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STATUS AND USES OF TREE FLORA OF DARLAGHAT WILDLIFE SANCTUARY, SOLAN (H.P.)

MEENAKSHI THAKUR, V.K. SANTVAN[1] AND AMRITA NIGAM[2]

Govt. Degree College, Nagrota Bagwan, Kangra (H.P.)
mins_pk@rediffmail.com

ABSTRACT

Present study revealed that 60 tree species were used for various purposes which include house construction, furniture, agricultural implements; for making walking sticks, musical instruments, packing cases, etc. The predominant families are fabaceae with 11 species (8 genera), pinaceae with 5 species (3 genera), salicaceae with 4 species (2 genera). However, bambuaceae (3 genera), euphorbiaceae (3 genera) and fagaceae (2 genera) have 3 species each. Among various plants, 18 plants are predominantly used for house construction, 14 for agricultural implements, 8 for Agriculture and furniture manufacturing, 7 for agriculture and house construction, 4 plants are exclusively used only for furniture, 2 for musical instruments and packing cases each and 3 for making walking sticks .

Key words: Status, Uses, Tree flora, Darlaghat wildlife sanctuary

Introduction

Nature has endowed Himachal Pradesh (H.P.) with varied fauna and flora, which are to be preserved for the advantage of present and future generations. The state government has been alive to the situation to conserve our natural heritage of flora and fauna and has created a network of protected areas covering all the regions of the state. The creation of the Darlaghat wildlife sanctuary with an altitudinal gradient from 1075 to 2069 m above msl is in order to maintain it as a representative of measure of biological region of this part of Himalayas in its unaltered state. Himalayas in H.P. have lower hills, lesser Himalayas and greater Himalayas, each varying in their forest types and resources. From the time immemorial, tree species along with shelter, food and clothes are the utmost priorities of mankind (Balokhra, 2002). The tree resources are used by the ethnic communities and the villagers for various purposes *i.e.* house construction, furniture, agricultural implements; for making walking sticks, musical instruments and packing cases, etc. Timber is the most important forest resource used by any community in Himachal Pradesh as well as in any part of the country. This paper deals with the tree species of Darlaghat Wildlife Sanctuary, Solan (H.P.) and their various uses by the ethnic communities and villagers. Previously, a little work has been carried out in various parts of the state to find out different resources and their uses but the information is scattered and meagre and has various gaps. National Parks and Wildlife Sanctuaries are the richest areas for studying ecosystems as these are least disturbed by humans. The Sanctuary is situated near Gujarat Ambuja Cement Limited Company and the pollution coming from the company is proving threat for the biodiversity. Therefore, the main objective of the study was the conservation of biodiversity with involvement of community and indigenous knowledge, so as to preserve it for the future generations. Our approach for the biodiversity conservation involves *in-situ* and *ex-situ* strategies.

Methodology

Field survey was conducted in Kashlog (mining area), Darlaghat and its surroundings area from March 2010 to March 2011. The studies were carried out on various communities and villager's dependence upon trees for various purposes in day to day life. Keeping the objective in mind, intensive use explorations were undertaken in Darlaghat wildlife sanctuary, Solan. The Darlaghat wildlife sanctuary has an area of 628.40 hectare situated at 31°09' 12" N and 76°59' 30" E , temperature ranges from 1° to 30°C and mean annual rain fall is 1040 m. There are eight villages with a human population of 1139. These villages are dependent on the forests of the sanctuary for timber, fuel wood, fodder, and other minor forest produce to a large extent. The society is largely agrarian. Wheat, maize and vegetable are the main crops. In many parts, stone fruits have also been introduced and are becoming popular. To find out various timber yielding plants either in flowering or fruiting stage and to know the uses of timber wood, different categories of people like family heads, healers, old experienced and knowledgeable informants were repeatedly interviewed. Specific questions based upon

Conservation of biodiversity with involvement of community and indigenous knowledge.

[1]Institute of Integrated Himalayan Studies,Himachal Pradesh University, Summer hill, Shimla-5 (H.P.)
[2]School of Life Science, IGNOU, New Delhi

Table 1 : List of tree species which have been reported in Darlaghat wildlife sanctuary, Solan

S. No.	Species	Family	Local Name	Uses
1.	*Abies pindrow* Royle *ex* D. Don	Pinaceae	Tosh	H,P
2.	*Acacia catechu* Willd.	Fabaceae	Khair	A
3.	*Acacia nilotica* (L) Willd. *ex* Delile.	Fabaceae	Babul	A
4.	*Aesculus indica* Colebr.	Hippocastanaceae	Kanor	H
5.	*Albizia julibrissin* Durazz.	Fabaceae	Alsinia	A
6.	*Albizia lebbeck* Benth.	Fabaceae	Darek	A, F
7.	*Albizia stipulata (DC.)*Boiv.	Fabaceae	Oayee	H
8.	*Arundinaria falcata* Nees.	Bambusaceae	Dhadhanj	H, A
9.	*Bambusa nutans* Wall.	Bambusaceae	Bainj	H, A
10.	*Bauhinia purpurea* Linn.	Fabaceae	Karyal	H
11.	*Bauhinia variegata* Linn.	Fabaceae	Karyala	H
12.	*Betula utilis* D. Don	Betulaceae	Shakpang	H
13.	*Bombax ceiba* Linn.	Bombaceae	Simbal	H
14.	*Butea monosperma* Kuntze	Fabaceae	Palas	M
15.	*Toona ciliata M.Roem*	Meliaceae	Tooni	F, H
16.	*Cedrus deodara* (Roxb.) Louden	Pinaceae	Devdar	H
17.	*Celtis australis* Linn.	Ulmaceae	Khirak	A
18.	*Dalbergia sissoo* Roxb.	Fabaceae	Tahli	F, H
19.	*Dendrocalamus hamiltonii* Nees & Arn. *ex* Munro	Bambusaceae	Maggar	H, A
20.	*Ehretia acuminata* R. Br.	Cordiaceae	Punna	F, H
21.	*Ehretia laevis* Roxb.	Cordiaceae	Bhankar	A, H
22.	*Phyllanthus emblica L.*	Euphorbiaceae	Amla	F
23.	*Erythrina suberosa* Roxb.	Fabaceae	Paryara	M
24.	*Eucalyptus umbellata (Gaertn,)*Domin.	Myrtaceae	Safeda	H
25.	Syzygium cumini (L).Skeels	Myrtaceae	Jamun	A, H
26.	*Fagus grandiflora* Ehrh.	Fagaceae	Morgu	H
27.	*Flacourtia indica*(Burm.f) Merr.	Flacourtiaceae	Kangu	A
28.	*Glochidion velutinum* Wight	Euphorbiaceae	Samma	A
29.	*Juglans regia* Linn.	Juglandaceae	Khod	H
30.	*Litsea monopetala Roxb.*	Lauraceae	Gwaun	A
31.	*Machilus odoratissima* (Wall. ex Nees)	Lauraceae	Badrol	F
32.	*Mangifera indica* Linn.	Anacardiaceae	Ama	H, F
33.	*Melia azedarach* Linn.	Meliaceae	Drek	A, F
34.	*Morus alba* Linn.	Moraceae	Toot	A
35.	*Morus nigra* Linn.	Moraceae	Toot	A
36.	*Morus serrata* Roxb.	Moraceae	Cheemu	A
37.	*Picea smithiana* Boiss.	Pinaceae	Spruce	H, P
38.	*Pinus roxburghii* Sarg.	Pinaceae	Chir	H, F
39.	*Pinus wallichiana* A. B. Jackson	Pinaceae	Kail	H, F
40.	*Pistacia integrimma* (Stewart) Recht.	Anacardiaceae	Kakarsingi	H
41.	*Populus ciliata* Wall. Ex Royle	Salicaceae	Poplar	H
42.	*Populus nigra* Linn.	Salicaceae	Poplar	H
43.	*Prunus cerasoides* D. Don	Rosaceae	Paza	S
44.	*Pyrus pashia* Ham.	Rosaceae	Kainth	A, S
45.	*Quercus leucotrichophora* A. Camus	Fagaceae	Ban	H
46.	*Quercus semecarpifolia* Sm.	Fagaceae	Kharsu	A
47.	*Rhododendron arboreum* Sm.	Ericaceae	Brah	A
48.	*Rhododendron campanulatum* D.Don	Ericaceae	Tolo-Moti	A
49.	*Robinia pseudoacacia* Linn.	Fabaceae	Robinia	A
50.	*Salix karelinii* Turcz.	Salicaceae	Beaunce	A, H
51.	*Salix tetrasperma* Roxb.	Salicaceae	Beaunce	A, H
52.	*Sapium insigne* (Royle) Benth.	Euphorbiaceae	Pahari Tahli	H
53.	*Shorea robusta* Gaertn. F.	Dipterocarpaceae	Sal	H, F
54.	*Taxus baccata* Linn.	Taxaceae	Rakhal	F
55.	*Tectona grandis* Linn.(f.)	Verbenaceae	Teak	H, F
56.	*Terminalia bellirica* (Gaertn.) Roxb.	Combretaceae	Bahera	H

57.	*Terminalia alata*(Heyneex Roth).	Combretaceae	Alsan	H
58.	*Ulmus racemosa* D. Thomas	Ulmaceae	Elm	H
59.	*Zanthoxylum armatum* DC	Rutaceae	Tirmir	A, S
60.	*Zizyphus mauritiana Lamk.*	Rhamnaceae	Ber	F

Abbreviations: A- Agricultural implements; F- Furniture; H- House construction; M- Musical instruments; P- Packing cases; S- Walking sticks.

performa designed by Jain and Goel (1995) were asked and the resultant information was recorded.

Results and Discussion

A total of 60 plant species recorded from the Darlaghat wildlife sanctuary (Table-1). They belong to 47 genera and 26 families. The predominant families are fabaceae with 11 plant species (8 genera), pinaceae with 5 (3 genera), salicaceae with 4 (2 genera), bambuaceae (3 genera), euphorbiaceae (3 genera) and fagaceae (2 genera) 3 species each. Among various trees, 18 species are used for house construction, 14 for agricultural implements, 8 for agriculture and furniture manufacturing, 7 for agriculture and house construction, 4 plants exclusively only for furniture, 2 for musical instruments and packing cases each and 3 for making walking sticks. This study is clearly useful to industries relying on timber resources of these rich ranges of Himalaya. Compared to the available data of other protected areas of India, Suresh *et al.* (1996) enlisted 157 tree species from Mudumalai sanctuary, which occupies 321km^2. Ramesh (2002) reported 164 species of trees and shrubs from Biligiri R. Sanctuary, which cover 540 km^2. Reddy (2001) enumerated 151 and 162 tree species from Eturnagaram and Pakhal wildlife sanctuaries, respectively. Reddy *et al.* (2004) recorded 91 tree species from Bhitarkanika national park. Lesser number of trees species in the region can be attributed to poor conditions with higher percentage of minerals. It has been observed that large part of the earlier wildlife sanctuary was denotified in the year 2002 for establishing Cement factory.

दारलाघाट वन्यप्राणि अभयारण्य, सोलन (हि.प्र.) की वृक्ष/वनस्पति का स्तर एवं उपयोग

मीनाक्षी ठाकुर, वी.के. सन्तवन और अमृता निगम

सारांश

वर्तमान अध्ययन से ज्ञात हुआ कि विभिन्न उद्देश्यों के लिए 60 वृक्ष प्रजातियों का उपयोग किया गया, जिसमें शामिल है; गृह निर्माण, फर्नीचर, कृषि उपकरण, घूमने की छड़ी बनाने में, वाद्य संगीत के उपकरण, पैकिंग बक्से आदि। प्रधान कुल है –11 प्रजातियों (8 वंश) के साथ फेबेसीया, 5 प्रजातियों (3 वंश) के साथ पिनेसीया, 4 प्रजातियों (2 वंश) के साथ सेलिकेसीया तथापि, बैम्बूएसीया (3 वंश), यूफोर्बिएसीया (3 वंश) और फैगेसीया (2 वंश) की प्रत्येक को 3–3 प्रजातियां थी। विभिन्न पादपों में 18 पादपों का गृह निर्माण के लिए प्रमुखा रूप से उपयोग होता है, 14 पादपों का कृषि उपकरणों में, 8 पादपों का कृषि और फर्नीचर निर्माण में, 7 पादपों का कृषि और गृह निर्माण में, 4 पादपों का उपयोग केवल फर्नीचर निर्माण के लिए होता है, 2 पादपों का वाद्य उपकरणों और पैकिंग बक्सों में और 3 पादपों का उपयोग घूमने की छड़ी बनाने में होता है।

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