

Problems of animal grazing in Uttarakhand Himalaya

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Abstract: Grazing based livestock husbandry plays an important role in the economy of the state; the livestock rearer performed a long distance and timed their movement to match with seasonal fodder resource availability. Livestock and animal husbandry have made these people more dependent on their immediate environment, to meet their daily requirements of fuelwood and fodder supply. An increase in human and livestock population results forest degradation in terms of lopping, fire, overgrazing etc. Large scale population of the state depends upon grassland, forest, grazing land, pastures and agriculture land for fodder supply. It is believed that if adequate arrangements for the supply of fodder are not made, afforestation and reforestation programmes badly affected. There is a need to adopt approaches which enhance the fodder supply and reduces the demand. Intense grazing affects regeneration; it impairs the capacity of plants growth and ultimately causing soil erosion. Uncontrolled and unregulated, grazing results in the loss of productivity, biotic pressure on natural ecosystem and finally leads to ecological degradation. [Researcher. 2010;2(5):81-85]. (ISSN: 1553-9865).

Key words: Uttarakhand, Grazing, Livestock, Guzzar

1. Introduction

Uttarakhand, inspite of being a small state, has certain key features that make it distinct from other states of the country and highlights its potential for development, tourism, poultry and wool-based livelihoods, agriculture diversification, ambient natural resources beside this, the state faces the challenge of promoting livelihoods to minimize migration through local employment and income generation, and to enhance the quality of life of people living in villages. Geographically Uttarakhand is situated between 28°43' N to 31°27' N latitude and 77°34' to 81°02' E longitude, well endowed with forests, which constitute about 63.87% of the total geographic area; about 4.04% is estimated to be under permanent pastures and other grazing lands. Out of the total population of uttarakhand nearly 74.33% of the state lives in rural area, more than three-fourths of Uttarakhand's total population depends on agriculture for their livelihood (Mittal *et.al.* 2008). Forests of the State are the repositories of great biological diversity and are extremely important as they provide ecological stability, timber, fodder and a variety of other produce to the local inhabitants. The extreme ecological conditions of high altitude have shaped life styles which characterize the traditional system, production system in the society has been agricultural and livestock based. Livestock and animal husbandry

have made these people more dependent on their immediate environment, to meet their daily requirements of fuelwood and fodder supply.

2. Grazing Area and Sources of fodder

Out of the total area of the state 228944 ha (4.04%) form the Permanent pastures and other grazing lands, 311817 ha (5.49%) Barren and Unculturable land and 152180 (2.68%) are land puts to non-agricultural uses (Figure-1), this vast natural resource has given birth to nomadic profession of migratory livestock grazing i.e. seasonal movements between their summer settlements in higher altitude (3000-4000m) and winter settlement (up to 1000m). The increase in density of the livestock has degraded the forest. The community grassland near the villages once sustained by grazing are highly eroded now days, bearing only wild bushes and shrubs. The situation has further deteriorated in the recent past, on account of an increase in human population which has increased pressure on cultivated lands thus taking away more area out of grazing lands and bringing under cultivation. The forest conservation, afforestation and social forestry etc have also brought much of the grassland under plantation. Large scale population depends upon grassland, forest, grazing land, pastures and agriculture land for fodder supply. The grazing practiced by nomads, Guzzars and local people is most unscientific, as

a result large scale deterioration of forest, grassland and pastures and other area. As a consequence of overgrazing the forest availability has declined and ecological balance has been disturbed. It is believed that if adequate arrangements for the supply of fodder are not made, programmes like afforestation and reforestation can not reach their ultimate goals. There is a need to adopt approaches which enhance the fodder supply and reduces the demands; some of them are as follow:

- 1- To increase the supply of fodder there is a need to bring it from surplus areas to deficient area.

- 2- The production of grasses can be increase by better collection and management
- 3- Preservation or Storage of surplus fodder
- 4- Hybrid palatable species should be planted
- 5- To minimize wastage of conventional and non-conventional fodder.
- 6- Irrigation facilities should be improved with the help of rain water harvesting
- 7- Afforestation and reforestation of fodder bushes should be enhanced with the involvement of community.

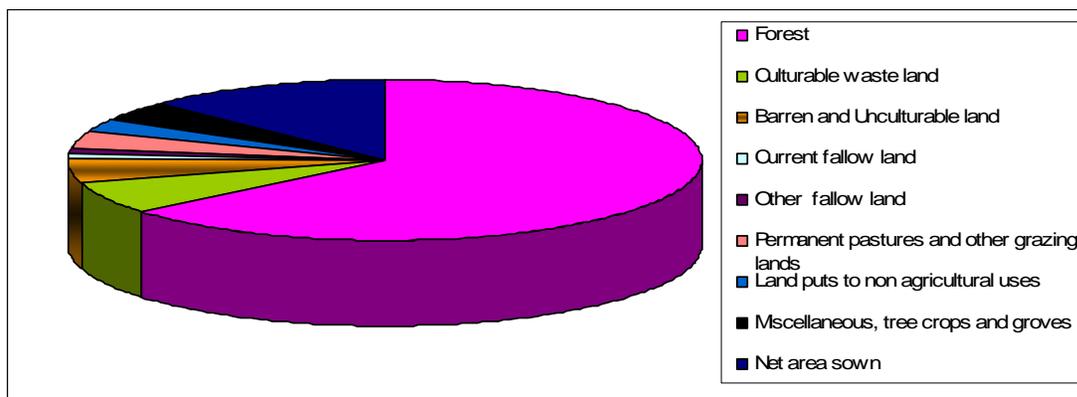


Figure -1: Distribution of land use type (2004-05)
Source: Uttarakhand at a glance

3. Grazing problems

According to 2003 census out of the total livestock population 4498789 being cow, 1228194 Buffalo, 295845 sheep, 1158197 Goats and the rest others including Horse, Mules, Donkey and Yak, the highest number of the

cattles being in Pithoragarh followed by Almora (240748, 237743 respectively) besides this the number of goats were highest in Almora followed by Pauri however the number of sheep's were highest in Uttarkashi District (101268) (Figure-2).

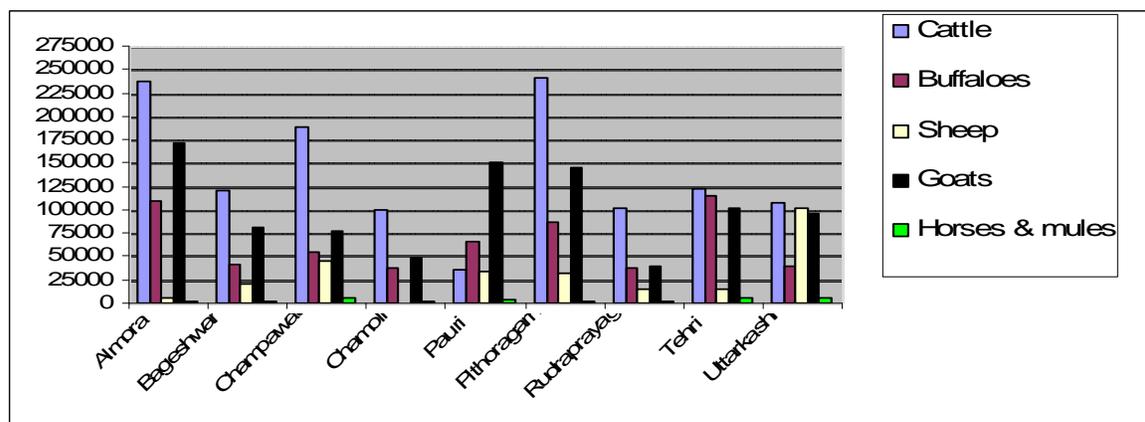


Figure-2: Livestock population in hill districts of Uttarakhand
Source: Uttarakhand at a glance (2007-08)

Interestingly when we compare the Livestock population and Forest cover it is shown that there is continuous degradation of forest cover as the livestock population increases. The forested area is highest in Pauri Garhwal followed by Nainital and Uttarkashi while least in Rudrapur, followed by Champawat, Bageshwar and Almora in Hills of Uttarakhand (Figure-3).

This data clearly indicates the degree of grazing pressure, both by the migratory livestock as well as local cattles. The sheep and goats are mostly migratory taken for grazing to alpine pastures during summer and lower hills during winter while the cow and buffaloes grazed in an area near the villages, free grazing are practiced for these livestock. Heavily grazed forest provides very little inferior fodder to the animals which are therefore poorly developed compared to those fed at the stake. Grazing problem has always been catching attention of scientists. Intense grazing badly affects regeneration; it impairs the capacity of plants growth and

ultimately causing soil erosion. Uncontrolled and unregulated grazing results in the loss of productivity, biotic pressure on natural ecosystem and finally leads to ecological degradation. Grazing and lopping of sapling prevents further regeneration (Sahni, 1987). Grazing and trampling of saplings by livestock is the biggest threat to regeneration of vegetation in all forested areas of the State. The National Biodiversity Strategy and Action Plan (GoI 2002) have estimated that the requirement for green fodder is 259 lakh MT per annum based on the State's livestock census of 1993. However, the total productivity from forests and pasture land is estimated at 43.5 lakh MT, estimates from agriculture lands is 8.5 lakh MT annually, thus the deficit is a whopping 200 lakh MT per year (GoI 2002). This gap is filled by banning illegal activities such as heavy lopping of trees, cutting saplings and collecting barks and branches of trees, thus there should be need of immediate measures taken to overcome from these threats.

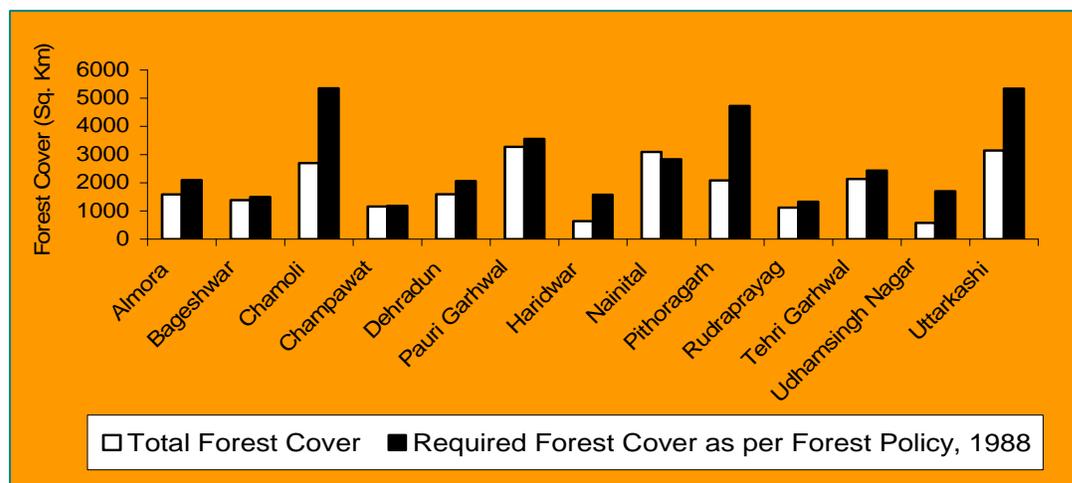


Figure -3: Forest cover distribution of Uttarakhand (FSI-2003)

4. Remedial measures

The livestock is the backbone of the economy of the Uttarakhand forming an integral part of mixed farming and adequate and balance supply of herbage is very vital to get maximum benefit from the livestock. According to an estimate 11% of the total revenue of the state is contributed by animal husbandry. Keeping in view the social and economical background of the rural folk it is peremptory to check the rapidly deteriorating condition of fodder resources. Some of the remedial measures are as follow:

- 1- An effort should be made to improve the breeds of livestock population which are more beneficial in terms of quality and productivity of wool, mutton and milk availability; on the other hand it checks the growth of livestock population and reduces the pressure on the grazing land.
- 2- Transformation of grazing land to agricultural land should be checked.
- 3- To rehabilitate the degraded and waste land care must be taken not to touch the

- grazing area by planting them with non-browsable timber species.
- 4- The grassland and pasture area should be planted with superior palatable plants and grasses; this will help in the regeneration of the area and provide the adequate and nutritious fodder to the livestock.
 - 5- Proper management of grazing area and conservation of forage should be done with the help of local community.
 - 6- Scientific methods should be adopted to accelerate the processes of regeneration of trees, shrubs, herbs and grasses.
 - 7- Measures should be taken to establish the nurseries, fodder banks and stall feeding which improve production of fodder, pelletization of nutritive grasses.
 - 8- The overgrazing leads to degradation of grasses and erosion of the top soil. It is therefore necessary to create awareness among people for adopting the suitable breeds which can be maintained on the basis of carrying capacity.
 - 9- Research on the problem of grazing should be initiated and improved.
 - 10- Illegal activities such as lopping and cutting of trees, collection of barks and branches etc., should be banned.
 - 11- Adoption of a scientific approach for the production of high quality fodder, its conservation and optimal utilization.
 - 12- Production of high quality fodder seeds to suite the different agro-climatic zones.
 - 13- Production and dissemination of high quality fodder germplasms.
 - 14- To impart training to farmers on fodder production related activities.



Figure-4: Grazing pressure on alpine meadows

5. Conclusion

The composition of grazing land varies greatly with altitude, slope, aspect and intensity of anthropogenic pressure. Grazing based livestock husbandry play an important role in the economy of the state, with the reduced area and the deterioration of grazing land and pastures, these huge livestock resources becoming a liability and endangering the very existence of our valuable forest. Reforestation, afforestation and proper management of the grazing and deteriorated land with help of community not only provide the fodder and forage and grazing to livestock but also save our valuable forests for world wide.

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