

Original Research Article

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AVAILABILITY OF AYURVEDIC MEDICINAL PLANTS IN SAWAI MADHOPUR DISTRICT OF RAJASTHAN

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Abstract

A field survey was conducted in District Sawai Madhopur (Rajasthan) from September 14th to September 24th, 2011, to assess the availability of Ayurvedic medicinal plants. Among numerous plant species surveyed, a total of 138 Ayurvedic medicinal plants were identified for further study. These comprised 66 herbs, 19 shrubs, 18 climbers, and 35 trees. The availability of these plants was categorized as; common (26.81%), uncommon (12.31%), abundant (7.24%), sporadic (48.55%) and rare (5.07%). Plants that are abundantly available hold potential for widespread medicinal uses, whereas those categorized as rare need to be conserved and promoted for commercial cultivation in the region.

Key Words: *Ayurvedic, Medicinal Plant, Survey, Sawai Madhopur, Rajasthan*

Introduction

India is endowed with a rich abundance of medicinal plants; which played a significant role in the development of Indian Materia Medica, which is considered one of the earliest compilations of indigenous medical knowledge. Dating back to around 1000 BC the *Charak Samhita* described over 300 plant-based drugs. Over time, subsequent classical texts

have continuously expanded this repertoire, leading to a manifold increase in the number of plant based drugs and formulations.

Despite the efforts of cultivation, the majority of medicinal plants are still sourced from the wild region and these plants obtained from wild area meet the demands of the medical profession. The cultivation of these plants as field crops did not become a priority for farmers until the latter part of the 19th century. Consequently, the accurate identification of medicinal plants is also become crucial for avoiding misinterpretation or chances of adulteration.

The identification of medicinal plants is fundamental to ensuring that the correct raw materials are utilized in drug manufacturing, thereby guaranteeing the desired therapeutic effects. However, with the commercialization of Ayurveda, *Siddha* and *Unani* medicines, the issue of identification has become more pronounced. The separation of harvesting and trade activities often results improper identification of medicinal plants. Additionally, those involved in the trade may lack access to the entire plant, hindering accurate botanical identification.

Moreover, factors such as variations in morphology under different conditions and the use of diverse names for the same plant may leads misidentification of plant or parts of plant. To address these challenges, a comprehensive survey was conducted to identify medicinal plants growing abundantly, as well as those on the brink of extinction. The aim was to facilitate their proper commercialization and conservation. Furthermore, this survey may help to identify species that require cultivation in specific areas, thereby contributing to their preservation and sustainable utilization.

AIM & OBJECTIVE:

- ✓ To perform a survey on Ayurvedic medicinal plants available in Sawai Madhopur district & some part of Ranthambhore National Park of Rajsthan, India.

- ✓ To collect medicinal plants from particular area and identify collected plants with the help of Floras and Ayurvedic literature.
- ✓ To conclude availability of Ayurvedic medicinal plants in Sawai Madhopur district of Rajasthan, India.

Demography of Study Region:

Sawai Madhopur District is situated to the eastern part of Rajasthan. The total area of Sawai Madhopur district is 5042.99 km² (including under rural and urban area). Sawai Madhopur town lies in the hill of Vindhya and Aravali ranges.

The district stretches between North longitude 25°-45' to 26°-41' to East longitude between 75°-59' to 77°-0'. The average temperature range 37°C (max.)-23°C (min.) in summer and in winter 29°C (max.) – 9°C (min.). The type of soil in Sawai Madhopur is mainly alluvial red and black soil with sandy loam texture. Sawai Madhopur, Ranthambhor Wild Life Sanctuary having rich flora of medicinal plants.

Method:

The survey was conducted from 16 to 24 September 2011, which was the best time for survey to find maximum medicinal plant availability. Survey was conducted in all the direction of Sawai Madhopur District including some part of Ranthambhore National Park. Ayurvedic medicinal plants were collected from forest area and villages. Collected plants were identifying with the help of Floras and Ayurvedic literature. Collected plant specimens were preserved in herbaria of the Institute of CARI, Jhansi.

Result and Discussion:

District Sawai Madhopur is situated in the eastern part of Rajasthan with its varied topography with hills, valleys, rivers, streams and estuaries. Due to varied topography, Sawai Madhopur has varied diversity of Ayurvedic medicinal plants representing 138 species of 112 genera belonging to 52 families of angiospermic/pteridophytic plants (**Table 1**).

Table 1: Ayurvedic Medicinal Plant Collected From Sawai Madhopur Dist., Rajasthan, India.

S. No.	Botanical Name	Sanskrit Name	Family	Habit	Abundance
1	<i>Abrus precatorius</i> L.	Gunja	Fabaceae	Climbing shrub	Sporadic
2	<i>Abutilon indicum</i> (L.) Naud.	Atibala	Malvaceae	Herb	Sporadic
3	<i>Acacia catechu</i> Willd.	Khadir	Fabaceae	Tree	Sporadic
4	<i>Acacia leucophloea</i> Willd.	Erimed bhed	Mimosaceae	Tree	Common
5	<i>Acacia nilotica</i> (L.) Willd. ex Del.	Babbul	Mimosaceae	Tree	Common
6	<i>Acacia senegal</i> Willd.	Swet babbul	Mimosaceae	Tree	Sporadic
7	<i>Acalypha indica</i> L.	Harit manjjari	Euphorbiaceae	Herb	Common
8	<i>Achyranthus aspera</i> L.	Apamarg	Amaranthaceae	Herb	Common
9	<i>Actiniopteris radiata</i> (Sw.) Link	Mayurshikha	Polypodiaceae	Herb	Sporadic
10	<i>Adhatoda zeylanica</i> Medik.	Vasa	Acanthaceae	Herb	Abundant
11	<i>Aegle marmelos</i> Corr.	Bilva	Rutaceae	Tree	Sporadic
12	<i>Ailanthus excelsa</i> Roxb.	Arlu	Simaroubaceae	Tree	Sporadic
13	<i>Albizzia lebeck</i> Benth.	Shirish	Fabaceae	Tree	Sporadic
14	<i>Alternanthera sessilis</i> (L.) R. Br.	Matsyakshi	Amaranthaceae	Herb	Sporadic
15	<i>Amaranthus excelsa</i> Roxb.	Tanduliyak	Amaranthaceae	Herb	Common
16	<i>Andrographis echiodides</i> Nees	Kalmegh bhed	Acanthaceae	Herb	Sporadic
17	<i>Annona squamosa</i> L.	Gandagatra	Annonaceae	Shrub	Sporadic
18	<i>Anogeissus pendula</i> Edgew.	Dhav bhed	Combretaceae	Tree	Sporadic
19	<i>Argemone mexicana</i> L.	Swarnakshiri	Papaveraceae	Herb	Sporadic
20	<i>Aristolochia bracteolata</i> Lam.	Kidamari	Aristolochiaceae	Herb	Rare
21	<i>Asparagus racemosus</i> var. <i>Javanicus</i> (Kunth.) Baker.	Shatavari	Liliaceae	Climber	Sporadic
22	<i>Azadirachta indica</i> A. Juss.	Nimba	Meliaceae	Tree	Common
23	<i>Balanites aegyptiaca</i> (L.) Delile	Ingudi	Simaroubaceae	Small tree	Sporadic
24	<i>Barleria prionitis</i> L.	Saireyek peet	Acanthaceae	Herb	Sporadic
25	<i>Basella alba</i> L.	Upodika	Basallaceae	Climber	Common

26	<i>Bauhinia racemosa</i> Lam.	<i>Ashmantak bhed</i>	<i>Fabaceae</i>	Tree	Sporadic
27	<i>Boerhavia diffusa</i> L.	<i>Punarnava</i>	<i>Nyctaginaceae</i>	Herb	Common
28	<i>Boswellia serrata</i> Roxb.	<i>Shallaki</i>	<i>Burseraceae</i>	Tree	Sporadic
29	<i>Bryonopsis laciniosa</i> (L.) Sw.	<i>Shivlingi</i>	<i>Cucurbitaceae</i>	Herb	Uncommon
30	<i>Butea monosperma</i> (Lam.) Kuntze	<i>Palash</i>	<i>Fabaceae</i>	Tree	Sporadic
31	<i>Caesalpinia bonduc</i> (L.) Roxb.	<i>Kantaki karanj</i>	<i>Caesalpinaceae</i>	Shrub	Sporadic
32	<i>Canavalia gladiata</i> (Jacq.) DC.	<i>Kolshimbi</i>	<i>Fabaceae</i>	Shrubby climber	Uncommon
33	<i>Capparis decidua</i> Edgew	<i>Karir</i>	<i>Capparidaceae</i>	Shrub	Common
34	<i>Capparis sepiaria</i> L.	<i>Himshra</i>	<i>Capparidaceae</i>	Shrub	Common
35	<i>Capparis zeylanica</i> L.	<i>Ahinsra</i>	<i>Capparidaceae</i>	Shrub	Abundant
36	<i>Cardiospermum halicacabum</i> L.	<i>Karnasphota</i>	<i>Sapindaceae</i>	Climbing herb	Common
37	<i>Carissa carandas</i> L.	<i>Karmard</i>	<i>Apocynaceae</i>	Shrub	Sporadic
38	<i>Cassia alata</i> L.	<i>Dadmari</i>	<i>Fabaceae</i>	Shrub	Rare
39	<i>Cassia fistula</i> L.	<i>Aaraghvadh</i>	<i>Fabaceae</i>	Tree	Sporadic
40	<i>Cassia occidentalis</i> L.	<i>Kasmard</i>	<i>Fabaceae</i>	Herb	Common
41	<i>Cassia tora</i> L.	<i>Chkramard</i>	<i>Fabaceae</i>	Herb	Common
42	<i>Celosia argentia</i> L.	<i>Shitivarak</i>	<i>Amaranthaceae</i>	Herb	Uncommon
43	<i>Cissampelos pareira</i> L. var. <i>hirsuta</i> (Buch.-Ham. ex DC.)	<i>Patha</i>	<i>Menispermaceae</i>	Climber	Sporadic
44	<i>Citrullus colocynthis</i> Schrad.	<i>Indravaruni</i>	<i>Cucurbitaceae</i>	Trailing herb	Sporadic
45	<i>Cleome viscosa</i> L.	<i>Suvarchala (peet)</i>	<i>Capparidaceae</i>	Herb	Common
46	<i>Clerodendrum multiflorum</i> (Burm.f.) Kuntze	<i>Laghu Agnimanth</i>	<i>Verbenaceae</i>	Shrub	Sporadic
47	<i>Cocculus hirsutus</i> (L.) Diels	<i>Chilhint</i>	<i>Menispermaceae</i>	Herb	Common
48	<i>Commicarpus chinensis</i> (L.) Heimeri	<i>Punarnava bhed</i>	<i>Nyctaginaceae</i>	Herb	Sporadic
49	<i>Corchorus depressus</i> (L.) Christensen	<i>Chanchu (kshudra)</i>	<i>Tiliaceae</i>	Herb	Sporadic
50	<i>Corchorus olitorius</i> L.	<i>Chanchu brihat</i>	<i>Tiliaceae</i>	Herb	Common

51	<i>Corchorus trilocularis</i> L.	<i>Chanchu (Kshudra)</i>	<i>Tiliaceae</i>	Herb	Common
52	<i>Cordia dichotama</i> Forst. f.	<i>Sleshmatak</i>	<i>Boraginaceae</i>	Tree	Uncommon
53	<i>Cryptolepis buchanani</i> Roem. & Schult.	<i>Krishna Sariva</i>	<i>Asclepiadaceae</i>	Climbing shrub	Uncommon
54	<i>Cuscuta reflexa</i> Roxb.	<i>Akashvalli</i>	<i>Convolvulaceae</i>	Herb	Uncommon
55	<i>Dalbergia sissoo</i> Roxb.	<i>Shinshapa</i>	<i>Fabaceae</i>	Tree	Sporadic
56	<i>Datura innoxia</i> Mill	<i>Dhattur</i>	<i>Solanaceae</i>	Herb	Common
57	<i>Desmodium gangeticum</i> DC.	<i>Shalparni</i>	<i>Fabaceae</i>	Herb	Uncommon
58	<i>Desmostachya bipinnata</i> Stapf.	<i>Kush</i>	<i>Poaceae</i>	Herb	Sporadic
59	<i>Dichrostachys cinerea</i> W.& A.	<i>Virtaru</i>	<i>Fabaceae</i>	Tree	Sporadic
60	<i>Dioscorea bulbifera</i> L.	<i>Varahi</i>	<i>Dioscoreaceae</i>	Climber	Sporadic
61	<i>Diospyros melanoxylon</i> Roxb.	<i>Tindook</i>	<i>Ebenaceae</i>	Tree	Sporadic
62	<i>Diospyros montana</i> Roxb.	<i>Vish tindook bhed</i>	<i>Ebenaceae</i>	Small tree	Sporadic
63	<i>Eclipta alba</i> Hassk.	<i>Bhringraj</i>	<i>Asteraceae</i>	Herb	Sporadic
64	<i>Eugenia heyneana</i> Sensus	<i>Nadijambu</i>	<i>Myrtaceae</i>	Tree	Sporadic
65	<i>Euphorbia hirta</i> L.	<i>Doogdhika (brihat)</i>	<i>Euphorbiaceae</i>	Herb	Common
66	<i>Evolvulus alsinoides</i> (L.) L.	<i>Neel Shankhpushpi</i>	<i>Convolvulaceae</i>	Herb	Sporadic
67	<i>Ficus religiosa</i> L.	<i>Ashwattha</i>	<i>Moraceae</i>	Tree	Sporadic
68	<i>Ficus retusa</i> L.	<i>Kamboji</i>	<i>Moraceae</i>	Tree	Sporadic
69	<i>Flacourtia indica</i> Merr.	<i>Vikankat</i>	<i>Flacourtiaceae</i>	Shrub	Sporadic
70	<i>Gloriosa superba</i> L.	<u><i>Langli</i></u>	<i>Liliaceae</i>	Climber	Uncommon
71	<i>Gmelina arborea</i> L.	<i>Gambhari</i>	<i>Lamiaceae</i>	Tree	Rare
72	<i>Grewia tenax</i> Fiori	<i>Gangeruki</i>	<i>Malvaceae</i>	Shrub	Sporadic
73	<i>Grewia tiliaefolia</i> Vahl.	<i>Dhanvang</i>	<i>Malvaceae</i>	Small tree	Uncommon
74	<i>Helicteres isora</i> L.	<i>Avartani</i>	<i>Sterculiaceae</i>	Shrub	Sporadic
75	<i>Holoptelea integrifolia</i> Planch.	<i>Chirbilwa</i>	<i>Ulmaceae</i>	Tree	Common
76	<i>Hygrophila spinosa</i> T.	<i>Kokilaksh</i>	<i>Acanthaceae</i>	Herb	Rare
77	<i>Oryza rufipogon</i> Griff..	<i>Nivar</i>	<i>Poaceae</i>	Herb	Sporadic
78	<i>Ichnocarpus frutescens</i> (L.) R. Br.	<i>Sariva bhed</i>	<i>Apocynaceae</i>	Climbing shrub	Sporadic
79	<i>Indigofera tinctoria</i> L.	<i>Nili</i>	<i>Fabaceae</i>	Herb	Common

80	<i>Ipomoea aquatica</i> Forssk.	<i>Nadi</i>	<i>Convolvulaceae</i>	Herb	Sporadic
81	<i>Jatropha gossypifolia</i> L.	<i>Dravanti bhed</i>	<i>Euphorbiaceae</i>	Herb	Common
82	<i>Lannea coromandelica</i> (Houtt.) Merrill.	<i>Jingani</i>	<i>Anacardiaceae</i>	Tree	Common
83	<i>Leptadenia pyrotechnica</i> (Forssk) Decne	<i>Swarna Jivanti</i>	<i>Asclepiadaceae</i>	Shrub	Sporadic
84	<i>Leucas cephalotes</i> Spreng.	<i>Dronapushpi</i>	<i>Lamiaceae</i>	Herb	Uncommon
85	<i>Luffa acutangula</i> Roxb. var. <i>Amara</i> (Roxb.) Clarke	<i>Kritvedhan tikt</i>	<i>Cucurbitaceae</i>	Climber	Common
86	<i>Luffa echinata</i> Roxb.	<i>Devdali</i>	<i>Cucurbitaceae</i>	Climber	Abundant
87	<i>Mallotus philippensis</i> (Lam.) Muell.-Arg.	<i>Kamppilak</i>	<i>Euphorbiaceae</i>	Tree	Sporadic
88	<i>Marsilea minuta</i> L.	<i>Sunishannak</i>	<i>Marsileaceae</i>	Herb	Sporadic
89	<i>Martynia annua</i> L.	<i>Kaknasa bhed</i>	<i>Pedaliaceae</i>	Herb	Uncommon
90	<i>Mimusops hexandra</i> Roxb.	<i>Rajadan</i>	<i>Sapotaceae</i>	Tree	Sporadic
91	<i>Momordica balsamina</i> L.	<i>Karvellak bhed</i>	<i>Cucurbitaceae</i>	Climber	Abundant
92	<i>Momordica dioica</i> Roxb.	<i>Karkotaki</i>	<i>Cucurbitaceae</i>	Climber	Abundant
93	<i>Mucuna pruriens</i> Bak.	<i>Kapikacchu</i>	<i>Fabaceae</i>	Climber	Common
94	<i>Mytragyna parvifolia</i> Korth.	<i>Kadamba bhed</i>	<i>Rubiaceae</i>	Tree	Sporadic
95	<i>Nyctanthes arbortristis</i> L.	<i>Parijat</i>	<i>Oleaceae</i>	Shrub	Sporadic
96	<i>Nymphaea nauchali</i> Burm.	<i>Nilotpal</i>	<i>Nymphaeaceae</i>	Herb	Sporadic
97	<i>Nymphaea pubescens</i> Willd.	<i>Kumudani</i>	<i>Nymphaeaceae</i>	Herb	Sporadic
98	<i>Ocimum canum</i> Sims.	<i>Arjak</i>	<i>Lamiaceae</i>	Herb	Common
99	<i>Pedaliium murex</i> L.	<i>Gokshur (brihat)</i>	<i>Pedaliaceae</i>	Herb	Sporadic
100	<i>Pentatropis spiralis</i> Decne	<i>Kaknasa bhed</i>	<i>Asclepiadaceae</i>	Shrub	Fairly common
101	<i>Pergularia extensa</i> N.E.Br.	<i>Vrishakali</i>	<i>Asclepiadaceae</i>	Climbing herb	Common
102	<i>Peristrophe bicalyculata</i> Nees.	<i>Kakjangha</i>	<i>Acanthaceae</i>	Herb	Common
103	<i>Phaseolus trilobata</i> Ait.	<i>Mudgaparni</i>	<i>Fabaceae</i>	Herb	Uncommon
104	<i>Phyla nodiflora</i> (L.) E. Greene	<i>Jalppippali</i>	<i>Verbenaceae</i>	Herb	Sporadic
105	<i>Plumbago zeylanica</i> L.	<i>Chitrak</i>	<i>Plumbaginaceae</i>	Herb	Uncommon
106	<i>Pongamia glabra</i> Vent.	<i>Karanj</i>	<i>Fabaceae</i>	Tree	Sporadic
107	<i>Prosopis cineraria</i> (L.) Druce	<i>Shami</i>	<i>Mimosaceae</i>	Tree	Sporadic

108	<i>Psoralea corylifolia</i> L.	<i>Bakuchi</i>	<i>Fabaceae</i>	Herb	Rare
109	<i>Ricinus communis</i> L.	<i>Erand</i>	<i>Euphorbiaceae</i>	Herb	Common
110	<i>Rivea hypocrateriformis</i> (Desr.) Choisy	<i>Phanjika</i>	<i>Convolvulaceae</i>	Climber	Common
111	<i>Saccharum bengalense</i> Retz.	<i>Shar</i>	<i>Poaceae</i>	Herb	Abundant
112	<i>Saccharum spontaneum</i> L.	<i>Kash</i>	<i>Poaceae</i>	Herb	Sporadic
113	<i>Salvadora oleoides</i> Decne	<i>Pilu brihat</i>	<i>Salvadoraceae</i>	Tree	Common
114	<i>Sesbania bispinosa</i> (Jacq.) Fawett & Rendle	<i>Itkat</i>	<i>Fabaceae</i>	Herb	Sporadic
115	<i>Sida cordata</i> Burm.f.	<i>Bhumibala</i>	<i>Malvaceae</i>	Herb	Uncommon
116	<i>Sida cordifolia</i> L.	<i>Bala</i>	<i>Malvaceae</i>	Herb	Uncommon
117	<i>Sida ovata</i> Forssk.	<i>Bala bheda</i>	<i>Malvaceae</i>	Herb	Fairly common
118	<i>Sida rhombifolia</i> L.	<i>Mahabala</i>	<i>Malvaceae</i>	Herb	Sporadic
119	<i>Solanum incanum</i> L.	<i>Brahati bheda</i>	<i>Solanaceae</i>	Herb	Uncommon
120	<i>Solanum virginianum</i> L.	<i>Kantkari</i>	<i>Solanaceae</i>	Herb	Common
121	<i>Syzygium cumini</i> (L.) Skeels	<i>Jamboo</i>	<i>Myrtaceae</i>	Tree	Sporadic
122	<i>Telosma pallida</i> (Roxb.) Craib	<i>Jivanti bheda</i>	<i>Asclepiadaceae</i>	Climber	Sporadic
123	<i>Tephrosia candida</i> (Roxb.) DC.	<i>Swet Sharpunkha</i>	<i>Fabaceae</i>	Herb	Rare
124	<i>Tephrosia purpurea</i> (L.) Pers.	<i>Sharpunkha</i>	<i>Fabaceae</i>	Herb	Abundant
125	<i>Tephrosia villosa</i> Pers.	<i>Swet Sharpunkha</i>	<i>Fabaceae</i>	Herb	Common
126	<i>Tinospora cordifolia</i> (Willd.)	<i>Guduchi</i>	<i>Menispermaceae</i>	Climber	Uncommon
127	<i>Tribulus terrestris</i> L.	<i>Gokshur</i>	<i>Zygophyllaceae</i>	Herb	Common
128	<i>Trichodesma indicum</i> (L.) R. Br. ex Lehm.	<i>Adhopushpi</i>	<i>Boraginaceae</i>	Herb	Sporadic
129	<i>Trichosanthes bracteata</i> (Lamk.) Voigt.	<i>Vishala</i>	<i>Cucurbitaceae</i>	Climber	Sporadic
130	<i>Trichosanthes cucumerina</i> L.	<i>Patol tikta</i>	<i>Cucurbitaceae</i>	Climber	Common
131	<i>Urgenia indica</i> Kunth	<i>Van palandu</i>	<i>Liliaceae</i>	Herb	Sporadic
132	<i>Vernonia cinerea</i> Less.	<i>Sahadevi</i>	<i>Asteraceae</i>	Herb	Sporadic
133	<i>Withania somnifera</i> Dunal	<i>Ashwagandha</i>	<i>Solanaceae</i>	Herb	Sporadic
134	<i>Wrightia arboria</i> (Dennst.) Mabblerley	<i>Kutaj bheda</i>	<i>Apocynaceae</i>	Tree	Rare
135	<i>Wrightia tinctoria</i> R.Br.	<i>Kutaj bheda</i>	<i>Apocynaceae</i>	Tree	Common

136	<i>Xanthium strumarium</i> L.	<i>Artgal</i>	<i>Asteraceae</i>	Herb	Abundant
137	<i>Zizyphus nummularia</i> W. & A.	<i>Karkandhu</i>	<i>Rhamnaceae</i>	Shrub	Abundant
138	<i>Zizyphus xylopyra</i> Willd.	<i>Ghonta</i>	<i>Rhamnaceae</i>	Shrub	Sporadic

Study identified 138 Ayurvedic medicinal plants as mentioned in **Table 1**, out of which 47.82% was herb, followed by 25.36% trees, 13.76% shrub and 13.04% was found as climber (**Figure 1**). Most plants were sporadic with 48.55% followed by common with 26.81% followed by uncommon 12.31%, rare 5.07% and abundant 7.24% (**Figure 2**).

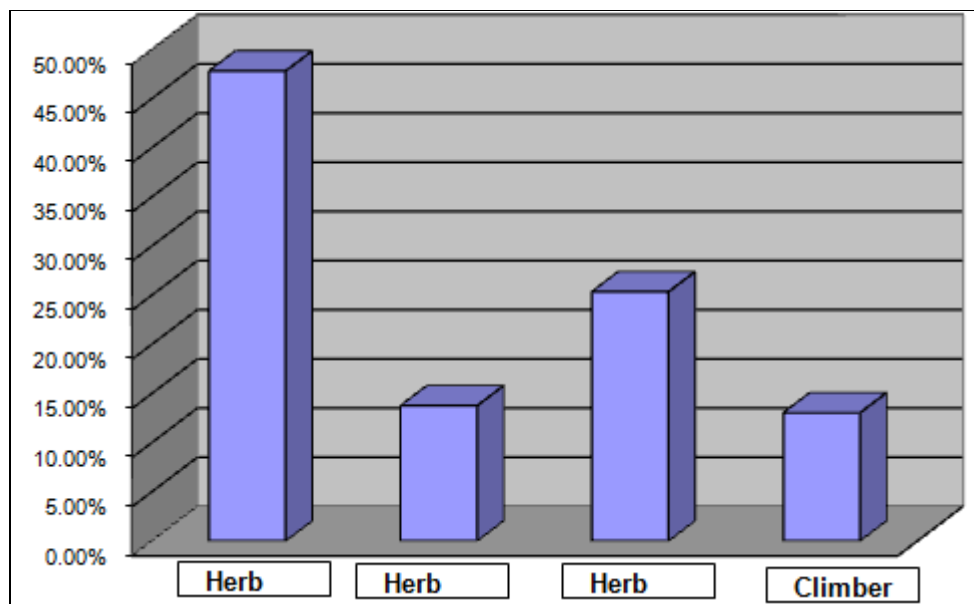


Figure 1: Habitant of Ayurvedic medicinal plants in Sawai Madhopur dist. (Raj.).

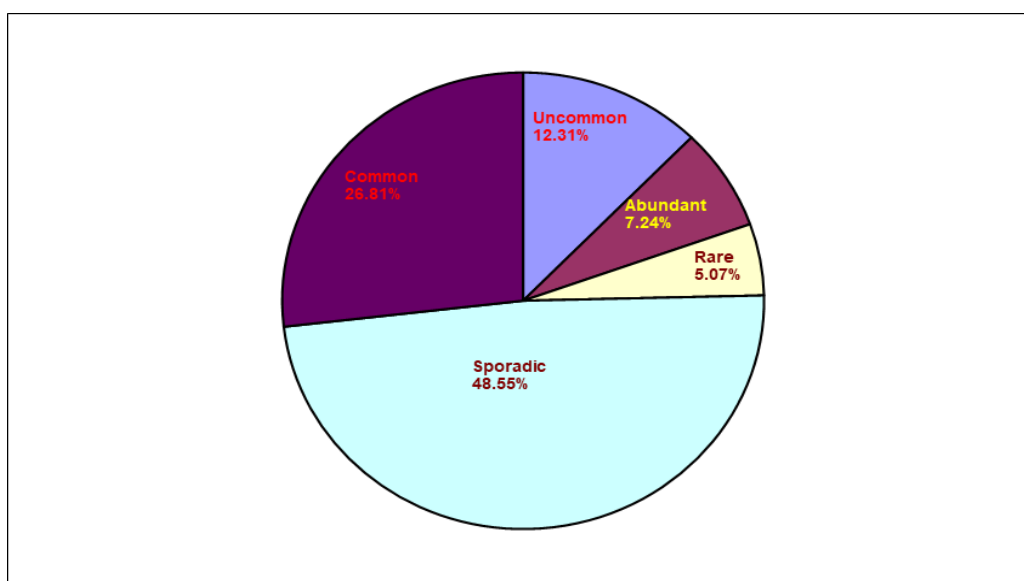


Figure 2: Abundance of Ayurvedic Medicinal Plants in Sawai Madhopur dist. (Raj.).

The identification of medicinal plants is an important subject to ensure that right raw materials could be used in the manufacture of drugs to have desired therapeutic effects. The exploration of such types of medicinal plant which grow luxuriantly as well as those are rare and about to extinct were done. This study is helpful to make commercialization of those plants which are available abundantly and conservation of rare plants.

Conclusion

From the study it can be concluded that the plants which grow luxuriantly should be exploited under control and the plants which are rare should be conserved and cultivated according to the standard cultivation methods for the genuine material supply to the Ayurvedic industries.

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References

1. Shetty, B.V.& Singh V.(1987), *Flora of Rajasthan* Vol. I, BSI.
2. Shetty, B.V. & Singh V.(1991), *Flora of Rajasthan* Vol.II, BSI.
3. Bhandari, M.M.(1978), *Flora of the Indian desert*, MPS Peporos, Jodhpur.
4. Verma, D.M.,N.P. Balakrisanna & Dixit, R.D.(1993), *Flora of Madhya Pradesh* Vol. I, BSI Calcutta.
5. Mudgal, V., Khanna ,K.K. & Hajra, P.K.(1997), *Flora of Madhya Pradesh* Vol. II, BSI Calcutta.
6. Singh, N.P., Khanna,K.K.& Mudgal, V.& Dixit, R.D. (2001), *Flora of Madhya Pradesh* Vol. III, BSI Calcutta.
7. Chuneekar, K.C.(1998), *Bhavprakash Nighantu*, Chaukhambha Sanskrit Sansthan, Varanasi.
8. Sharma, P.V. (1998), *Dravyaguna* Vol. IIChaukhambha bharti academy,Varanasi.