

Ethno-Botanical Importance of Some Tree Species in Jammu District, J&K

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Abstract: The concept of biodiversity is as old as origin of human beings on earth, but now biodiversity is under threat. Sacred groves are rich sources of biodiversity conserved by local people in the name of religious beliefs. In the present paper, a survey was carried out in sacred groves of Jammu district to enumerate the tree diversity and importance of trees in the area. In the 60 sacred groves studied a total of 87 tree species belonging to 44 families were observed. Out of these 87 tree species found in the study area 74 were medicinal, 12 of religious importance and 30 were identified as aesthetically and economically. The study emphasises on conservation, awareness generation and management of local knowledge and resources.

Keywords: Biodiversity, Conservation, Management

1. Introduction

Trees play an important role in folklore, mythology in many religions and also in maintaining environmental balance, which can be directly demonstrated through recognition of sacred sites by society from ancient times. Sacred groves are the pools of the native species, so considered as 'islands of biodiversity'. With the destruction of forests around them they have become the last refuge of many plant and animal species (Chandran *et al.*, 1998). So this study is an attempt to find out the importance of tree diversity in Jammu region.

2. Literary Survey

Biodiversity and sacred groves are interlinked and had a strong relationship with mankind since time immemorial. Brandis (1897) reported numerous sacred groves from India and also revealed that these areas have never been touched by human beings except for religious purposes. Many studies further highlighted that sacred groves are rich in plant diversity and the species growing in these groves are of great economic importance and served as repositories of genotypes (Gadgil and Vartak, 1975).

3. Previous Work

Ethnobotany of sacred groves of Bankura district in West Bengal was studied by Basu (2009) to record medicinal plants and floristic diversity. Vinothkumar *et al.* (2011) carried out a study on biodiversity of three sacred groves in Pudukkottai district and enumerated 106 species out of which 52 were used for medicinal, edible, construction and cultural purposes.

4. Study Area

Keeping in view the importance of tree diversity as source of food, fodder, medicine, *etc.* a study was carried out in Jammu district, which is also informally known as *Duggar desh*. Jammu region is almost plain, sloping towards the south. In recent years, this region has faced unprecedented growth of population and large scale development.

5. Methodology

The study envisages the estimation of tree diversity of the region, for this sacred groves were taken as sampling units. Information about sacred groves was gathered from local people and various religious authorities. A total of 60 sacred groves of Jammu city and its surrounding areas were studied. A brief tree inventory was prepared and identification was confirmed by Herbaria in Botany Department, University of Jammu. Whenever any sacred grove was visited the people were interviewed to know the uses and importance of trees present there.

6. Observations

Sacred groves in the study area are located at various sites like rural and semi-urban (30), urban (29) and in wildlife sanctuary (1). The results show that great variety of trees species exist in the study area. In the 60 sacred sites studied, a total of 87 species belonging to 70 genera and 44 families were observed. All the total 87 tree species were found to have economic value, but they are primarily used as medicine, timber, food, fodder, *etc.* (Table 6.1). About 74 tree species were found to have medicinal value and 12 species were identified to have religious value in rituals and ceremonies like *Aegle marmelos*, *Azadirachta indica*, *Ficus benghalensis*, *Ficus religiosa*, *Mangifera indica*, *Musa paradisiaca*, *etc.* (Anthwal *et al.*, 2006, Jasrai *et al.*, 2003). Around 30 tree species were identified to have aesthetic and economic value such as fruit trees like *Annona squamosa*, *Carica papaya*, *Zizyphus mauritiana*, *etc.* timber trees like *Dalbergia sisoo*, *Acacia catechu* *etc.* dye and ornamental trees like *Amaranthus caudatus*, *Ficus virens*, *Bauhinia vahlii* *etc.* Trees like *Ficus benghalensis*, *Ficus religiosa*, *Mangifera indica*, *Musa paradisiaca*, *Phyllanthus officinalis*, *Syzygium cumini*, *Tectona grandis*, *Zizyphus mauritiana*, *etc.* found in the sacred groves of study area having multiple uses (Hughes and Chandran, 1997).



Figure: *Phyllanthus officinalis* (Amla)



Figure: *Musa paradisiaca* (Kela)



Figure: *Elaeocarpus ganitrus* (Rudraksh)



Figure: *Ziziphus mauritiana* (Bheri)

Table-6.1. Uses of trees found in sacred groves of the study area

S. No	Botanical Names	Local names	Parts Used	Purpose/Uses
1	<i>Aegle marmelos</i> (L.) Corr.	Bilan	Fruit pulp	Diarrhoea and Dysentery.
2	<i>Alistonia scholaris</i> (L.) R.Br.	Satpatra	Bark	Malaria, ornamental
3	<i>Adina cordifolia</i>	Desi Kadamb	Bark	Antiseptic
4	<i>Albizia lebbek</i> L.)Benth	Siri	Leaves	Surma
5	<i>Azadirachta indica</i>	Neem	Leaves, stem	Skin boils, ring worms
6	<i>Araucaria cookii</i>	Arucaria	Seeds	Ornamental
7	<i>Artocarpus lakoocha</i> Roxb.	Tao	Wood, fruit	Medicine
8	<i>Amaranthus caudatus</i> Linn.	Chaleri	Leaves, flowers	Vegetable and dyes
9	<i>Acacia nilotica</i>	Kikar	Whole plant	Fodder, medicine
10	<i>Acacia modesta</i> Wall	Fulai	-	Fuel, Medicine
11	<i>Acacia catechu</i> (L.) Willd., Oliv	Khair	-	Food, fodder, medicine, dying
12	<i>Acacia torta</i>	Raal	-	Medicine, ornamental
13	<i>Acer caesium</i>	Madirae	Bark	Muscular swellings, boils
14	<i>Annona squamosa</i> L.	Sitaphal	-	Fruit
15	<i>Anthocephalus cadamba</i> Roxb.	Kadamb	-	Fodder, medicinal
16	<i>Artabotrys odoratissimus</i>	Kandar	Flowers, essential oils	Vomiting, biliousness, heart diseases
17	<i>Berberis aristata</i>	Kimbal	Whole plant	Urinary problems, dying clothes, tanning leather
18	<i>Bauhinia variegata</i> Linn.	Kartaide	Bark	Tonic and anthelmintic, leprosy
19	<i>Bauhinia vahlii</i>	Balungad	-	Ornamental
20	<i>Butea monosperma</i> (lam.) Taub.	Palash	Leaves and seed	Rhematic pain
21	<i>Bauhinia purpurea</i>	Kreal	Bark, Flower, Plant	Astringent, Antidiarrhoeal,
22	<i>Bombax ceiba</i>	Simbal	Young roots, Fruits, Flowers,	Kidney problems, Anti-inflammatory, Skin
23	<i>Citrus limon</i>	Nimbu	Fruit, Leaves and Stem	Influenza, Biliousness, Antibacterial
24	<i>Citrus medica</i>	Gargal	Fruit, Root, Flowers	Refrigerant, Anthelmintic, Astringent
25	<i>Cordia dichotoma</i>	Lasoor	Fruit, Bark, Leaves	Ringworm, Cough and Cold
26	<i>Crataeva nurvala</i>	Barna	Root, Bark	Urinary disorders
27	<i>Cassia fistula</i>	Amaltas	Flowers, pods, Seed powder	Amoebiasis
28	<i>Cassia gluaca</i>	Acacia gluaca	-	Medicinal
29	<i>Carica papaya</i> L.	Papita	Ripe Fruit, Juice of Seeds	Bleeding piles, Enlarged liver and spleen
30	<i>Casuarina equestifolia</i>	Saru	Whole plant	Wind barrier, Antispasmodic
31	<i>Callistemon citrinus</i> (Curtis.) Skeels	Bottle brush	-	Natural herbicide
32	<i>Dalbergia sisoo</i> Roxb.	Tali	Leaves, Wood	Skin diseases, dysentery, as fuelwood.
33	<i>Dillenia indica</i>	Kanel	Seeds and leaves	To treat ulcers, antiseptic
34	<i>Diospyros cordifolia</i> Roxb.	Razain	-	Medicinal
35	<i>Eucalyptus globules</i> Labille	Safeda	Wood and leaves	Timber, Eucalyptus oil

36	<i>Eriobotrya japonica</i> Lindl.	Lokat	Leaves, Fruit, Flower	Diabetes, Skin diseases
37	<i>Elaeocarpus ganitrus</i> Roxb.	Rudraksh	Fruit, Stem	Headache, Asthma
38	<i>Ficus racemosa</i> Linn.	Rumbel	Bark, Fruits, Roots	Antiseptic, Skin Disorder, Urinary Disorders
39	<i>Ficus elastica</i>	Rubber	-	Industrial use
40	<i>Ficus benghalensis</i> L.	Barh	Bark, Seeds, Buds, Leaves	Diabetes, Dysentery, Ulcers
41	<i>Ficus religiosa</i> /linn.	Borh	Fruits, leaves, barks	Antiseptic, Ulcers
42	<i>Ficus palmata</i> Forssk.	Fakoda	-	Medicinal, Ornamental
43	<i>Ficus virens</i> L.	Pakh	-	Ornamental
44	<i>Flacourtia indica</i> (Burm.f.) Merr.	Kakoh	Fruits, leaves, roots, wood	For jam and jellies, Against snakebite and as firewood
45	<i>Grevillea robusta</i>	Silver oak	Acorns	Astringent, Indigestion
46	<i>Grewia optiva</i> Drumn. exBurret	Taman	Fruits	Commercial value, stomach and skin
47	<i>Grewia tillifolia</i>	Baat Taman	-	Medicinal
48	<i>Kegilia pinnata</i>	African kakri	Bark and Fruit	Ornamental, Antireumatic
49	<i>Litchi chinensis</i> Sonn.	Lychee	Fruit and Leaf	Refrigent, Used in bites of animals
50	<i>Lannea coromandelica</i> (Houtt.) Merrill.	Kambel	Bark	Used in gout
51	<i>Mimosops elengi</i> L.	Mulsari	Fruit, Flower, Bark and Seed	Astringent, Chronic Dysentery,
52	<i>Morus alba</i> Linn.	Tut	Fruit, Leaves and Bark	Cooling, Sore throat, Anti-inflammatory
53	<i>Mangifera indica</i> L.	Aam	Whole plant	Antiscorbutic, Antibacterial, Burns, Antifungal,
54	<i>Melia azedarach</i> L.	Drenk	Fruits and leaves	In malaria, leprosy and skin disease.
55	<i>Musa paradisiaca</i> L.	Kela	Fruits, Leaves and Roots	Diarrhoea, Intestinal Antihelminthic
56	<i>Murraya koenigi</i> (L.) Sprengel	Kurri patta	Leaves	Antiprotozoal, Digestion
57	<i>Mallotus philippensis</i> (Lam.) Mull. Arg	Kambal	Fruit	Antihelminthic, Antibacterial, Red dye
58	<i>Michelia champaca</i> L.	Chamba	Flowers, Oil, Fruits, Roots, Seeds, Bark	Stimulant, Gout, Healing Cracks
59	<i>Moringa oleifera</i> Lam.	Soanjna	-	Food
60	<i>Magnolia grandiflora</i> L.		-	Ornamental
61	<i>Psidium guajava</i> L.	Amrud	Unripe fruits, Leaves, Flowers	Antidiarrhoeal, Diabetes, Cough, cold, Antihelmintic
62	<i>Pterospermum acerifolium</i> (L.) Willd	Kanak champa	Flower, Bark	Anti-inflammatory
63	<i>Pinus roxburghii</i>	Chir	Needle oil, Oil, Resin	Antiseptic, Cough, Cold remedies
64	<i>Platanus orientalis</i>	Chinar	Bark, Leaf	Antidiarrhoeal, Astringent
65	<i>Phyllostachys aurea</i> Riviere	Baans	Stem	Making of Baskets, Mats
66	<i>Phyllanthus emblica</i>	Amli	Fruits, Seeds, Bark and Leaf	Antianaemic, Antidiabetic, Jaundice, Dysentery, Eye Trouble
67	<i>Phyllanthus officinalis</i>	Amla	Whole Plant	Antianaemic, Antidiabetic, Jaundice, Dysentery, Eye Trouble
68	<i>Polyalthia longifolia</i>	Ashoka	Stem bark and Leaves	Fungitoxic activity
69	<i>Putranjiva roxburghii</i>	Patanjan	Fruits	Cough, Cold
70	<i>Prunus persica</i>	Ardo	Fruit, Bark and Leaves	Tranquillizer, Whooping cough
71	<i>Pogamia pinnata</i>	Sukhchan	-	Medicinal
72	<i>Pyrus</i> L.	Nashpati	-	Food, Ornamental
73	<i>Prunus persica</i> (L.) Stokes	Ardo	-	Food
74	<i>Punica granatum</i> L.	Dadoni	-	Fruit, Medicinal
75	<i>Roystonea regia</i>	Palm	-	Ornamental plant
76	<i>Ricinus communis</i>	Arand	Roots, Bark, Seeds	Dermatitis and Eczema
77	<i>Syzygium cumini</i> (L.) Skeels	Jamun	Fruit, Bark, Seed, Leaves	Antibacterial Antidiarrhoeal,
78	<i>Toona ciliata</i> M.Roem	Tuno	-	Timber
79	<i>Thevetia peruviana</i>	-	Bark, Leaves Root	Root- Plaster is applied to tumors
80	<i>Tamarindus indica</i> L.	Imli	Bark, Fruits and Seeds	As blood purifier and snakebite
81	<i>Terminalia arjuna</i>	Arjuna	Bark and Fruit	Cardiotonic, Cirrhosis of liver, Skin Diseases
82	<i>Tectona grandis</i>	Sagwan	Flower, Seed, Wood, Bark Root	Urinary problems, Anti-inflammatory, Timber
83	<i>Terminalia bellirica</i>	Bhera	Fruit	Diarrhoea, Respiratory Tract infections, Allergic

				eruptions
84	<i>Terminalia chebula</i>	Reed, Harad	Fruit and Bark	Antibilious, Constipation, Dysentery,
85	<i>Vitex negundo</i> L.	Bna	-	Analgesic
86	<i>Wrightia tomentosa</i>	Dudha	Bark and Seeds	Antidysenteric, Piles and Skin Disorders
87	<i>Ziziphus mauritiana</i> Lam.	Bheri	Fruits, Seeds, Bark, Leaf	Gout, boils, Rheumatic inflammations

7. Conclusion

All the tree species in the study were found to be valuable economically, as medicine, food, timber *etc.* There is a significant role played by sacred groves in maintaining biodiversity in the present times. Thus it is recommended that there is need to refresh our traditional knowledge and generate awareness among the masses especially young population. Conservation of small sacred groves should be promoted and fragmentation of large sacred groves should be discouraged to save our indigenous wealth of biodiversity.

Studies of Sacred Groves in Pudukottai District, Tamil Nadu, India. *Asian J. Exp. Biol. Sci.*, 2 (2): 306-315.

8. Future Scope

Sacred groves are important indigenous source of plant wealth for present and future generation. But recent trends in our society, now stress on the need of conservation of such areas as beliefs behind protection of such areas are fading. So, government organisations, NGOs, local people and scientific community should come forward to generate awareness and conserve these areas of rich biodiversity.

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