

AVAILABILITY OF AYURVEDIC MEDICINAL PLANTS INC-BLOCK, CENTRAL AYURVEDA RESEARCH INSTITUTE (CARI), JHANSI

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ABSTRACT

In March 2025, a survey was conducted to assess the availability and distribution of different sources of Ayurvedic medicinal plants in the C-Block of Central Ayurveda Research Institute (CARI) in Jhansi, Uttar Pradesh. It identified 34 plant species representing 32 genera and 20 families. The findings intend to show the importance of adoption to conserve rare plant species while promoting cultivation and commercialization of readily available herbs, shrubs and trees for therapeutic and pharmaceutical uses. In addition, commonly grown and widely available medicinal plants can be commercially exploited for the preparation of medicines for the wellness of mankind.

KEYWORDS: Rare species, Medicinal plants, Genera, Family, Herbs.

INTRODUCTION

India is endowed with a wealth of medicinal plants which has played a considerable part in establishing Indian Materia Medica, one of the first compendia of Indian medicine. The *Charak Samhita* has mentioned more than 300 plants drugs. In all subsequent classical texts, there has been an ever-increasing addition of more and more medicinal plants and as resultants; more plant drugs and formulations used in Indian medicine. While cultivation of medicinal plants has started, yet most are still being harvested from the wild to meet the demand from the medical profession.

Despite the country being rich in heritage of knowledge on plant drugs, farmers in the country did not regard the

cultivation of medicinal plants as field crops until the last part of the 19th century. Thus, identity of medicinal plants and their survey is of utmost importance. Identification of the medicinal plants is a significant issue to assure that right raw-materials could be used to produce desired therapeutic benefits. With the commercialisation of the manufacture of medicines made according to Ayurveda, Siddha and Unani, the issue of identification of medicinal plants has become more pronounced. If practitioners don't collect the plant material themselves and prepare the medicine, then it becomes even more important to properly identify medicinal plants that are not commonly known. The people trading medicinal plants seldom have the whole plant, thus usually unable to perform botanical

identification. Similarly, changed morphology under different conditions and, lastly, use of different names for the same plant also leads to misidentification.

The current survey was carried out to identify growing medicinal plants in addition to rare and endangered species, as well as identifies them correctly for commercialisation and conservation purposes, survey was carried in C-Block of Central Ayurveda Research Institute (CARI) in Jhansi, Uttar Pradesh, India.

Method of Study

Survey was carried out in C block of Institute, including the surrounding area, in the last week of the month of March, which is a good time period for survey to find good availability of medicinal plant. Survey of medicinal plants was done before flowering and fruiting. Their identification was carried out with the help of Floras and Ayurvedic texts. Plant specimens were maintained and preserved in herbaria of the Institute of CARI, Jhansi, India.

OBSERVATIONS

A total of 34 species of medicinal plants were documented, categorized into:

- ✚ **Trees:** 16 species
- ✚ **Herbs:** 10 species
- ✚ **Small Trees:** 5 species
- ✚ **Shrubs:** 3 species

Some notable species documented include

Bauhinia variegata, *Celosia argentea*, *Convolvulus pluricaulis*, *Terminalia arjuna*, *Vitex negundo*, *Aegle marmelos*, and *Senegalia catechu*.

The survey presents a diverse collection of medicinal plant species, representing a wide range of botanical families, habitats, and availability statuses. The data indicates several key observations as follows

- The *Fabaceae* family is the most represented, with 8 species (e.g., *Bauhinia variegata*, *Dalbergia sissoo*, *Cassia fistula*), indicating its medicinal importance in the region.
- Other notable families include *Euphorbiaceae* (4 species), *Moraceae* (3 species), and *Lamiaceae* (2 species).
- A wide botanical range, from herbs and shrubs to large trees, suggests ecological richness.
- The majority of species are trees, followed by herbs and shrubs.
- Common species like *Azadirachta indica*, *Mangifera indica* and *Aegle marmelos* indicate stable populations and widespread use.
- Sporadic species suggest scattered distribution, possibly due to habitat fragmentation or unsustainable harvesting.

RESULT AND DISCUSSION

The topography of the District Jhansi has hills, valleys and rivers. Due to such topography, Jhansi has a great diversity of Ayurvedic medicinal plants representing 34 species of 32 genera belonging to 20 families of angiospermic plants (Table 1). Amongst them 47.05% were trees, followed by 29.41% herbs, 14.70% small trees and 8.82% shrub (Figure 1). Most of the plants were sporadic with 47.05%, followed by common 23.52%, followed by uncommon plants 14.70% and rare plants were recorded as 14.70% (Figure 2).

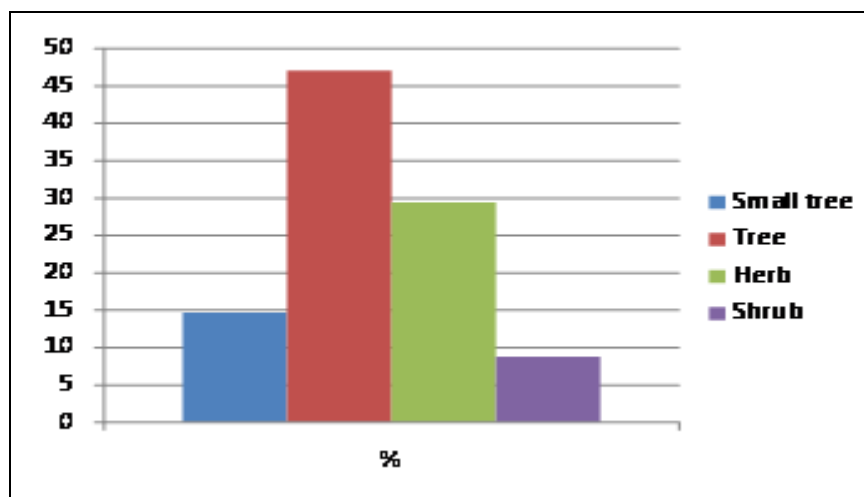


Figure 1: Distribution of plants, surveyed in the study.

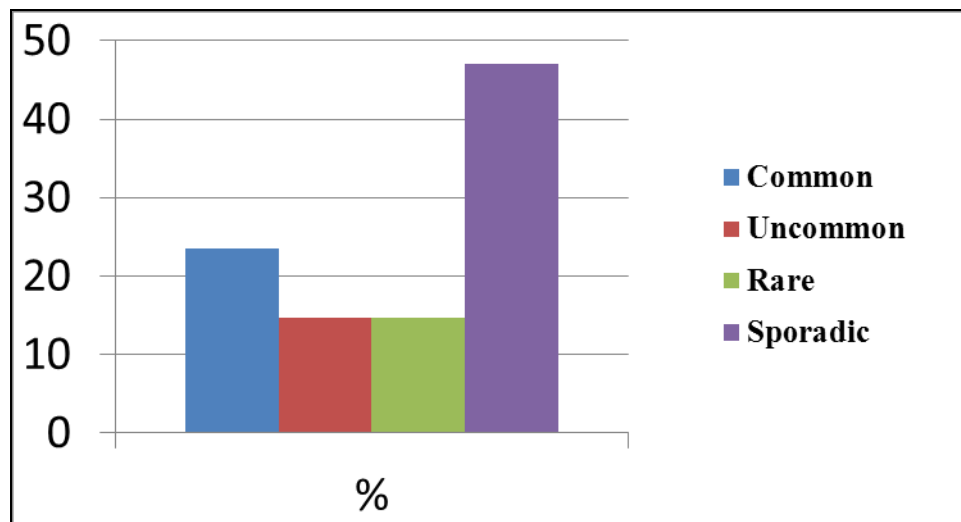


Figure 2: Availability of medicinal plant species based on their % abundance.

The following plants of medicinal importance were identified along with other species:

- ✓ *Bauhenia variegata* Linn.
- ✓ *Celosia argentea* L.
- ✓ *Convolvulus pluricaulis* L.

- ✓ *Terminalia arjuna* (Roxb.)
- ✓ *Vitex negundu* L.
- ✓ *Aegil marmelos* (L.)

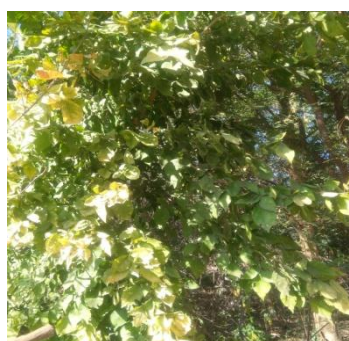
Table 1: Descriptions of Medicinal Plant Species Collected during Survey Study.

S.No.	Botanical Name of the Medicinal Plant species	Plant Family	Hindi Name	Availability	Habitat
1.	<i>Gmelina arborea</i> Roxb.	Lamiaceae	गंभाड़ी	Uncommon	Small tree
2.	<i>Catheranthus roseus</i> (Laenneus) G.Don.	Apocynaceae	सदाबहार	Common	Herb
3.	<i>Bauhenia variegata</i> Linn.	Fabaceae	कचनार	Sporadic	Small tree
4.	<i>Celosia argentea</i> L.	Amaranthaceae	मयूरशिखा	Rare	Herb
5.	<i>Convolvulus pluricaulis</i> L.	Convolvulaceae	शंखपुष्पी	Common	Herb
6.	<i>Terminalia arjuna</i> (Roxb.) Wight & Arn.	Combretaceae	अर्जुन	Sporadic	Tree
7.	<i>Azadirachta indica</i> L.	Meliaceae	नीम	Common	Tree
8.	<i>Adhatodavastica</i> Nees	Acanthaceae	वासाअडूसा	Sporadic	Herb
9.	<i>Boerhaviadiffusa</i> L.nom. cons.	Nyctaginaceae	पुनर्नवा	Uncommon	Herb
10.	<i>Vitex negandu</i> L.	Lamiaceae	निर्गुण्डी	Sporadic	Shrub
11.	<i>Aegilmarmelos</i> (L.) Correa	Rutaceae	बेल	Common	Tree
12.	<i>Dalbergia sissoo</i> Roxb.	Fabaceae	शीशम	Sporadic	Tree
13.	<i>Phyllanthus embelica</i> L.	Phyllenthaceae	आवला	Common	Tree
14.	<i>Moriga oleifera</i> Lam.	Moringaceae	सहजन	Sporadic	Tree
15.	<i>Mangifera indica</i> L.	Anacardiaceae	आम	Common	Tree
16.	<i>Ziziphus mauritiana</i> L.	Rhamnaceae	बेर	Sporadic	Shrub
17.	<i>Ricinus communis</i> L.	Euphorbiaceae	अरंडी	Sporadic	Shrub
18.	<i>Pterospermum acerifolium</i> (L.) Willd.	Malvaceae	कनक	Rare	Tree
19.	<i>Jatropha curcas</i> L.	Euphorbiaceae	करंज	Sporadic	Herb
20.	<i>Temrindas indica</i> L.	Fabaceae	इमली	Common	Tree
21.	<i>Acacia nilotica</i> (L.)	Fabaceae	बबूल	Common	Small tree
22.	<i>Phoenix dactylifera</i> L.	Aracaceae	खजूर	Sporadic	Tree
23.	<i>Senegalia catechu</i> (L.f.) P.J.H.Hurter & Mabb.	Fabaceae	खैर	Rare	Small tree
24.	<i>Ficus racemosa</i> L.	Moraceae	गूलर	Sporadic	Tree
25.	<i>Butea monosperma</i> (Lam.)	Fabaceae	पलाश	Uncommon	Tree
26.	<i>Acacia senegal</i> (L.) Willd.	Fabaceae	बबूल	Rare	Small tree

27.	<i>Syzygiumcumuni</i> (L.) <u>Skeels.</u>	Myrtaceae	जामुन	Sporadic	Tree
28.	<i>Ficus benghalensis</i> L.	Moraceae	बरगद	Sporadic	Tree
29.	<i>Ficus religiosa</i> L.	Moraceae	पीपल	Sporadic	Tree
30.	<i>Cassia fistula</i> L.	Fabaceae	अमलताश	Sporadic	Tree
31.	<i>Jatropha curcas</i> L.	Euphorbiaceae	जट्रोफा	Uncommon	Herb
32.	<i>Ipomea aquatica</i> Forssk.	Convolvulaceae	बेशरम	Sporadic	Herb
33.	<i>Saccharum spontaneum</i> L.	Poaceae	कांस	Uncommon	Herb
34.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	यूफोर्बियाहर्टा	Rare	Herb

This study was considered beneficial for commercialization of those plants which are widely available and the sustainable. It is the also beneficial to identify the species which require their cultivation in the specific area. Uncommon and rare species such as *Celosia argentea* and *Pterospermumacerifolium*

highlight conservation concerns and the need for protection efforts. Some species like *Jatropha curcas* and *Convolvulus pluricaulis* showed potential for cultivation and propagation due to their economic and medicinal value. **Figure 3** depicted photographs of some plants surveyed in study.



Aegle marmelos (L.) Corrêa



Adhatoda vasica Nees



Celosia argentea L.



Saccharum spontaneum L.



Terminalia arjuna (Roxb.)
Wight and Arn.



Convolvulus pluricaulis L.



Moringa oleifera Lam.



Phyllanthus embellica L.



Ricinus communis L.

Figure 3: Photographs of Medicinal Plant Collected from the C-Block Survey.

CONCLUSION

The biological diversity of the surveyed area suggests a variety of plant species important in Ayurvedic

medicine. This survey study suggests an important understanding of conservation requirements for less common, restricted plants such as *Celosia argentea* and

Senegalia catechu. This survey provides evidence for reflective commercial gain against the conservation and cultivation of less common plant species. If there is accurate botanical identification, along with a well-planned cultivation strategy, supply genuine raw product preparation for the Ayurvedic industry may be sustainable. It can be concluded from this work that the plants that exist or thrive in abundance that can be exploited by the stakeholder should be managed so it is not depleted and the plants that are rare need conserving and, if appropriate, cultivated using traditional and standard methods so they sustain genuine supply for the Ayurvedic Industries.

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