



**Economic Utility of Plant Species Found in Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharashtra**

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**ABSTRACT**

The survey was undertaken in the campus of Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola with the objective to study the economic utility of plant species. Totally 89 plant species were studied, out of which 47 were recorded as fodder species, 54 medicinal and aromatic plants, 55 timber, 31 fuel wood, 32 edible plants, 26 gums and resins, 21 landscape and ornamental value, 24 tans and dyes, 10 insecticidal, 11 fibre and flosses, 4 Tantra and mantra and 3 species were recorded as bee flora.

**Keywords:**

Campus, economic utility, flora, plants

**INTRODUCTION**

From time immemorial, the plants have shaped the life, economy and habitat of the people and perform number of functions including ecological, economical and recreational. It has been said rightly that plants can live in the absence of man but the existence of man without plants is beyond imagination.

Nature has blessed India with a great biodiversity. According to the World Conservation Monitoring Centre (WCMC) India's 3,28,263 sq.km. of land mass houses as many as 397 species of mammals, 1,232 of birds, 460 reptiles, 240 amphibians and more than 15000 flowering plants (Bhave et al. 2007).

Biological diversity is the variety and variability of plants, animals and micro-organisms on earth. Our planet's resources feed, provide shelter and housing, medicines and spiritual nourishment. The current decline in biodiversity is largely due to the result of human activity

and represents a serious threat to human development.

Forests are the chief resource for the collection and exploration of biological material. The past few decades have witnessed large scale deforestation in India due to substantial pressure generated by population growth demanding more land for agriculture, urbanization and industrial activities in addition to increased demand for fuel wood and timber. This has resulted in the loss of soil cover, habitat destruction, environmental degradation and ecological imbalance. This scenario has created a progressive awareness for the conservation and restoration of habitat and thus resulting in notifying many forest areas into protected zones, such as National Parks, Sanctuaries and Biosphere Reserves.

Maharashtra has been occupying a pivotal place in the country for its rich and varied biodiversity. The campus of Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola is having rich diversity with varied flora and fauna. The

university campus has over a total 3425 hectares of land out of which the total intended area of the main campus is 1266.03 ha. The work on economic utility of the flora in this university has not been carried out in the past. Hence, an attempt has been made to survey and study the economic utility of the plant species present in Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola.

#### **MATERIALS AND METHODS**

Dr. Panjabrao Deshmukh Krishi Vidyapeeth (Agricultural University) is 5 km away from Akola railway station and the university occupying an area adjoining to Akola-Murtizapur state highway. Geographically, this university is situated at the latitude of 20° 42' North and longitude of 77° 02' East. Northern boundary is demarcated by the Mothi Umari, Guddhi village, east by Shivani airport and west by railway line. Whereas, on south, it is bounded by the staff quarters and railway line. The average annual rainfall is between 700 to 950 mm and on an average there are 53 rainy days in a year. The temperature rises rapidly after February till May, which is the hottest month of the year. In May the mean daily maximum temperature is 43.3°C and means daily minimum temperature is 29.5°C. The flora of the university mainly consists of tree species *Azadirachta indica*, *Tectona grandis*, *Emblica officinalis*, *Dalbergia sissoo*, *Cassia fistula* and *Albizia lebbek*. Predominant shrubs are *Carissa carandus*, *Lantana camara*, *Caesalpinia crista*. Among grasses, *Aristida funiculata*, *Dichanthium annulatum* and *Digitaria ciliaris* are important part of the biodiversity in the campus.

Extensive field survey of the entire area was carried out in the university of Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. The flora of the university were identified with the help of local people, staff members of the university, Department of Forestry and published books

namely Flora of Akola district (Kamble and Pradhan 1988), Forest flora of Melghat (Patel 1968), Additions to the flora of Melghat (Bhogaonkar and Devarkar 1999), The forest flora of Maharashtra state (Singh and Karthikeyan 2000 & 2001).

#### **RESULT AND DISCUSSION**

Economic utility of plant species found in the campus of Dr. Panjabrao Deshmukh Krishi Vidyapeeth was studied and appended in Table 1. Economic utility of plant species in respect of timber, fodder, fibre and flosses, tans and dyes, gums and resins, fuel wood, edible, ornamental landscape, medicinal and aromatic, bee flora, tantra and mantra and insecticidal property is given in the table.

All the species have been classified on the basis of their economic utility, of which 55 species are used for timber, 54 species has been categorized as medicinal and aromatic plants, 47 species are used as fodder, 31 for fuel wood; 32 species as edible plants, 26 species for gums and resins, 24 species for tans and dyes, 21 species for landscape and ornamental value; 11 species for fibre and flosses; 10 species as source of insecticide, 3 species as a source of pollen and nector for bee flora, 4 species for tantra and mantra (Table 2 and Fig.1.). The said work is in accordance with Chauhan (1995) on economically useful plant resources of Himachal Pradesh. Similar work was done by Chauhan (1984) in the wild medicinal plants of Pabbar valley of Himachal Pradesh. Uniyal and Rao (1993) explored the plant wealth of Rajaji National Sanctuary in Uttar Pradesh. Hande et al. (2014) undertaken the survey in the Katepurna wildlife sanctuary, Akola wildlife division, Maharashtra and recorded the economic utility of the plant species found in the wildlife sanctuary.

Table 1. Economic utility of plant species found in Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola.

Species	Timber	Fodder	Fibre and Flosses	Tans and dyes	Gums and resins	Fuel wood	Edible	Ornamental landscape	Medicinal and aromatic	Bee flora	Tantra and mantra	Insecticide
<i>Abrus precatorius</i> Linn.	-	-	-	-	-	-	-	+	+	-	+	+
<i>Acacia catechu</i> Willd.	+	+	-	-	+	+	+	-	+	-	+	-
<i>Acacia leucophloea</i> Willd.	-	+	-	+	+	+	-	-	+	-	-	+
<i>Acacia pennata</i> Willd.	-	-	-	-	+	-	+	-	+	-	-	+
<i>Acacia nilotica</i> (Linn.)	+	+	-	-	+	+	-	-	-	-	-	-
<i>Achyranthes aspera</i> L.	-	+	-	-	-	-	-	+	+	-	-	-
<i>Adhatoda vasica</i> L.	-	-	-	-	-	-	-	-	+	-	-	-
<i>Adina cordifolia</i> Roxb.	+	-	+	+	-	-	-	-	-	-	-	-
<i>Adansonia digitata</i> L.	+	-	+	+	-	-	+	-	+	-	-	-
<i>Aegle marmelos</i> (L.) Corr. Serr	+	-	-	+	+	+	-	+	+	-	-	-
<i>Albizia lebbek</i> Benth.(L.)	+	+	-	+	+	+	-	+	+	+	-	-
<i>Alstonia scholaris</i> L.	-	-	-	-	-	-	-	-	+	-	-	-
<i>Anogeissus latifolia</i> Roxb.	+	+	-	+	+	+	+	-	+	-	-	-
<i>Artocarpus heterophyllus</i> Lam.	+	+	-	+	-	-	+	-	+	-	-	-
<i>Aristida funiculata</i> Trin.	-	+	-	-	-	-	-	-	-	-	-	-
<i>Aristida redacta</i> Stapf.	-	+	-	-	-	-	-	-	-	-	-	-
<i>Ailanthus excelsa</i> Roxb.	+	+	-	-	-	-	-	-	-	-	-	-
<i>Azadirachta indica</i> A.Juss	+	+	-	-	+	+	+	+	+	+	+	+
<i>Balanites aegyptiaca</i> (L.) Delle	+	-	-	-	+	+	-	-	+	-	-	-
<i>Bauhinia racemosa</i> Lam.	+	+	+	-	+	+	+	-	+	-	-	-
<i>Bauhinia variegata</i> (L.) Benth	+	+	+	-	-	+	+	-	+	-	-	-

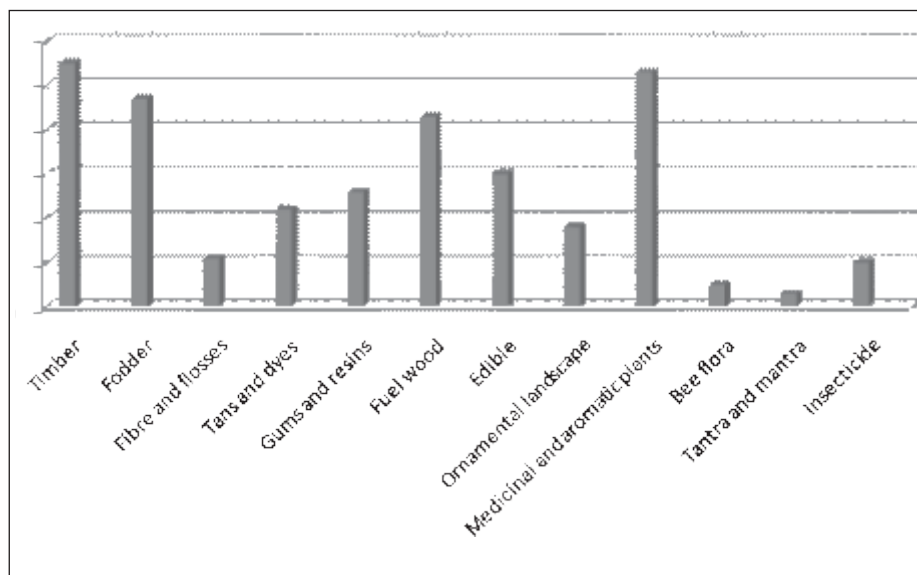






**Table 2.** Number of species and their utilization.

Utilization of species	Number of species
Timber	5
Fodder	47
Fibre and flosses	11
Tans and dyes	24
Gums and resins	26
Fuel wood	31
Edible	3
Ornamental landscape	21
Medicinal and aromatic plants	5
Bee flora	3
Tantra and mantra	4
Insecticide	10

**Fig. 1.** Economic utility of plant species**ACKNOWLEDGMENTS**

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