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Ecological study of sacred grove (Jaher) of Golpur village of Dumka district and its ethnobotanical significance

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Abstract- The present study was conducted among Santals, a tribe mostly centered in Santal Pargana, one of the five administrative division of Jharkhand to document their traditional knowledge of various plants and their association with Sacred groves which are ecological conservation reserves. Sacred groves popularly known as Jaher or Jaherthan by Santals are the traditional communal sites of *in-situ* conservation. A significant change has been noticed regarding its conservation in recent years. Field observation, secondary data and several interviews have been conducted with the prominent village people like Pradhan, the village head and Naeke, the village priest who carries out all religious rituals, and other elderly knowledgeable tribals to gather information. The socio-cultural activities associated with the Sacred groves and various ethnobotanical uses of important plants used by Santal tribe have been discussed in this paper.

Key words: Sacred groves, Dumka, Santals, Santal Pargana

INTRODUCTION

Sacred groves are group of trees considered sacred for a particular community. They are the forest patches communally protected by local people due to their religious association with them. Such grove must have at least five Sal (*Shorea robusta*) trees since Santals consider them as their deities namely Sin' bonga, Maran Buru, Jaher Era (Lady of the grove), Moreko - Turuiko and others. Sin' bonga is the supreme deity. A significant change has been noticed regarding its conservation in recent years. Sacred groves are the natural gene pool preserver and example of habitat preservation through community participation.[1] The Santals have a culture of their own which they have preserved unchanged from time immemorial.[2] Worship of sacred groves is the traditional practice of various group of the society. It is mandatory to compile the ethnobotanical presently existing among the diverse community before its values are completely vanished.[3] There are many studies entitled to further quantify these ethics which leads to biodiversity conservation and sustainable ecosystem.[4] Sacred grove is rich heritage among the tribal communities which played significant role in religious and socio- cultural life among the local tribal people.[5] In recent years traditional ethnobotanical studies have received much attention due to their wide local acceptability and clues for new or less known medicinal plants.[6] Thus, there is now urgency for ethnobotanical research amongst aboriginal people.[7]

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MATERIALS & METHODS

The study area, Dumka is located in the center of Santal Pargana in the eastern part of Jharkhand. It lies between 24° 30' 00" N latitude and 87° 30' 00" E longitude with an average elevation of 137 meters (449 feet). It covers a total area of 12,601 km2.

The present study considers the ecological survey of vegetation inside the sacred grove of Golpur village of Dumka and the inter-relationship of indigenous people (Santals) with Sacred grove and its floral structure. Regular visits and surveys were made to collect plant specimens both in flowering and fruiting stages. Field observation on habit, habitat, medicinal and socio-cultural uses have been recorded in the field at the time of collection.

RESULTS & DISCUSSION

Topography:Rocky elevated land Date- 11.02.2021
Boundary: Present Human interference: Partial

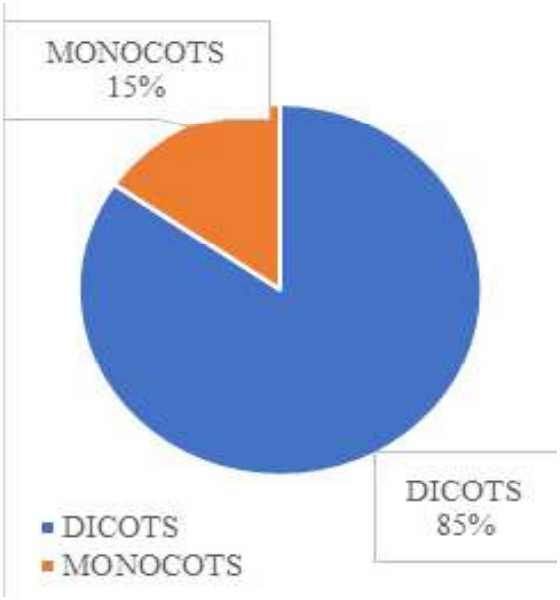
Table 1. Vegetation cover of Golpur SG

S.N.	Species name	Family	Local name	Hindi name	English name
1	*Shorea robusta*	Dipterocarpaceae	Sarjom	Sakhu, Sakhua	Sal
2	*Alangium salviifolium*	Cornaceae	Dhela	Dhera, Akol	Sage leaved alangium
3	*Phoenix dactylifera*	Arecaceae	Khijur	Khajur	Date palm
4	*Azadirachta indica*	Meliaceae	Neem	Neem	Margosa
5	*Ziziphus mauritiana*	Rhamnaceae	Janum	Ber	Indian jujube
6	*Annona squamosa*	Annonaceae	Mandargom	Sharifa	Custard apple
7	*Clerodendrum infortunatum*	Lamiaceae	Bharni	Bhant	Hill glory bower
8	*Lantana camara*	Verbenaceae	Putus	Raimuni	Sage
9	*Cynodon dactylon*	Poaceae	Dhubighaas	Dhoob	Bermuda grass
10	*Solanum virginianum*	Solanaceae	Ragaini	Bhatkataiya	Thorny nightshade
11	*Kyllinga bulbosa*	Cyperaceae	Mutha ghaas	Anuang, Nirbishi	White water sedge
12	*Dentella repens*	Rubiaceae	Kantha arak'	Cherumaneli	Creeping lickstoop
13	*Desmodium triflorum*	Fabaceae	Sukrichakap'	Kudaliya	Creeping Tick Trefoil
14	*Lathyrus hirsutus*	Fabaceae	Gaighura		Hairy vetchling

Table 2. Vegetation cover of Golpur SG

S. N.	Name of Species	No. of individuals in each quad.										Total no. of individuals of each Sp.(X)	Total no. of quad. of occurrences (Y)	Total no. of quad. studied(Z)	F%= (Y/Z * 100)	frequency class	Density(X/Z)	Abundance (X/Y)
		1	2	3	4	5	6	7	8	9	10							
	UPPER STOREY																	
1	***Shorea robusta***	7	6	3	7	6	7	6		8		50	8	10	80	C	5	6.3
	MIDDLE STOREY																	
2	***Azadirachta indica***				1			1				2	2	10	20	A	0.2	1.0
3	***Phoenix dactylifera***				1							1	1	10	10	A	0.1	1.0
4	***Ziziphus mauritiana***			2		3		3		2		10	4	10	40	B	1	2.5
5	***Alangium salviifolium***				1		2		1			4	3	10	30	B	0.4	1.3
6	***Annona squamosa***						2					2	1	10	10	A	0.2	2.0
	SHRUB LAYER																	
7	***Lantana camara***				1		2		1			4	3	10	30	B	0.4	1.3
8	***Clerodendrum infortunatum***		1	3		1		2		3		10	5	10	50	C	1	2.0
	GROUND FLORA																	
9	***Lathyrus hirsutus***			2	1	2	3	4				12	5	10	50	C	1.2	2.4
10	***Cynodon dactylon***					3	3		2		2	10	4	10	40	B	1	2.5
11	***Solanum virginianum***		1		1		4		2	2	5	15	6	10	60	A	1.5	2.5
12	***Kyllinga bulbosa***			1	2		1					4	3	10	30	B	0.4	1.3
13	***Dentella repens***				2		3		4	3	1	13	5	10	50	A	1.3	2.6
14	***Desmodium triflorum***			2		3		3		2		10	4	10	40	B	1	2.5

Fig 1. Representation of Dicot and Monocot families Golpur SG



Since the total number of families are 14, out of which 11 belong to dicot families and 3 belong to monocot families (Arecaceae, Cyperaceae, Poaceae), we get Fig.18.2.

Significance of Sacred groves: The concept of Sacred groves (Jaher) has been a part of rich traditions and diverse culture for many generations. Sometimes, they are also known as natural museums of giant trees, treasure houses of threatened species, dispensaries of medicinal plant, regulators of water sheds, recreation centers for urban life, veritable gardens for botanists, gene banks of economic species and recreation and spiritual retreat.

The ethnobotanical plants recorded in the Sacred groves of Santals primarily consisted of religious plants like *Shorea robusta* Gaertn. Tribals traditional belief system prohibits them to cut or pluck any plant parts before

Fig 1. Sacred grove of village Golpur

Fig 2. Sacred grove of Santals (Jaher)

time, thus promoting successful flowering process. These giant trees harbour great genetic diversity like the ectomycorrhizal fungi species. Medicinal and edible plant species are food not only for the indigenous people residing here but also for other organisms, thus sustaining a large number of species survival and helps in maintaining the food chain and ecological balance.

CONCLUSION

These Sacred groves (Jaher) are declining day by day. Some places where once these Sacred groves existed are now extinct. However, during this modernization and globalization, the recent past years has transformed and weakened religious, cultural and biological integrity. Changes in social belief, modernization and erosion of cultural practices are some of the major factors contributing towards degradation of the ancient heritage which need to be looked into for keeping up the ecological system and biodiversity conservation.

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