

## Necessity of Sustainable forest Management of dhok Forests

**\*Dr. Mahesh Chand Meena**

### Abstract

In the face of the rapidly growing threats of climate change, reducing deforestation in Aravali range stands as a crucial mitigation step in the battle to preserve our environment. Forest area of Aravali range specially dhok forests are under siege by human activity and lost every year. Dhok forest resources are under constant threat due to variety of natural and anthropogenic factors such as grazing and mining. In order to achieve the target of conservation of forest with sustainable forest management, people's participation is indispensable. Present paper underline the urgency of action required to protect our forest wealth.

**Keywords:** anthropogenic, sustainable, environment, management etc.

### Introduction

India has its unique identity in the world due to great diversity of natural ecosystems (Saini and Yadav 2013) and rich plant diversity in its different parts (Mahalingam et al. 2011). Forests are the backbone of a society. They are natural wealth, not only because of their economical importance, but also because of their importance in maintaining ecological equilibrium.

Earlier, in Rajasthan the Aravalli hills had dense forests and higher density of tree cover along with a rich habitat for wild-life extending in the vast tracts of higher hills and valleys. However, massive felling of trees, on account of greed of human beings and increasing demand for timber, fuel wood, fodder, etc., had caused severe strain on the eco-system, affecting all the river valleys situated down the hills. It has decreased in almost all regions during past twenty years, which directly shows impact.

The main economically valuable species are *dhok (Anogeissus pendula)*, *Salar (Boswellia serrata)*, and *bamboo (Dendrocalamus strictus)*. The most common and gregariously occurring species of these forests is *dhok (Anogeissus pendula)*, which is generally found on all hilly areas and forms almost pure stands of uniform density on good sites. Mining, overgrazing by livestock and cutting of timber are the foremost causes of deforestation of *dhok* in India.

### Material and Methods

Observations of the dhok forests were carried out throughout the year from march 2020 to february 2023 at different sites of district Karauli. Study site was visited after every 15 days and the farming, cutting of timber, mining, overgrazing by livestock and regeneration method of dhok were observed.

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**Reason of destruction of dhok forests****1. Illegal minings :**

The process of extracting ore or minerals from the ground is known as Mining. From the last few years the mining rate has increased several times. A report by a Supreme Court-appointed Central Empowered Committee (CEC) in 2018 [found](#) that 25% of the Aravalli range has been lost due to illegal mining in Rajasthan since 1968. According to officials, the stones and sand from Aravalli hills is illegally extracted and sold to local suppliers of construction material and building contractors.



Fig.1 Illegal Mining Near Kailadevi

**2. Uncontrolled Cutting of dhok plants**

Dhok (*Anogeissus pendula*), which is a resilient tree species native to the region, experienced a significant decline in both their distribution and quality as a result of increased human activity. Years of indiscriminate cutting caused the dhok trees to diminish into shrubs. *Anogeissus* timber is very hard, tough, strong, and durable which is equivalent to teak in terms of transverse strength and does not decay and discolor. Its timber has a great potential value; leaves are considered to be an excellent fodder. The wood is also a source of charcoal of high calorific value (D. Hocking 1993).

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**Fig.2 Uncontrolled timber cutting near Karauli**

### **3. Overgrazing by livestock**

Years overgrazing by livestock caused the dhok trees to diminish into shrubs. *Anogeissus pendula* were very much affected by dry periods in rainy season, overgrazing and browsing by wild herbivores, goats, sheep and cattle (Yadav and Gupta, 2009) In addition a continuous grazing and forest fire further aggravates the problem.

As seedlings require protection against uncontrolled heavy grazing to put up their growth otherwise tree develops bushy form (Mathur, 1961)



**Fig. 3 Overgrazing**

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#### 4. Low seed germination capacity

S.K. Saxena reported production of unfertile seeds seems to be a major factor for the poor germination percentage in *Anogeissus pendula*. Regeneration through seeds is extremely difficult and is not so much in practice as the viability of seeds is very low (0.2-0.4%). O.P. Bhargava stated that since the germination of this species is very low their establishment through vegetative propagation techniques has a great importance.

#### Discussion and Conclusions

In the present review we have made an attempt to explore necessity of sustainable forest management of dhok forests. *Anogeissus pendula* is an important species of the Aravalli range of the arid and semiarid region, reputed for its fuel, fodder, timber and medicinal properties. *Anogeissus pendula* cover more than half of the total forest area in the state of Rajasthan as quoted by M. Sharma and A. Kumar (2013). Dhok forests experienced a significant decline in both their distribution and quality as a result of increased human activity. Regeneration is extremely difficult through seeds and viability of seeds is very low. Therefore vegetative propagation technique has a great importance in propagation of this important multipurpose tree species of the Aravalli range. Both climate and biotic factors play important role in the development process of *A. pendula* stand (Saxena, 1989). Illegal Mining is play important role in the destruction of dhok forests in aravali range. However, the state governments are empowered under the section 23 C of Mines and Minerals (Development and Regulation) Act, 2015, to take measures to prevent illegal mining. The police can also register cases for illegal mining under section 379 of Indian Penal Code for theft as minerals are considered a government resource.

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