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Traditional Knowledge for Management of Biodiversity – Case study of Van Gujjars in Rajaji National Park, Uttarakhand

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ABSTRACT: It can be rightly said that India's biodiversity is found in areas inhabited by indigenous and local communities which have rich traditions of knowledge associated with bioresources. Today's ecological problems have become a major threat to the livelihood security of the poor people which are the custodians of biodiversity. We all know the importance of biodiversity, especially among the ethnic and local people living in forest who are totally dependent on them. This note highlights the traditional knowledge possessed by Van Gujjars living in the Rajaji National Park, Uttarakhand.

Keywords: Biodiversity, Van Gujjars, Rajaji National Park, Uttarakhand

INTRODUCTION

Biodiversity is a broad concept which includes genetic diversity, species diversity and ecosystem diversity. It is defined as the variety of the planet's living organisms and their interactions. Species interactions, environmental change and cosmic disturbances have played key roles in shaping past and present biodiversity (Sechrest and Brooks 2002). Biodiversity in nature is essential to human existence. It plays a significant role in natural processes such as purification of water and air, pollination, absorption of carbon by trees, and other plant life, flood and erosion control and detoxification of human wastes. Conserving biodiversity is basic to our survival and well-being and using it sustainably, forms part of the Indian culture and lifestyle. Biodiversity has great aesthetic value also like ecotourism, bird watching, gardening etc. The Earth's biological resources are vital to humanity's economic and social development (Basha *et al.* 2012).

India, a megadiverse country with only 2.4% of the world's land area, harbours 7-8% of all recorded species, including over 45,000 species of plants and 91,000 species of animals. Of the 34 global biodiversity hotspots, four are present in India, represented by the Himalaya, the Western Ghats, the North-east, and the Nicobar Islands (Ministry of Environment, Forests and Climate Change, Government of India, 2014).

It is widely acknowledged that the indigenous knowledge of tribal people can play an important role in maintaining the biological diversity. Indigenous peoples are carriers of ancestral knowledge and their effective participation in biodiversity conservation programmes would result in more comprehensive and cost-effective conservation and management of biodiversity worldwide (Sobrevila, 2008).

Ethnic people mostly the indigenous tribals have learnt to live closely in the vicinity of forests and conserved the biodiversity of their localities since long time. Forest provide them shelter and food (wild edible plants, flower and fruits both raw and cooked). Forest produce, forest timber and fuel wood are utilized by the tribals and they have developed a kind of affinity with forests. According to the United Nations Department of Economic and Social Affairs, indigenous peoples are inheritors and practitioners of unique cultures and ways of relating to people and the environment. In fact, these indigenous people have displaced after the independence, but still nearly 250 million people live in and around forests in India, of which the estimated indigenous Adivasi or tribal population stands at about 100 million. Notably, thousands of distinct ethnic groups also exist, who has their own distinctive language and culture. It is estimated that 147 million villagers in India live in or around forests, and another 275 million villagers depend heavily on forests as a source of livelihood (Lahiri, 2018). This note highlights the traditional knowledge possessed by Van Gujjars living in the Rajaji National Park, Uttarakhand.

OBSERVATIONS

Case Study of Van Gujjar's indigenous knowledge in Rajaji National Park

Spread within the lap of Shivalik foothills and vast upper Gangetic plains, the Rajaji National Park constitutes an important repository of the wild flora and fauna. Gujjars are a transhumant pastoral community, who arrived in the Shivalik foothills from the then State

of Jammu & Kashmir (now a Union Territory) some two centuries ago. Gujjars while living in forests always have made their shelters near the perennial water sources and managed these sources to keep live and clean. These water sources helped the Gujjars to fulfill their drinking and cooking requirements. While residing in the park, Gujjars were involved in making water trough with the help of trunk of trees and store ground water into it for their cattle. These troughs are helpful in collection of rain water (Fig. 1). Such traditional practices could be easily observed in high altitude areas, where water crises are more as compared to the lower regions.

Fig. 1. Indigenous knowledge: water trough made by a family of Gujjar using a piece of wood.

-Traditional Knowledge on Forest Tracks

It would not be superlative to say that the Gujjars' knowledge on various forest tracks, even in remote areas of the forests is remarkable. During their stay in the park, most of the families used to visit their relatives onfoot. Besides, they used to graze their cattle in different locations of the park and explore new tracks in search of new feeding grounds, which all have improved their knowledge on the forest tracks. Besides, they possesses knowledge about the wild animal's trails in the forests. During their stay in the park, they were the prime sources of information about the suspicious movement of unauthorized persons in the forests and animal's death, which assisted the forest personals to address the situation.

-Association with Elephants

Gujjars are capable of recognizing the presence of the elephant in the forests and they warn other fellows by sound off a special audible voice. During the course of encounter with elephants in the forests, they sit silently over to some burly trees to save their lives. Fodder species like *Acacia catechu* (cutch tree), *Ficus bengalensis* (Indian banayan), *Ficus religiosa* (sacred fig) and *Grewia oppositifolia* (dhaman tree) are lopped by Gujjars for their cattle, and interestingly elephants, mostly bull elephants sometimes follow the cattle of Gujjars for their food needs. Cattle generally prefer to feed on the leaves by removing it from small twigs and small twigs are left as such and interestingly elephants like soft twigs, which are out of their reach, and they feed upon the twigs once Gujjar's cattle moved away from the spot.

CONCLUSION

Signed by 150 government leaders at the 1992 Rio Earth Summit, the Convention on Biological Diversity (CBD) is dedicated to promoting sustainable development. The Convention recognizes that biological diversity is about more than plants, animals and micro organisms and their ecosystems – it is about people and our need for food security, medicines, fresh air and water, shelter, and a clean and healthy environment in which to live (https://www.cbd.int/convention/). CBD commits countries to prepare inventories of the bioresources, to monitor and take steps to conserve them.

In order to help in realizing the objectives of CBD, India has enacted an umbrella legislation called the Biological Diversity Act 2002 aimed at conservation of biological resources and associated knowledge as well as facilitating access to them in a sustainable manner (www.moef.nic.in).

The Act provides provisions for regulated access to biological resources by bonafide end users for various purposes including scientific research, commercial activities, and sustainable use of non-timber forest produce. The Biological Diversity Act, 2002, mandates the local level Biodiversity Management Committees to prepare People's Biodiversity Registers (PBRs) in consultation with local people. PBRs contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or traditional knowledge associated with them.

PBRs document traditional ecological knowledge and practices on use of natural resources, with the help of local educational institutions, teachers, students and NGOs working in collaboration with local institutions. Such a process and the resulting documents could serve a significant role in "promoting more sustainable, flexible, participatory systems of management and in ensuring a better flow of benefits from economic use of the living resources to the local communities" (Gadgil *et al.,* 2000). Participatory approaches towards conservation, if implemented properly are effective in improving biodiversity status and people's livelihood and ensuring a better flow of benefits from economic use of the living resources to the local communities. Today, when documentation of primary data and indigenous knowledge of communities are considered

as important conservation tools, the views of these forest dwellers are crucial for formulation of the management plans of the protected areas.

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