserved forest and autonomous village forest. The former is controlled and managed by the State government and authority over the management of the autonomous forest rests with the concerned land owners and the community. They are in fact community forest managed and controlled either by clans, individuals, groups or traditional institution according to the prevailing customary laws and practices.

The Minkong forest is protected to conserve the trees from being cut down for timber and other uses, soil and water conservation and for wildlife management. This is also managed for the protection of the catchment of the nearby water sources for the concerned village and also for the neighboring villages. As a result of the conservation effort on the hill top, the streams donot dry up even during dry season.

On the lower part of Minkong Forest, the people of Sungratsu village have established Yimchalu village where they have taken up horticulture as there is sufficient water supply drawn from the forest area. Yimchalu village has 54 household with a total population of 197 persons (2011 census). The main horticultural crops includes litchi, banana, orange and in recent years cultivation of vegetables like cabbage, broccoli etc have been introduced.

While there is a huge market demand for timber in and around the protected area, a large tract of dense forest and well- protected patches of community and individually owned primary forest have been observed. This is attributed to the forest management practices adopted by the respective village community. The management practices not only help in conserving the resources but also serve as a safety net for the communities as it provides different services to the people in the village.

Hunting and fishing are highly symbolic activities for the rural folk. It represents a rural way of life that is closely entwined with nature. Instead of having a mutual relationship with nature, man had exerted his power and control over nature. To control excessive hunting and fishing, the village council has set up a committee which keeps vigil over trespassers while the individual landowners also protect their areas from exploitation.

On realizing the advantages of conservation of the forest, additional areas are being brought under tree plantation. There are several other benefits in the forest area such as recharging ground water,

reduction in soil erosion resulting in increase of agricultural production, good harmony established among the farmers and production of livestock in the village. Even during the lean period water is drawn from the perennial streams to the farms. As a result, the farmers gain confidence to take active part in all developmental programmes.

Conclusion and Suggestion

The conservation effort taken up by the government and the active participation of the concerned villages in Minkong forest area to protect the natural heritage foster and promote a sense of awareness of the biodiversity among the people. It prevents the overexploitation of flora and fauna from hunters and poachers, recharges fresh drinking water in the streams, provides priority to maintaining environmental stability and ecological balance, which have been fruitful and can be adopted as a model of conservation in other villages. Almost every village in the State occupy hilly terrain, therefore some of the hill ranges can be identified, protected and conserved.

There is scope for eco-tourism, to beautify and manage the landscape of the village area ensuring

an intelligent use of creative ability without disturbing and destroying the sensitive balance of the ecosystem or the natural beauty.

There is threat to the conservation of forest in Minkong as a result of stone quarrying by the local people. Due to population pressure on the land, some of the people from the village have taken up stone quarrying as a means of livelihood in the forest area. It is observed that in three locations along the National Highway (NH-2) they have started extracting stone boulders. It is in high demand as most of the quarries are located on the highway that passes through the middle of the forest. Three Stone Crushers have also been set up in the vicinity of the stone quarry. These activities poses threat not only to the forest but also to the NH-2 which is an important road connecting Mokokchung and Assam (Amguri). Another threat to the forest is the encroachment where the people have started to construct houses at certain pockets of the forest; therefore preventive measures should be taken up by the concerned village council.

Active participation by all concerned and supporting conservation projects which imply stewardship, management and change and avoidance of overexploitation is the need of the hour.

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