

Ethnobotanical Studies on Timber Resources of Himachal Pradesh (H.P.), India

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Abstract

Timber is one of the most important resources in the life of ethnic communities and villagers. Timber resources are used by the ethnic communities and the villagers for various purposes *i.e.* house construction, furniture, and agricultural implements; for making walking sticks, musical instruments and packing cases etc. Timber is the most important forest resource along with shelter, food and clothes used by any community in Himachal Pradesh as well as in any part of the country and it has contributed a lot in the development of various civilizations from time immortal. This paper deals with the 61 timber resources of H.P. belonging to 47 genera and 26 families as well as their various uses by the ethnic communities and villagers. The timber resources have been divided in all the three ranges of 'Himachal Himalayas'.

Keywords: Shivalik hills, Ethnic communities, Ethnobotanical exploration, Timber resources, Himachal Himalayas.

Introduction

The state of Himachal Pradesh (H.P.), is in the lap of North-Western Himalayan mountain ranges (30°-22' and 33°-12' North latitudes, 75°-47' and 79°-04' east longitudes), and altitudes varies from 350-6,975 m with the total geographical area of 55,673 sq. kms. It is known for the natural beauty of its forests. Himachal Pradesh Himalayas have lower hills (Shivalik hills), Lesser Himalayas and great Himalayas, each varying in their forest types and resources. From the time immemorial timber resources along with shelter, food and clothes are the utmost priorities of mankind. The wood is the most important forest product and it has contributed a lot in the development of various civilizations from time immortal. Wood is considered as the most important commodity other than food and clothing. It forms a very

important raw material for industries dependent on timber. The timber 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 timber resources of 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 various resources (2-5); (7, 9) and their uses but the information is scattered and meager and has various gaps. Similar related work has also been carried out in other states of India (8, 10, 11).

Methodology

Various communities and villagers mainly depend upon trees for timber to use them for various purposes in day to day life. Keeping this objective in mind, intensive ethnobotanical exploration were undertaken in various districts of H.P. to find out

various timber yielding plants either in flowering or fruiting stage. The freshly collected samples of plants were arranged properly within the folded sheets of pressing papers (12''/18''), each of which was placed between two dry blotters of same size. The whole piles of blotters and pressing sheets was then locked up in a field press for 24 hours. Since drying of plants was done without heat, it needed five changes of blotters and pressing sheets properly spread over a span of 10 days. Each specimen was mounted on a white card sheet (11.5''/16.5'') by using white gum paste. 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 Proforma designed by Jain and Goel, 1995 were asked and the resultant informations were recorded in the ethnobotanical field notebook along with the name of locality and local name (6).

Observations

The following timber plants have been reported in Himachal Himalayas for various uses as given in Table 1.

Table 1. Timber Plants.

Timber Plants	Family	Local Name	Uses
<i>Abies pindrow</i> Royle ex D. Don	Pinaceae	Tosh	H, P

<i>Acacia catechu</i> Willd.	Fabaceae	Khair	A
<i>Acacia nelotica</i> (L) Willd. <i>ex</i> Delile.	Fabaceae	Babul	A
<i>Aesculus indica</i> Colebr.	Hippocastanaceae	Kanor	H
<i>Albizzia julibrissin</i> Durazz.	Fabaceae	Alsinia	A
<i>Albizzia lebbeck</i> Benth.	Fabaceae	Darek	A, F
<i>Albizzia stipulata</i> Boiv.	Fabaceae	Oayee	H
<i>Arundinaria falcata</i> Nees	Bambusaceae	Dhadhanj	H, A
<i>Bambusa nutans</i> Wall.	Bambusaceae	Bainj	H, A
<i>Bauhinia purpurea</i> Linn.	Fabaceae	Karyal	H
<i>Bauhinia variegata</i> Linn.	Fabaceae	Karyala	H
<i>Betula utilis</i> D. Don	Betulaceae	Shakpang	H
<i>Bombax ceiba</i> Linn.	Bombaceae	Simbal	H
<i>Butea monosperma</i> Kuntze	Fabaceae	Palah	M
<i>Cedrella toona</i> Roxb. <i>ex</i> Rottl.	Meliaceae	Tooni	F, H
<i>Cedrus deodara</i> (Roxb.) Louden	Pinaceae	Devdar	H
<i>Celtis australis</i> Linn.	Ulmaceae	Khirak	A
<i>Dalbergia sissoo</i> Roxb.	Fabaceae	Tahli	F, H
<i>Dendrocalamus hamiltonii</i> Nees & Arn. <i>ex</i> Munro	Bambusaceae	Maggar	H, A
<i>Ehretia acuminata</i> R. Br.	Cordiaceae	Punna	F, H
<i>Ehretia laevis</i> Roxb.	Cordiaceae	Bhankar	A, H
<i>Emblica officinalis</i> Gaertn.	Euphorbiaceae	Amla	F
<i>Erythrina suberosa</i> Roxb.	Fabaceae	Paryara	M
<i>Eucalyptus umbellata</i> Domin	Myrtaceae	Safeda	H
<i>Eugenia jambolana</i> Lam. <i>ex</i> Brand.	Myrtaceae	Jamun	A, H
<i>Fagus grandiflora</i> Ehrh.	Fagaceae	Morgu	H
<i>Flacourtia ramontchi</i> L' Herit	Flacourtiaceae	Kangu	A
<i>Glochiodion velutinum</i> Wight	Euphorbiaceae	Samma	A
<i>Juglans regia</i> Linn.	Juglandaceae	Khod	H
<i>Litsea polyantha</i> Juss.	Lauraceae	Gwaun	A
<i>Machilus odoratissima</i> Nees	Lauraceae	Badrol	F
<i>Mangifera indica</i> Linn.	Anacardiaceae	Ama	H, F
<i>Melia azedarach</i> Linn.	Meliaceae	Drek	A, F
<i>Morus alba</i> Linn.	Moraceae	Toot	A

<i>Morus nigra</i> Linn.	Moraceae	Toot	A
<i>Morus serrata</i> Roxb.	Moraceae	Cheemu	A
<i>Picea smithiana</i> Boiss.	Pinaceae	Spruce	H, P
<i>Pinus gerardiana</i> Wall.	Pinaceae	Neoza	H
<i>Pinus roxburghii</i> Sarg.	Pinaceae	Chir	H, F
<i>Pinus wallichiana</i> A. B. Jackson	Pinaceae	Kail	H, F
<i>Pistacia integrifolia</i> J. L. Stewart	Anacardiaceae	Kakarsingi	H
<i>Populus ciliata</i> Wall.	Salicaceae	Poplar	H
<i>Populus nigra</i> Linn.	Salicaceae	Poplar	H
<i>Prunus cerasoides</i> D. Don	Rosaceae	Paza	S
<i>Pyrus pashia</i> Ham.	Rosaceae	Kainth	A, S
<i>Quercus leucotrichophora</i> A. Camus	Fagaceae	Ban	H
<i>Quercus semicarpifolia</i> Sm.	Fagaceae	Kharsu	A
<i>Rhododendron arboreum</i> Sm.	Ericaceae	Brah	A
<i>Rhododendron campanulatum</i> D. Don	Ericaceae	Tolo-Moti	A
<i>Robinia pseudoacacia</i> Linn.	Fabaceae	Robinia	A
<i>Salix karelinii</i> Turcz.	Salicaceae	Beaunce	A, H
<i>Salix tetrasperma</i> Roxb.	Salicaceae	Beaunce	A, H
<i>Sapium insigne</i> (Royle) Benth.	Euphorbiaceae	Pahari Tahli	H
<i>Shorea robusta</i> Gaertn. F.	Dipterocarpaceae	Sal	H, F
<i>Taxus baccata</i> Linn.	Taxaceae	Rakhal	F
<i>Tectona grandis</i> Linn.	Verbenaceae	Teak	H, F
<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Bahera	H
<i>Terminalia tomentosa</i> (DC) Wt. & Arn.	Combretaceae	Alsan	H
<i>Ulmus racemosa</i> D. Thomas	Ulmaceae	Elm	H
<i>Zanthoxylum armatum</i> DC	Rutaceae	Tirmir	A, S
<i>Zizyphus jujuba</i> Mill.	Rhamnaceae	Ber	F

Abbreviations: **A-** Agricultural Implements; **F-** Furniture; **H-** House Construction; **M-** Musical Instruments; **P-** Packing Cases; **S-** Walking Sticks.

The observations are also analyzed through histogram and pie diagram as shown in the figures given below.

Figure 1 and 2 showing the different uses and proportion of timber products:

FIGURE 1

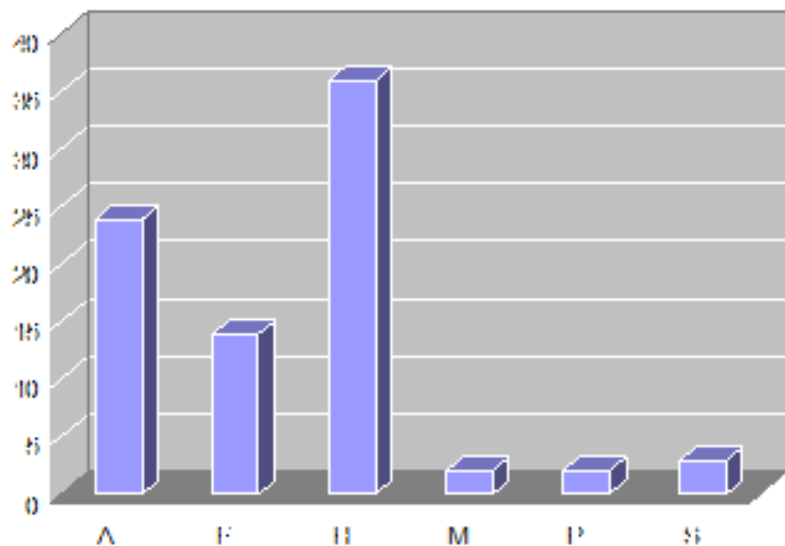


Figure-1: Histogram showing the number of different uses of plant wood.
A- Agricultural Implements (24 plants); **F-** Furniture (14 plants); **H-** House Construction (36 plants); **M-** Musical Instruments (2 plants); **P-** Packing Cases (2 plants); **S-** Walking Sticks (3 plants).

FIGURE 2

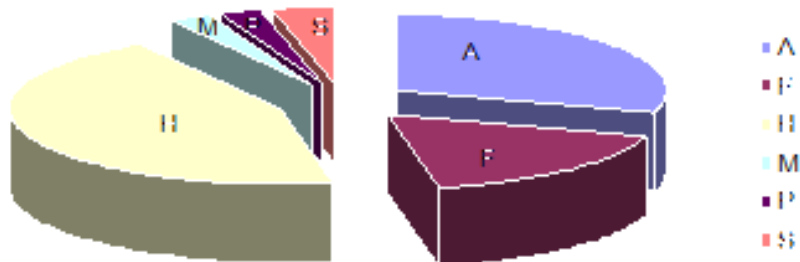


Figure-2: Pie diagram showing the proportion of different uses of plant wood.
A- Agricultural Implements; **F-** Furniture; **H-** House Construction; **M-** Musical Instruments; **P-** Packing Cases; **S-** Walking Sticks.

The timber plants belonging to various sections of Himachal Himalayas are given in Tables 2-4.

Table 2. Timber resources of Shivalik Hills

Timber Plants	Family	Local Name
<i>Acacia catechu</i> Willd.	Fabaceae	Khair
<i>Acacia nelotica</i> (L) Willd. <i>ex</i> Delile.	Fabaceae	Babul
<i>Albizia julibrissin</i> Durazz.	Fabaceae	Alsinia
<i>Albizia lebeck</i> Benth.	Fabaceae	Darek
<i>Albizia stipulata</i> Boiv.	Fabaceae	Oayee
<i>Arundinaria falcate</i> Nees	Bambusaceae	Dhadhanj
<i>Bambusa nutans</i> Wall.	Bambusaceae	Bainj
<i>Bauhinia purpurea</i> Linn.	Fabaceae	Karyal
<i>Bauhinia variegata</i> Linn.	Fabaceae	Karyala
<i>Bombax ceiba</i> Linn.	Bombaceae	Simbal
<i>Butea monosperma</i> Kuntze	Fabaceae	Palah
<i>Cedrella toona</i> Roxb. <i>ex</i> Rottl.	Meliaceae	Tooni
<i>Celtis australis</i> Linn.	Ulmaceae	Khirak
<i>Dalbergia sissoo</i> Roxb.	Fabaceae	Tahli
<i>Dendrocalamus hamiltonii</i> Nees & Arn. <i>ex</i> Munro	Bambusaceae	Maggar
<i>Ehretia acuminata</i> R. Br.	Cordiaceae	Punna
<i>Ehretia laevis</i> Roxb.	Cordiaceae	Bhankar
<i>Emblica officinalis</i> Gaertn.	Euphorbiaceae	Amla
<i>Eucalyptus umbellata</i> Domin	Myrtaceae	Safeda
<i>Eugenia jambolana</i> Lam. <i>ex</i> Brand.	Myrtaceae	Jamun
<i>Flacourtia ramontchi</i> L' Herit	Flacourtiaceae	Kangu
<i>Glochiodion velutinum</i> Wight	Euphorbiaceae	Samma
<i>Juglans regia</i> Linn.	Juglandaceae	Khod
<i>Litsea polyantha</i> Juss.	Lauraceae	Gwaun
<i>Machilus odoratissima</i> Nees	Lauraceae	Badrol
<i>Mangifera indica</i> Linn.	Anacardiaceae	Ama
<i>Melia azedarach</i> Linn.	Meliaceae	Drek
<i>Morus alba</i> Linn.	Moraceae	Toot

<i>Pinus roxburghii</i> Sarg.	Pinaceae	Chir
<i>Pistacia integrimma</i> J. L. Stewart	Anacardiaceae	Kakarsingi
<i>Populus ciliata</i> Wall.	Salicaceae	Poplar
<i>Populus nigra</i> Linn.	Salicaceae	Poplar
<i>Prunus cerasoides</i> D. Don	Rosaceae	Paza
<i>Pyrus pashia</i> Ham.	Rosaceae	Kainth
<i>Salix karelinii</i> Turcz.	Salicaceae	Beaunce
<i>Salix tetrasperma</i> Roxb.	Salicaceae	Beaunce
<i>Sapium insigne</i> (Royle) Benth.	Euphorbiaceae	Pahari Tahli
<i>Shorea robusta</i> Gaertn. F.	Dipterocarpaceae	Sal
<i>Tectona grandis</i> Linn.	Verbenaceae	Teak
<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Combretaceae	Bahera
<i>Terminalia tomentosa</i> (DC) Wt. & Arn.	Combretaceae	Alsan
<i>Zanthoxylum armatum</i> DC	Rutaceae	Tirmir
<i>Zizyphus jujuba</i> Mill.	Rhamnaceae	Ber

Table 3. Timber Resources of Lesser himalay.

<i>Abies pindrow</i> Royle ex D. Don	Pinaceae	Tosh
<i>Aesculus indica</i> Colebr.	Hippocastanaceae	Kanor
<i>Cedrus deodara</i> (Roxb.) Louden	Pinaceae	Devdar
<i>Ehretia laevis</i> Roxb.	Cordiaceae	Bhankar
<i>Erythrina suberosa</i> Roxb.	Fabaceae	Paryara
<i>Fagus grandiflora</i> Ehrh.	Fagaceae	Morgu
<i>Juglans regia</i> Linn.	Juglandaceae	Khod
<i>Morus nigra</i> Linn.	Moraceae	Toot
<i>Morus serrata</i> Roxb.	Moraceae	Cheemu
<i>Picea smithiana</i> Boiss.	Salicaceae	Spruce
<i>Pinus wallichiana</i> A. B. Jackson	Pinaceae	Kail
<i>Prunus cerasoides</i> D. Don	Rosaceae	Paza
<i>Pyrus pashia</i> Ham.	Rosaceae	Kainth
<i>Quercus leucotrichophora</i> A. Camus	Fagaceae	Ban
<i>Quercus semicarpifolia</i> Sm.	Fagaceae	Kharsu
<i>Rhododendron arboreum</i> Sm.	Ericaceae	Brah

<i>Robinia pseudoacacia</i> Linn.	Fabaceae	Robinia
<i>Salix karelinii</i> Turcz.	Salicaceae	Beaunce
<i>Salix tetrasperma</i> Roxb.	Salicaceae	Beaunce
<i>Sapium insigne</i> (Royle) Benth.	Euphorbiaceae	Pahari Tahli
<i>Taxus baccata</i> Linn.	Taxaceae	Rakhal
<i>Ulmus racemosa</i> D. Thomas	Ulmaceae	Elm

Table 4. Timber Resources of Greater Himalayas

<i>Betula utilis</i> D. Don	Betulaceae	Shakpang
<i>Abies pindrow</i> Royle ex D. Don	Pinaceae	Tosh
<i>Cedrus deodara</i> (Roxb.) Louden	Pinaceae	Devdar
<i>Fagus grandiflora</i> Ehrh.	Fagaceae	Morgu
<i>Pinus wallichiana</i> A. B. Jackson	Pinaceae	Kail
<i>Pinus gerardiana</i> Wall.	Pinaceae	Neoza
<i>Quercus leucotrichophora</i> A. Camus	Fagaceae	Ban
<i>Quercus semicarpifolia</i> Sm.	Fagaceae	Kharsu
<i>Rhododendron campanulatum</i> D. Don	Ericaceae	Tolo-Moti
<i>Ulmus racemosa</i> D. Thomas	Ulmaceae	Elm

Discussion

The present study revealed information of timber plants used for various purposes. These plants are arranged in alphabetical order; with their local name and part / parts used as in Table 1.

Present study includes 61 plants (Table 1) used for house construction, furniture, agricultural implements; for making walking sticks, musical instruments and packing cases etc. belonging to 47 genera and 26 families. The predominant families are fabaceae with 11 plants spp (8 genera), pinaceae with 6 plants (3 genera), salicaceae with 4 plants (2 genera). Bambuaceae (3 genera), euphorbiaceae (3 genera) and fagaceae (2 genera) have 3 plants each. Among various plants, 36 plants are used for house construction, 24 for agricultural implements, 14 for furniture manufacturing, 2 for musical instruments and packing cases each and 3 for making walking sticks (Figures 1 and 2). Out of total 61 plant spp 43 are reported in Shivalik hills, 22 in lesser Himalaya and 10 in greater Himalayan range.

This study is clearly useful to industries relying on timber resources of these rich ranges of Himalaya.

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