Sacred groves and ecology in proposed Jhargram District of West Bengal, India

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Abstract- *Sacred groves are patch of land with a few number of old tree stock, moderately low number of shrubs and a few number of herbs with high religious value. These are important because sacred grove governs the cultural aspect and belief including social amplitude. It nurtures natural resource as monitor to regulate some aspects of ecosystem in nature. The present article reflects some magnitude of ecosystem and ecological significance including conservation measures of nature and natural resources particularly renewable kind. Some other significant roles play is to preserve the historical attributes in a local site on and regional basis virtually may be a bowl of knowledge to flow an ethical impact. Ecological studies of two sacred groves in proposed Jhargram District have been made in this study. Floral composition and landscape diversity with floral and faunal composition placed in a general plant form.*

Keywords- Sacred groves-Jhargram, Plants, Culture and belief

I. INTRODUCTION

Sacred groves are nature made nursery. The cultural sites boosts luxuriant culture, of different race and tribes depicts socio-religious believes. Till date in India a large number of cultural and heritage sites have been studied even in the globe for environt and conservation purpose. But on regional basis, a few or minimal number of publications have been made that has its cultural importance. Ecology and botany have been included in this study to fulfil the need based amplitude and to study further and make new records of the sites and resource mobilization. That will reflects study of landscape regionally but may be included later in global way or to incorporate the same in a global literature. The present investigation is therefore a preliminary study to docket the sites from Jhargram areas of Paschim Medinipur distrct, West Bengal. In this study 58 families have been placed under which different plant species was studied. All the species and the landscape have their great importance.

II. MATERIALS AND METHODS

Survey of sazcred groves have been made using help of local people along with the assistance of students of Lalgarh area particularly Lalgarh Government College. Check lists of plant species have been made using rigorous study nearby. Forest flora and degraded land including riverbank type have been made using ecological approach with the help of participatory rural approach technique. Photographs were taken time to time to locate the plants in and outside the sacred groves. Behaviour of floral propagules and ecology of plants and animals have been made using literature including direct observation time to time and collection of specimens for future study. Seasonal pattern and phenology of plants have been made using floras published time to time. Attributes of tribal ethics have been documented with consultation of people at sacred sites and in some habitats of ethnic people. Previous literatures have been consulted to analyze the data and presentation of data on the basis of international standard. House hold study have been made to know the ethnicity of the culture sites and their co-existence including fate.

III. RESULTS AND DISCUSSION

The present article reflects some cultural aspects including resource of the community in connection with sacred groves (1, 2). The culture traditionally conserved through these believes. People of ethnic as well as non-ethnic type come together through a common platform and functions thereby. They perform different attributes as these are related with ethics. Composition of floral elements is documented in table 1. The overall use value and combined intrinsic values are presented in table 2.

Table 1 Plants in and around two sacred groves of Jhargram sub-division.

Sl. No.	Family Name	Scientific Name
1	Ulmaceae	*Holoptelia integrifolia*
2	Apocynaceae	*Alstonia scholaris*
3	Vitaceae	*Vitex negunda*
4	Anacardiaceae	*Semecarpus anacardium*
5	Acanthaceae	*Peristrophe bicalyculata*
6	Meliaceae	*Azadirachta indica*
7	Asclepiadaceae	*Calotropis gigantes*
8	Capparaceae	*Capparis spinosa*

9	Sapindaceae	*Cardiospermum helicacabum*
10	Apocynaceae	*Ichnocarpus frutescens*
11	Caesalpiniaceae	*Cassia tora*
12	Caesalpiniaceae	*Cassia sophera*
13	Verbenaceae	*Lantana camara*
14	Fabaceae	*Atylosia scarabeoides*
15	Ebenaceae	*Diospyros melanoxylon*
16	Poaceae	*Andropogon sorghum*
17	Asteraceae	*Tridax procumbens*
18	Moraceae	*Streblus asper*
19	Apocynaceae	*Catharanthus roseus*
20	Fabaceae	*Teramnus labialus*
21	Convolvulaceae	*Evolvulus nummularius*
22	Convolvulaceae	*Ippomoea pes-capre*
23	Rubiaceae	*Spermacoce hispida*
24	Euphorbiaceae	*Jatropha gossypifolia*
25	Verbenaceae	*Vitex negundo*
26	Lamiaceae	*Leonotis nepetifolia*
27	Rubiaceae	*Dentella repens*
28	Lamiaceae	*Leucas cephalotes*
29	Poaceae	*Paspalum scobiculatum*
30	Poaceae	*Paspalidum flavidum*
31	Poaceae	*Cynodon dactuylon*
32	Acanthaceae	*Dicliptera roxburgiana*
33	Arecaceae	*Typhonim trilobatum*
34	Poaceae	*Setaria glauca*
35	Malvaceae	*Abutilon indicum*
36	Loganiaceae	*Strychnos nux-vomina*
37	Caesalpiniaceae	*Cassia fistula*
38	Fabaceae	*Crotalaria juncea*
39	Euphorbiaceae	*Jatropha curcas*
40	Verbenaceae	*Duranta repens*
41	Rhamnaceae	*Ziziphus oenoplea*
42	Oxaldaceae	*Oxalis corniculata*
44	Oxalidaceae	*Biophyton sensetivum*
45	Cucurbitacae	*Cephalandra indica*
46	Menispermaceae	*Cocculus hirsutus*
47	Solanaceae	*Solanum xanthocarpum*
48	Euphorbiaceae	*Euphorbia hirta*
49	Euphorbiaceae	*Phyllanthus simplex*
50	Poaceae	*Eragrostis tenella*
51	Menispermaceae	*Stephania japonica*
52	Cucurbitaceae	*Mukea scabrella*
53	Mimosaceae	*Mimosa pudica*
54	Mimosaceae	*Mimosa rubricaulis*
55	Mimosaceae	*Acacia nioltica*
56	Asclepiadaceae	*Calotropis procera*
57	Apocynaceae	*Cascabela coronaria*
58	Tamarindaceae	*Tamarindus indicus*

Table 2 Plants in and around scared groves of proposed Jhrgram District, West Bengal

Sl. No.	Family	Economic Use
1	Acanthaceae	Seasonal weed available as medicinal plant like *Hygrophila spinosa*
2	Alangiaceae	Root bark important, flowers and fruits are important, common plant *Alangium salvifolium/A. lamarkii*.
3	Amaranthaceae	Whole plant important, Achyranthes aspera (Roots)
4	Anacardiaceae	Planted nearby which is economic one.
5	Annonaceae	Medium tree gives shade to thirsty people, e.g. *Anona* sp.
6	Apocynaceae	Plants get woody stem which is used to prepare basket by ethnic people.
7	Arecaceae	Yield toddy or molasses even ripe fruits are edible, leaves used to prepare local mat.
8	Aristolochiaceae	The plant gives good medicinal property during monsoon which is important for cuts and in snake bites. E.g. *Aristolochia indica.*
9	Asclepiadaceae	*Calotropis gigantea*-flowers used to offer Lord Shiva
10	Asteraceae	Fuel wood yielding species, *Eupatorium odoratum.*
11	Bombacaeae	Trees of widespread type. *Bombax*, *Ceiba*, etc.
12	Caesalpiniaceae	Not common, but frequently found *Caesalpinia bonduc.*
13	Capparaceae	Root bark and stem bark used to prepare medicine. Immature fruits and flowers used to make indigenous medicine, e.g. *Capparis spinosa*

14	Convolvulaceae	Ipomoea aquatic (vegetable), I. Carnea (Fuel wood species)
15	Cucurbitaceae	Common weed and grow luxuriously, like *Coccinia grandis*
16	Cyperaceae	Sedges of the wet land used to prepare mat.
17	Ebenaceae	Kendu fruits are eaten as ripe fruits, leaves used to prepare bidi (Smoking pipe), wood very hard used to make furniture particularly bedstead. It is a shelter of some orchids particularly *Vanda* and *Arides.*, kala kendu is *D.sylvatica*
18	Euphorbiaceae	'Bharenda' plant is widespread along the roadside of Dahijuri, Dherua etc and is a medicinal plant., *Jatropha*, *Tragia* are other plants.
19	Fabaceae	A few plants available with brilliant purple colour, e.g. *Tephrosia*, *Indigofera* etc.
20	Lamiaceae	Wild basil having no proper use as per knowledge till date study.
21	Loganiaceae	*Strychnos nux-vomica* – seeds of plant source of Nuxvoma
22	Malvaceae	Common along the bank and along the road with yellow flower during summer and in monsoon.
23	Meliaceae	Small tree or shrubby type along with other big trees which having medicinal properties. Settlement of plants is due to dispersal of seeds by birds and squirrels at the centre of territory.
24	Menispermaceae	Ripe fruits, young leaves and unripe fruits important to birds, leaves used as curd by eople.
25	Mimosaceae	Roots important an important genus is *Mimosa.*
26	Moraceae	Key stone species used as ethical plant and in Hindu system used as sacred tree. It is a shed tree always keeps environment cool and gives shelter for some birds and bats. The mature fruits are ecologically significant because of its extrinsic value and used as eatable by some animals. E.g. *Streblus asper.*
27	Papaveraceae	Thorny weed found in waste places.
28	Poaceae	A fodder grass important for cows and buffaloes. Kharang is *Aristida* sp. a broom making plant.
29	Pontederiaceae	An important fodder plant of wild elephant *i.e. Monochoria hastata*.
30	Rhamnaceae	'Baghkanta' applicable to prepare natural fencing
31	Rubiaceae	Small shrubs having ecological significance
32	Rutaceae	A medium sized shrubs, bark important medicinally, *Glycosmis* sp.
33	Sapindaceae	Roadside weed along with *Cassia sophera*, *C. occidentalis*, *C. tora* etc.
34	Sapindaceae	Weed of common distribution along the shrubberies of Lalgarh
35	Solanaceae	Kantikari-roots are medicinal, roadside plants.
36	Ulmaceae	Holoptelia integrifolia-

		an important wood yielding plant.
37	Umbelliferae	Available during monsoon very much important to man for curing dysentery.
38	Verbenacae	A wild flower used as fuel yielding species. Others are weed. Good example is *Clerodendrum.*
39	Vitaceae	Stem bark and root part important.

1. Scared grove *Kalamadan*

LOCATION: It is located in Belatikri village which is 12 Km from Dahijuri and 6 km from Lalgarh Govt. College via Amkala village of Binpur –I Community Development Block. This sacred grove is inside the village though nearby some huts are available (Fig. 2).

TYPE OF GODDESS: It is a tribal community based goddess. The shed of a trees in a particular place is sacred and the grove occupied a place which is 8 m x 8 m area and famous for all people of different cats and creeds.

ARTICLE OFFERED: Vermilion, Incense sticks, earthen horse, elephant etc. The dedicate goat to the goddess during deity (Fig. 1)
FESTIVAL TIME: Time specified for festival is the preceding day of maker in the Bengali month Pous but other time is Tuesday and Saturday in each week.

FEEDING GROUP FOR THE FESTIVAL: Villagers from Amkala, Belatikri, chandrapur, Netai, Kanaipal, Lalgarh etc.
FLORA: Floral composition in and around the sacred grove is as below:

Tree species: Terminalia bellerica (Bahera), Diospyros sylvatica (Kali kendu), Holoptelia integrifolia (Challa), Ficus religiosa (pakur), Alangium salvifolium (Ankar), Azadirachta indica (Nim) etc.

Shrubby species: Capparis spinosa (Dela), Tiliacora racemosa (Teli), Cocculus hirsutus (Dadaya), Streblus asper (seora) etc.

Herbaceous species: Ichnocarpus frutescens (Kalilat), Lantana camara (Putus), Oxalis corniculata (Amrul), Stephania japonica (Tejomala), Datura metal (Dhutra), Cynodon dactylon (Durba) etc.

PRIEST: Madhusudan Chalak of Belatikri is a priEst of the sacred grove Kalamadan sine many decades.

2. Scared grove Pitaisini

LOCATION: It is located in Bilisira village which is 2 Km from Dherua towards Baita village of Jhargram sub-Division in Paschim Medinipur District. It is nearer to river Kansai which flows from Lalgarh area towards lower tract of Purba Medinipur District of West Bengal.

TYPE OF GODDESS: It is a tribal community based goddess. The shed of trees in a particular place which is far away from the village and the low lying land is surrounded by paddy field (Fig. 3). Total area is circular and it is occupied nearly about 6m diameter. All types of people offer their prayer to the goddess which is time specific *i.e.* sankranti (last day of the month) of Bengali month Pous.

ARTICLE OFFERED: Vermilion, incense sticks, earthen horse, elephant etc. The dedicate other items of indigenous kind to the goddess during deity (Fig. 4)

FESTIVAL TIME: Time specified for festival is the last day of sankranti in the Bengali month Pous.

FEEDING GROUP FOR THE FESTIVAL: Villagers of different villages like Sundraguri, Balisira, Biota, Dherua, Basantapur, Sevayatan, Dahijri, Jhargram etc.

FLORA: Floral composition in and around the sacred grove is as below:

Tree species: Holoptelia integrifolia (Challa), Lucaena leucocephala (Subabul), Ficus religiosa (pakur), Alangium salvifolium (Ankar), Azadirachta indica (Nim), Trewia nudiflora (Pituli) etc. (Fig. 7).
Shrubby species: Capparis spinosa (Dela), Tiliacora racemosa (Teli), Cocculus hirsutus (Dadaya), Streblus asper (seora), Phyllanthus sp. (Jingka) etc.

Herbaceous species: Ichnocarpus frutescens (Kalilat), Lantana camara (Putus), Oxalis corniculata (Amrul), Stephania japonica (Tejomala), Datura metal (Dhutra), Cynodon dactylon (Durba), Mimosa pudica (Lajjabati), Hemigraphis hirta (Musakani), Cassia sophera (Kalkasunde), etc.

Nearby Flora: Calotropis gigantea (Akanda, Fig. 5) , Dalbergia sissoo (Sissoo, Fig. 6), Hemigraphis hirta (Musakani, Fig. 8), Cassia sophera (Kalkasunda, Fig. 9), Solanum xanthocarpum (Kantikari, Fig. 10), Erythrena suberosa (Baha, Fig. 11) and Ipomoea carnea (Kalmi, Fig. 12).

PRIEST: Nalini Chalak is a priest of the sacred grove Pitaisini from many decades ago.

Fig. 1 Kalamadan sacred grove in Belatikri of Proposed Jhargram District

Fig. 2 Back side of Kalamadan showing old stock along with hut, house and bamboo thicket

Fig. 3 Pitaisini sacred grove showing a patch of land surrounded by paddy field

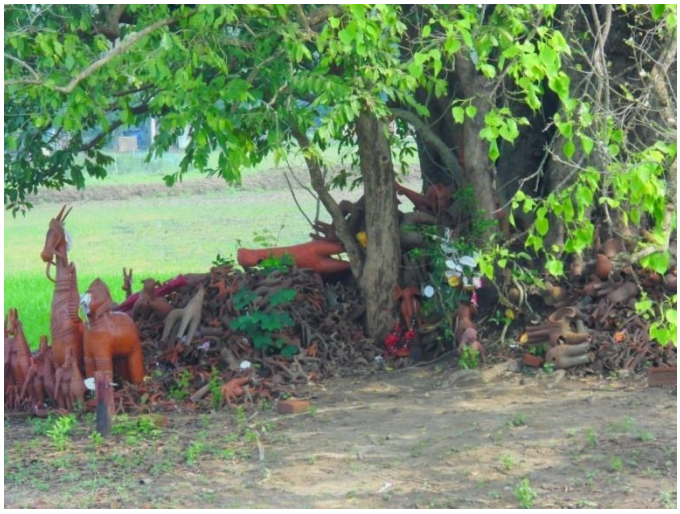

Fig 4 Articles dedicated or offered to Pitaisini an tribal goddess

Fig. 5 Calotropis gigamntea (Akanda) near the road of Pitaisini sacred grove

Fig. 6 Dalbergia sissoo (Fabaceae)–an important tree species near the grove

Fig. 7 A large landscape with '*boro rice field*' (winter to summer) and scattered Pituli trees

Fig. 8 *Hemigraphis hirta* (Musakani)-an important medicinal plant for pet animal

Fig. 9 Cassia sophera (Kalkasunda) –an important medicinal plant

Fig. 10 Solanum xanthocarpum (Kantikari)-root medicinally important

Fig. 11 Erythrina suberosa (Baha fuler gach) with flying Pycnonotus cafer (Red vented Bulbul flying as pollinator called ornithophily)

Fig. 12 Imomoea carnea (Kalmi) near Pitaisini

IV. CONCLUSIONS

Kalamadan and Pitaisini are two very popular sacred places among the Jhargram people. It is truly connected with the spirit and belief of the people of all nearby villages. It is nearly the same spirit of people who offered to Buraba is famous in Lalgarh area of Paschim Medinipur, as famous as God Shiva by a group of people, but other group think that it is another god which is different from Lord Shiva, a unique spiritual god that can make everything easy and directly can change the spiritual life of the people. Easily the god can make or change the environment positive or negative but who offered easily gain from the goddess. Tribal people are very much reluctant to the goddess and spend time during festival at the sites. Our botanical point of view is that these sites truly a nature made nursery protects some old stocks for future regarded as nature made nursery. It protects plants as well as animals and birds which feel homely to settle there as there is no disturbance. Many small sacred groves are there in Jungalmahal area of Jhargram which need urgent exploration to know the present status of conservation.

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