



# Conservation of Botanical Biodiversity of Medicinal Value: An Anthology of CCRAS Contribution

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## ABSTRACT

**Introduction:** Medicinal plants have been used in the mitigation and treatment of various ailments since ancient time. Several medicinal plants described in various traditional medicine systems serve as a potential lead for the development of lead compound in drug discovery process. Identification of the crude drug is the fundamental step in the formulation of plant-based drugs. The preeminent objectives for cultivation of medicinal plants include the adaptability, growth, flowering and fruiting time of medicinal plants, and suitable maturity time. Considering these facts, the Central Council for Research in Ayurvedic Sciences (CCRAS) has initiated the steps for developing of medicinal plant gardens at different geographical zones for demonstrative purposes, which are used in the traditional systems of medicine.

**Objective:** This contribution highlights conservation of botanical biodiversity of medicinal value of CCRAS in the demonstration of medicinal plants used in traditional and folk medicine in different agro-climatic zones (ranging between altitudes 285 and 1638 m) of India situated in different states of India.

**Materials and methods:** Cultivation of medicinal plants under Medicinal Plant Research Programme is being carried out mainly in four gardens located at different climatic zones, viz., Regional Ayurveda Research Institute (RARI), Jhansi (Uttar Pradesh), Regional Ayurveda Institute for Fundamental Research (RAIFR), Pune (Maharashtra), RARI Itanagar (Arunachal Pradesh), and RARI, Ranikhet (Tarikhet) (Uttarakhand).

**Observations:** Totally, 533 species of medicinal plants are maintained in these four gardens, out of which, 332 plant species were maintained by RARI, Jhansi; in which 4 species are critically endangered, 20 species are least concerned and rare. In RAIFR, Pune, 159 species of medicinal plants were maintained; out of which 12 species are least concerned and 1 species is vulnerable. In RARI, Itanagar, 126 plant species of medicinal plants were maintained; out of which 4 species under cultivation are critically endangered, 6 species least concerned, 2 vulnerable and threatened. In RARI, Ranikhet, 119 plant species of medicinal plants were maintained; out of which 8 species under cultivation are rare, 4 species critically

endangered and vulnerable. Saffron (*Crocus sativus* Linn.) is successfully cultivated in the Institute (RARI, Ranikhet) gardens situated at Ranikhet and Chamma.

**Conclusion:** The data is helpful in identifying the phytogeographical zones of specific medicinal plants that will be beneficial for the conservation of the particular plant species at their natural habitat. It is necessary to take steps to conserve the plant resources by large-scale cultivation with the help of different agrotechniques in their natural habitat. Presently, the packages of practice of medicinal plants are not available and these data will be helpful for documentation of the agrotechniques of the medicinal plants. The implementation of significant methods and protocols must be positive, suggesting outstanding contributions in the field of cultivation.

**Keywords:** Central Council for Research in Ayurvedic Sciences, Conservation, Medicinal plant species, Medicinal plants.

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## INTRODUCTION

India is rich in its diverse natural resources. Most of the raw material from plants is extracted from wild resources for preparation of herbal formulations and the same are being used in health care systems. Due to the overexploitation of medicinal plants, a major part of phytodiversity is under threat, and to fill this lacuna conservation of medicinal and aromatic plants is one of the major step.<sup>1</sup>

Conservation at the site where plants occur in nature, i.e., "habitat conservation" or "in situ conservation", is an important strategy. Another important practice in research which is emerging at greater extent is "ex situ conservation", where cultivation of germplasms away from their original habitats takes place. This method is also used for the protection of species that are at risk of devastation, substitution, and genetic deformation. There is a mandatory necessity to take steps to preserve the plant wealth by large-scale cultivation.

India has different climatic and geographical situations and the medicinal plants are growing right from the Himalayan region to desert, plains, and coastal areas. Due to overexploitation of the medicinal plants, a large number

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**Table 1:** State and zone-wise details of cultivation of medicinal plants

State and zone	CCRAS Institute	Number of species maintained	Area under cultivation (acre)
Uttar Pradesh (North Zone)	Regional Ayurveda Research Institute, Jhansi	332	10
Maharashtra (West Zone)	Regional Ayurveda Institute for Fundamental Research, Pune	159	19.5
Arunachal Pradesh (North-East Zone)	Regional Ayurveda Research Institute, Itanagar	126	11.5
Uttarakhand (North Zone, Himalayan region)	Regional Ayurveda Research Institute, Tarikhet	119	03

of plants are under threat,<sup>1</sup> resulting in the demand of plants growing in the high altitude region, which leads to substitution or adulteration of medicinal plant species.

### Development of Agrotechniques of Medicinal Plants by CCRAS

The CCRAS has initiated the steps for developing medicinal plant gardens for demonstrative purposes. At present the Council is maintaining four demonstrative gardens situated at RAIFR, Pune; RARI, Jhansi; RARI, Ranikhet; and RARI, Itanagar, located at different agro-climatic zones for demonstration (Fig. 1). These gardens are *ex situ* conservation sites for germplasm and medicinal plants, including rare, endangered and threatened species. Different study programs, viz., adaptability, growth pattern, flowering, fruiting and suitable maturity time studies of drugs part, etc. and authentic drug materials supply for various research programs are being carried out. These studies will help in designing protocol in framing strategies for conservation and sustainable utilization of highly valuable medicinal plants. The live plants act as specimen for referencing and correct identification of the medicinal

plants.<sup>2</sup> In addition to the above gardens, the Council is having two herbal gardens for the cultivation of saffron and Guggulu that are situated at RARI, Ranikhet, Uttarakhand and Mangaliawas, Ajmer, Rajasthan respectively.

Experimental cultivation of *Crocus sativus* L. is being undertaken in nonhabitat region of Ranikhet (Almora) and Chamma (Tehri) at an altitude of 2,000 m. Experimental application of agrotechniques and adaptable practices are carried out to study the growth of corms and plants, yield of saffron, etc.

These gardens work as reference centers for researchers/students/academicians for identification of their plants/plant parts, and the genuine materials collected from the gardens are used as a reference material for herbarium and museums.

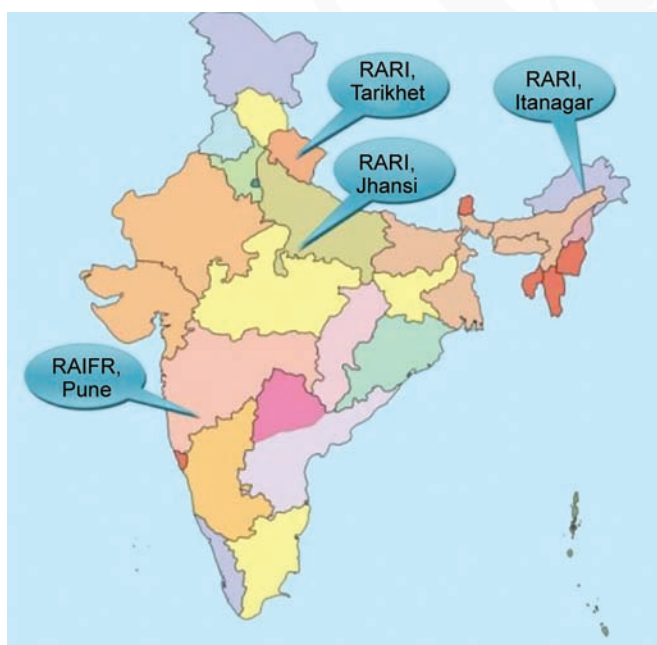
### Status of Demonstrative Gardens of CCRAS in Different Geographic Regions

These gardens are the source of authentic raw drug materials for research and development work of the Council. The raw drugs collected from the gardens are also being used for numerous projects under Ayurvedic Pharmacopoeia Committee from time to time. Many experimental studies on growth and yield of certain medicinal plants are also being carried out by using different combinations of organic and farmyard manure. As per the recent observations, it was found that around 736 (including repetition) and 533 species (excluding repetition) of medicinal plants belonging to 124 families are grown in the four demonstrative herbal gardens of CCRAS located at different geographical zones (Table 1).

The details of cultivated medicinal plants are summarized in Table 2 and it shows the list of the medicinal plants cultivated in different gardens along with their Sanskrit name, Habit and IUCN status.

### Critical Analysis of the Medicinal Plants Growing in the Gardens

There are around 736 plant species which are grown in the gardens of the institutes located at different ecological/geographical zones. After analysis, it was found that



**Fig. 1:** Demonstrative medicinal plant gardens of CCRAS

Table 2: List of plant species maintained in different gardens of CCRAS

Sl. no.	Sanskrit name <sup>3</sup>	Botanical name <sup>4,6</sup>	Family	Habit <sup>7</sup>	IUCN status <sup>5</sup>	STATUS			
						Jhansi	Ranikhet	Itanagar	Pune
1	Gunja	<i>Abrus precatorius</i> L. (Black seed)	Leguminosae	Twiner	C	✓	✓	✓	✓
2	Latakasturi	<i>Abelmoschus moschatus</i> Medic.	Malvaceae	Soft, herbaceous trailing plant	C	✓			
3	Pishachkarpas	<i>Abroma augusta</i> L.	Malvaceae	Shrub	C	✓	✓		
4	Gunja	<i>Abrus precatorius</i> L. (white seed)	Leguminosae	Twiner	C	✓			
5	Atibala	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	Shrub	C	✓			
6	-	<i>Acacia auriculiformis</i> Benth.	Leguminosae	Evergreen tree	LC	✓			
7	Khadir	<i>Acacia catechu</i> (L.f.) Willd.	Leguminosae	Small tree	C	✓			
8	Saptala	<i>Acacia concinna</i> (Willd.) DC.	Leguminosae	Herb	C	✓			
9	Irimeda	<i>Acacia farnesiana</i> (L.) Willd.	Leguminosae	Shrub	C	✓			
10	Shweta Babul	<i>Acacia leucophloea</i> (Roxb.) Willd.	Leguminosae	Large thorny tree	C	✓			
11	Babul	<i>Acacia nilotica</i> ssp. <i>indica</i> (Benth.) Brenan	Leguminosae	Large thorny tree	C	✓			
12	Haritmanjari	<i>Acalypha indica</i> L.	Euphorbiaceae	Small erect herb	C	✓			
13	Gandana	<i>Achillea millefolium</i> L.	Compositae	Herbaceous perennials	NYR		✓		
14	Apamarga	<i>Achyranthes aspera</i> L.	Amaranthaceae	Annual or perennial herb	C	✓			
15	Apamarga bhed	<i>Achyranthes bidentata</i> Blume	Amaranthaceae	Erect or straggling herb	NYR	✓			
16	Vacha	<i>Acorus calamus</i> L.	Acoraceae	Perennial herb	LC	✓	✓		
17	Kuchandana	<i>Adenanthera pavonina</i> L.	Leguminosae	Tree	C	✓			
18	Vasaka	<i>Adhatoda vasica</i> Nees	Acanthaceae	Sub-herbaceous bush	NYR		✓		
19	Vasa bhed	<i>Adhatoda zeylanica</i> Medik.	Acanthaceae	Sub-herbaceous bush	C	✓			
20	Bilva	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Tree	C	✓	✓		
21	Gorakshganja	<i>Aerva lanata</i> (L.) Juss.	Amaranthaceae	Perennial herb	C	✓			
22	Sahdevi Bhed	<i>Ageratum conyzoides</i> L.	Compositae	Annual herbaceous weed	C	✓			
23	Ankol	<i>Alangium salviifolium</i> (L.f.) Wang.	Cornaceae	Tall thorny tree	C	✓			
24	Shirish	<i>Albizia lebbek</i> Benth.	Leguminosae	Large tree	C	✓			
25	Jambo-phoran	<i>Allium coraliniatum</i> L.L	Amaryllidaceae	Annual or perennial bulbous plant	NYR		✓		
26	Maankand	<i>Alocasia indica</i> Schott	Araceae	Perennial herb	C	✓			
27	Kumari, Ghritkumanika	<i>Aloe barbadensis</i> Mill.	Xanthorrhoeaceae	Spiky, succulent, perennial plant	C	✓			
28	Ghrit Kumari	<i>Aloe vera</i> (L.) Brum.f.	Xanthorrhoeaceae	Succulent herb	NYR		✓		
29	Kulanjan	<i>Alpinia macrophylla</i> Schum	Zingiberaceae	Perennial herb	NYR		✓		
30	Saptaparna	<i>Alstonia scholaris</i> R.Br.	Apocynaceae	Elegant evergreen tree	LR	✓			
31	Matsyakshi bhed	<i>Alternanthera pungens</i> H.B.&K.	Amaranthaceae	Perennial herb	C	✓			
32	Matsyakshi	<i>Alternanthera sessilis</i> DC.	Amaranthaceae	Perennial herb	LC	✓			
33	-	<i>Althea rosea</i> Cav.	Malvaceae	Shrub	NYR		✓		
34	Tanduliya bhed	<i>Amaranthus viridis</i> L.	Amaranthaceae	Annual herb	C	✓			
35	-	<i>Ammannia baccifera</i> L.	Lythraceae	Annual herb	LC	✓			
36	Brihad Ela	<i>Amomum subulatum</i> Roxb.	Zingiberaceae	Evergreen plant	NYR		✓		
37	Suran	<i>Amorphophallus campanulatus</i> Bl.ex Decne	Araceae	Perennial, stemless herb	C	✓			

(Cont'd...)

Sl. no.	Sanskrit name <sup>3</sup>	Botanical name <sup>4,6</sup>	Family	Habit <sup>7</sup>	IUCN status <sup>5</sup>	STATUS			
						Jhansi	Ranikhet	Itanagar	Pune
38	—	<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicolson	Araceae	Deciduous herbaceous aroid shrub	C			✓	
39	Kajutak	<i>Anacardium occidentale</i> L.	Anacardiaceae	Tree	C	✓			
40	Akarkarabha	<i>Anacyclus pyrethrum</i> DC.	Compositae	Perennial herb	NYR		✓		
41	Ananas	<i>Ananas comosus</i> Merr.	Bromeliaceae	Perennial monocotyledonous rosette plant	NYR			✓	
42	Bhunimba Bhed	<i>Andrographis echinoides</i> Nees.	Acanthaceae	Annual herb	C	✓			
43	Bhunimba, Kalimegh	<i>Andrographis paniculata</i> Wall. ex Nees	Acanthaceae	Annual herb	C	✓	✓		
44	Shatpushpa	<i>Anethum sowa</i> L.	Apiaceae	Annual herb	C	✓			
45	Gandgatra	<i>Annona squamosa</i> L.	Annonaceae	Small tropical tree	C	✓			✓
46	Dhav	<i>Anogeissus latifolia</i> Wall. ex Bedd.	Combretaceae	Medium-sized tree	C	✓			
47	Kadamba	<i>Anthocephalus chinensis</i> A Rich. ex Walp.	Rubiaceae	Tall tree	C	✓			
48	Guvaka	<i>Areca catechu</i> L.	Areaceae	Medium-sized tree	C	✓		✓	
49	Swamkshiri	<i>Argemone mexicana</i> L.	Papaveraceae	Prickly, hairless, branching herb	C	✓			
50	Vridhadatu	<i>Argyreia nervosa</i> (Burm.f.) Boj.	Convolvulaceae	Creeper	C	✓			✓
51	Vridhadatu bhed	<i>Argyreia serica</i> Dalzell & Gibson	Convolvulaceae	Clambering silky twiner	C	✓			
52	Sarpa	<i>Arisaema speciosum</i> Mart.	Araceae	Bulbous perennial	C	✓			
53	Eshwari	<i>Aristolochia indica</i> L.	Aristolochiaceae	Twining perennial herb	C	✓			
54	Damnak	<i>Artemisia annua</i> L.	Compositae	Annual short-day plant	NYR		✓		
55	Nagadaman	<i>Artemisia nilagirica</i> (Clarke) Pampam.	Compositae	Aromatic shrub	NYR				✓
56	Nagdamani	<i>Artemisia vulgaris</i> L.	Compositae	Perennial shrub	NYR			✓	
57	Panasa	<i>Artocarpus heterophyllus</i> Lam.	Moraceae	Large evergreen tree	NYR			✓	
58	Lakuch	<i>Artocarpus lakoocha</i> Rox.	Moraceae	Deciduous tree	C	✓			
59	Saptala	<i>Acacia sinuata</i> (Lour.) Merrill.	Leguminosae	Large evergreen tree	NYR				✓
60	Gorakshi	<i>Adansonia digitata</i> L.	Bombacaceae	Large evergreen tree	C				✓
61	—	<i>Adenocalymma alliaceum</i> (Lam.) Miers.	Bignoniaceae	Tree	C				✓
62	—	<i>Agave sisalana</i> Perr.	Agavaceae	Twining perennial herb	C				✓
63	Araluka	<i>Ailanthus excelsa</i> Roxb.	Simaroubaceae	Large deciduous tree	NYR				✓
64	Shweta shirisa	<i>Albizia procera</i> (Roxb.) Benth.	Leguminosae	Deciduous and semi-evergreen tree	C				✓
65	—	<i>Allamanda cathartica</i> L.	Apocynaceae	Tropical twining vine	C				✓
66	Lavani	<i>Annona reticulata</i> L.	Annonaceae	Small deciduous or semi-evergreen tree	LC				✓
67	Dhavbheda	<i>Anogeissus pendula</i> Edgew.	Combretaceae	Moderate tree	C				✓
68	Harachampaka	<i>Artabotrys hexapetalous</i> (L.) Bhandari	Annonaceae	Perennial shrub	NYR				✓
69	Panasa	<i>Artocarpus integrifolius</i> L.f.	Moraceae	Large tropical tree	NYR				✓
70	Shweta mushali	<i>Asparagus adscendens</i> Roxb.	Asparagaceae	Annual or perennial bulbous plant	C				✓
71	—	<i>Atalantia racemosa</i> Wight. & Arn.	Rutaceae	Small evergreen tree	NYR				✓

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						Jhansi	Ranikhet	Itanagar	Pune
72	Kakati	<i>Asclepias curassavica</i> L.	Apocynaceae	Erect, evergreen perennial subshrub	NYR	✓			
73	Satavari bhed	<i>Asparagus curillus</i> Buch-Ham.	Asparagaceae	Shrub	NYR	✓			
74	Satavari	<i>Asparagus racemosus</i> Willd	Asparagaceae	Woody climber	NYR	✓		✓	✓
75	Kokilaksha	<i>Asphodelus tenuifolius</i> Cav.	Xanthorrhoeaceae	Annual herb	NYR	✓			
76	Vankulath	<i>Asterantha longifolia</i> Nees	Acanthaceae	Perennial shrub	C	✓			
77	Karmaranga	<i>Atylosia scarabaeoides</i> (L.) Benth.	Leguminosae	Perennial climber	C	✓			
78	Nimba	<i>Averrhoa carambola</i> L.	Oxalidaceae	Small tropical tree	C	✓			✓
79	Bramhi	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Evergreen large tree	C	✓			✓
80	Danti	<i>Bacopa monnieri</i> (L.) Penn.	Scrophulariaceae	Perennial, creeping herb	LC	✓			✓
81	Shwet Saireyak	<i>Baliospermum montanum</i> Muell.-Arg.	Euphorbiaceae	Undershrub	C	✓			✓
82	Saireyak	<i>Barleria cristata</i> L.	Acanthaceae	Shrub	C	✓			
83	Kovidara	<i>Barleria prionitis</i> L.	Acanthaceae	Erect, prickly shrub	C	✓			✓
84	Ashmantak	<i>Bauhinia purpurea</i> L.	Caesalpinaceae	Tropical tree	LC	✓			✓
85	Malukaparna	<i>Bauhinia racemosa</i> Lam.	Caesalpinaceae	Small crooked tree	C	✓			✓
86	Kanchnar	<i>Bauhinia vahii</i> W & A.	Caesalpinaceae	Largest creeper	C	✓			✓
87	Pashan Bheda	<i>Bauhinia variegata</i> L.	Caesalpinaceae	Small crooked tree	LC	✓		✓	
88	Sindoori	<i>Begonia roxburghii</i> Roxb.	Begoniaceae	Perennial	NYR			✓	
89	Punarnava	<i>Bergenia ciliata</i> (Haw.) Sternb.	Saxifragaceae	Perennial herb	NYR			✓	
90	Rakta punarnava	<i>Bidens chinensis</i> (L.) Willd	Compositae	Annual herb	C	✓		✓	✓
91	Taal	<i>Bixa orellana</i> L.	Bixaceae	Shrub	C	✓		✓	✓
92	Shallaki	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Prostrate herb	C	✓		✓	✓
93	Shweta sarshapa	<i>Boerhavia erecta</i> L.	Nyctaginaceae	Perennial herb	C	✓			
94	Parnabeej	<i>Borassus flabelliformis</i> L.	Arecaceae	Robust tree	C	✓			
95	Shivlingi	<i>Boswellia serrata</i> Roxb.	Burseraceae	Deciduous tree	C	✓			
96	Parnabeej	<i>Brassica alba</i> (L.) Rabenh.	Brassicaceae	Season annual herb	C	✓			
97	Parnabeej	<i>Bryonopsis laciniosa</i> (L.) Naud.	Cucurbitaceae	Annual scandent herb	C	✓			✓
98	Parnabeej	<i>Bryophyllum pinnatum</i> (Lam.) Kurz	Crassulaceae	Succulent perennial herb	C	✓			
99	Palash	<i>Buchnanan lanzan</i> Spreng.	Anacardiaceae	Medium-sized deciduous tree	C	✓			
100	Lata karanj	<i>Butea monosperma</i> (Lam.) Kuntze	Fabaceae	Medium-sized tree	C	✓			
101	Lata karanj	<i>Caesalpinia bonduc</i> L.	Caesalpinaceae	Large, thorny, straggling shrub	C	✓		✓	✓
102	Vetra	<i>Caesalpinia cristata</i> Flem.	Caesalpinaceae	Shrub	NYR			✓	
103	Arka	<i>Calamus rotang</i> L.	Arecaceae	Clustering palm	C	✓			
104	Hajari Genda	<i>Calatropis procera</i> (Aiton.) Dryan.	Asclepiadaceae	Shrub or a small tree	C	✓		✓	
105	Priyangu	<i>Calendula officinalis</i> L.	Compositae	Annual herb	C	✓			
106	Alarka	<i>Callicarpa macrophylla</i> Vahl.	Verbenaceae	Erect, evergreen shrub	C	✓			✓
107	Sarvajaya	<i>Calotropis gigantea</i> (L.) R. Br. ex Ait.	Asclepiadaceae	Shrub or a small tree	C	✓			
108	Vijaya	<i>Canna indica</i> L.	Cannaceae	Shrub	C	✓			
109		<i>Cannabis sativa</i> L.	Cannabaceae	Annual herb	C	✓			

(Cont'd...)

(Cont'd...)

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						Jhansi	Ranikhet	Itanagar Pune
110	Hinsra Bhed	<i>Capparis sepiaria</i> L.	Capparaceae	Climbing, much branched shrub	C	✓		
111	Katuveera	<i>Capsicum annuum</i> L.	Solanaceae	Annual herb	C	✓		
112	Erandkarkati	<i>Carica papaya</i> L.	Caricaceae	Succulent and soft wooded small tree	C	✓	✓	✓
113	Karmada	<i>Carissa carandas</i> L.	Apocynaceae	Sprawling semi-vine shrub	C	✓		
114	Dadrughna	<i>Cassia alata</i> L.	Caesalpinaceae	Perennial shrub	LC		✓	
115	Avartaki	<i>Cassia auriculata</i> L.	Caesalpinaceae	Perennial shrub	C	✓		
116	Aragvadh	<i>Cassia fistula</i> L.	Caesalpinaceae	Perennial shrub	C	✓	✓	✓
117		<i>Cassia laevigata</i> Willd.	Caesalpinaceae	Herbaceous undershrub	NYR	✓	✓	
118	Kasmarda	<i>Cassia occidentalis</i> L.	Caesalpinaceae	Shrub	C	✓		
119	Chakramarda	<i>Cassia tora</i> L.	Caesalpinaceae	Small erect hairless shrub	C	✓		
120	Sandapushpi	<i>Catharanthus roseus</i> (L.) G. Don	Apocynaceae	Shrub	LC		✓	
121	KootShalmali	<i>Ceiba pentandra</i> (L.) Gaertn.	Bombacaceae	Emergent tree	C	✓		
122	Jyotishmati	<i>Celastrus paniculatus</i> Willd.	Celastraceae	Large woody climber	C	✓		✓
123	Salambhida	<i>Celogyne cristata</i> Lindly	Orchidaceae	Epiphytic orchid	NYR		✓	
124	Shitivarak	<i>Celosia argentea</i> L.	Amaranthaceae	Erect shrub	C	✓		
125	Mandukparni	<i>Centella asiatica</i> (L.) Urban	Apocynaceae	Small creeping herb	C	✓		✓
126	Raat ki rani	<i>Cestrum nocturnum</i> L.	Solanaceae	Sprawling shrub	NYR		✓	
127	Vastuk Bhed	<i>Chenopodium album</i> L.	Amaranthaceae	Annual herb	C	✓		
128	Shwet Musli Bhed	<i>Chlorophytum tuberosum</i> (Roxb.) Baker	Liliaceae	Herb	LC	✓		
129	Shatpatri	<i>Chrysanthemum indicum</i> L.	Compositae	Perennial herb	C	✓		
130	Chanak	<i>Cicer arietinum</i> L.	Leguminosae	Annual herb	C	✓		
131	Kasni	<i>Cichorium intybus</i> Linn.	Compositae	Perennial herb	C	✓		
132	Karpura	<i>Cinnamomum camphora</i> Nees	Lauraceae	Large evergreen tree	NYR		✓	
133	Tamalaka	<i>Cinnamomum tamala</i> Nees	Lauraceae	Small evergreen tree	LR		✓	
134	Tvaka	<i>Cinnamomum zeylanicum</i> Nees	Lauraceae	Small evergreen tree	NYR		✓	
135	Ambashtha, Patha	<i>Cissampelos pareira</i> L.	Menispermaceae	Small climber	NYR	✓	✓	✓
136	Asthishrankhla	<i>Cissus quadrangularis</i> L.	Vitaceae	Perennial shrub	C	✓		
137	Maha Nimbu	<i>Citrus limon</i> (L.) Nees	Rutaceae	Small evergreen tree	NYR		✓	
138	Bijapura	<i>Citrus medica</i> L.	Rutaceae	Small evergreen tree	C		✓	
139	Narang	<i>Citrus reticulata</i> Blanco	Rutaceae	Small evergreen tree	C	✓		
140	Ajagandha	<i>Cleome gynandra</i> L.	Cleomaceae	Annual herb	NYR		✓	
141	Vanyuthika	<i>Clerodendron inerme</i> (L.) Gaertn.	Verbenaceae	Evergreen shrub	C	✓		
142	Laghu Agnimantha	<i>Clerodendron phlomidis</i> L.f.	Verbenaceae	Shrub	C	✓		
143	Bharangi bhed	<i>Clerodendrum indicum</i> (L.) Kuntze	Verbenaceae	Shrub	NYR	✓		
144	Aparajita	<i>Clitoria ternatea</i> L.	Leguminosae	Twining plant	C	✓	✓	
145	Bimbi	<i>Coccinia indica</i> W. & A.	Cucurbitaceae	Climbing vine	C	✓		
146	Patalgaruni	<i>Cocculus hirsutus</i> (L.) Diels	Menispermaceae	Climbing undershrub	C	✓		✓

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						Jhansi	Ranikhet	Itanagar	Pune
147	Rajapiluh	<i>Coffea arabica</i> L.	Rubiaceae	Shrub or small tree	NYR			✓	
148	Gavedhuka	<i>Coix lachrymalis</i> jobi L.	Poaceae	Annual herb	C				✓
149	Pamayavani	<i>Coleus amboinicus</i> Lour.	Lamiaceae	Succulent herb	NYR	✓			
150	-	<i>Coleus barbatus</i> Benth.	Lamiaceae	Succulent herb	C	✓			
151	Pashanbheda	<i>Coleus forskohlii</i> Briq.	Lamiaceae	Perennial herb	NYR		✓		
152		<i>Coleus scutellarioides</i> (L.) Benth. In Wallich	Lamiaceae	Succulent evergreen perennial	C	✓			
153	Kanchat, Karnamorat	<i>Commelina benghalensis</i> L.	Commelinaceae	Diffuse herb	LC	✓			
154	Sankpushpi	<i>Convolvulus pluricaulis</i> Choisy.	Convolvulaceae	Perennial, wild herb	C	✓			
155	Pattashak	<i>Corchorus olitorius</i> L.	Tiliaceae	Annual, much-branched herb	C	✓			
156	Sleshmataka	<i>Cordia dichotoma</i> Forst. F.	Boraginaceae	Small to moderate-sized deciduous tree	NYR		✓		✓
157	Hasthimantha	<i>Cordia macleodi</i> (Griff.) Hook. F.	Boraginaceae	Small to moderate-sized deciduous tree	C	✓			
158	-	<i>Cordia myxa</i> Roxb.	Boraginaceae	Large evergreen shrub or tree	C	✓			
159	Kebuk	<i>Costus speciosus</i> (Koenig) Sm.	Costaceae	Tall and dramatic landscape plant	C	✓			✓
160	Varun	<i>Crataeva nurvala</i> Buch.-Ham.	Capparaceae	Medium-sized, deciduous tree	C	✓			
161	Sudarshan bhed	<i>Crinum asiaticum</i> L.	Amaryllidaceae	Annual or perennial bulbous plant	NYR			✓	
162	Sudarshan	<i>Crinum latifolium</i> L.	Amaryllidaceae	Annual or perennial bulbous plant	C	✓			
163	Sudarshan bhed	<i>Crinum viviparum</i> (Lam.) R. Ansari & V.J.Nair	Amaryllidaceae	Aquatic plant	LC	✓			
164	Kumkum	<i>Crocus sativus</i> L.	Iridaceae	Perennial plant	C		✓		
165	Krishna Sariva	<i>Cryptolepis buchanani</i> Roem. & Sch.	Asclepiadaceae	Large evergreen twiner	C		✓		
166	Trapush	<i>Cucumis sativus</i> L.	Cucurbitaceae	Tendrill-bearing vines	C	✓			
167	Jeerak	<i>Cuminum cyminum</i> L.	Apiaceae	Herb	DD	✓			
168	Talmuli	<i>Curculigo orchioides</i> Gaertn.	Hypoxidaceae	Herbaceous tuberous perennial	C	✓			✓
169	Amragand hi-haridra	<i>Curcuma amada</i> L.	Zingiberaceae	Underground rhizome	C	✓			
170	Tavaksheer	<i>Curcuma angustifolia</i> Roxb.	Zingiberaceae	Underground rhizome	NYR	✓			
171	Vanharidra	<i>Curcuma aromatica</i> Salisb.	Zingiberaceae	Underground rhizome	NYR	✓			✓
172	Krishna Haridra	<i>Curcuma caesia</i> Roxb.	Zingiberaceae	Underground rhizome	C	✓			
173	Haridra	<i>Curcuma longa</i> L.	Zingiberaceae	Rhizomatous herb	C	✓			✓
174	Karchur	<i>Curcuma zedoaria</i> Rosc.	Zingiberaceae	Perennial herb	C	✓			
175		<i>Cyathea gigantea</i> (Wall. ex Hook.) Holttum.	Cyatheaceae	Small to medium-sized tree fern	C		✓		
176	Bhutika	<i>Cymbopogon citratus</i> DC. Stapf.	Poaceae	Fragrant herb	NYR	✓			
177	Rohishitriina bhed	<i>Cymbopogon flexuosus</i> (Nees ex Steud.) W.Watson	Poaceae	Perennial grass	C	✓			
178	Durva	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Perennial grass	C	✓			
179	Shinshpa	<i>Dalbergia sissoo</i> DC.	Leguminosae	Large deciduous tree	C	✓			
180	Dhattur	<i>Datura metel</i> L.	Solanaceae	Herbaceous perennial	C	✓			
181	Krishna Dhattur	<i>Datura stramonium</i> L.	Solanaceae	Herbaceous perennial	C	✓			

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						Jhansi	Ranikhet	Itanagar	Pune
182	Shalpami	<i>Desmodium gangeticum</i> DC.	Leguminosae	Coarse herb	C	✓			✓
183	-	<i>Desmodium gyroides</i> DC.	Leguminosae	Erect, often much-branched shrub	C		✓		
184	Kush	<i>Desmostachya bipinnata</i> Stapf	Poaceae	Rhizomous perennial grass	LC	✓			
185	Veertaru	<i>Dichrostachys cinerea</i> W. & A.	Mimosaceae	Small Mimoso-related tree	LC	✓			
186	Hripatri Bheda	<i>Digitalis lanata</i> Ehrh.	Plantaginaceae	Herb	NYR		✓		
187	Hripatri	<i>Digitalis purpurea</i> L.	Plantaginaceae	Biennial plant	C		✓		
188	Ashvakatri	<i>Dillenia indica</i> L.	Dilleniaceae	Evergreen large shrub or small to medium-sized tree	C			✓	
189	Vidarikand Pratinidhi	<i>Dillenia pentagyna</i> Roxb.	Dilleniaceae	Large deciduous tree	C	✓			
190	Kashthaluk	<i>Dioscorea alata</i> L.	Dioscoreaceae	Tuberous root	C	✓			✓
191	Varahikand	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Tuberous root	NYR		✓		
192	Baniatakar	<i>Dioscorea deltoidea</i> Wall.	Dioscoreaceae	Hairless vine	C		✓		
193	Madhvaluk	<i>Dioscorea esculenta</i> Burkill var. <i>spinosa</i>	Dioscoreaceae	Perennial, climbing plant	C	✓			✓
194	Hastyaluk	<i>Dioscorea hispida</i> Dennst.	Dioscoreaceae	Twining vine	C	✓			✓
195	Vidarikand Pratinidhi	<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae	Climbing plant	C	✓			
196		<i>Drymeria diandra</i> Bl.	Caryophyllaceae	Annual herb	NYR		✓		
197		<i>Drynaria quercifolia</i> J.Sm.	Polypodiaceae	Robust, epiphytic fern	NYR		✓		
198	Bhringraj	<i>Eclipta alba</i> (L.) Hassk.	Compositae	Annual herb	C	✓			✓
199	Rudarksh	<i>Elaeocarpus ganitrus</i> Roxb.	Elaeocarpaceae	Evergreen tree	C		✓		✓
200	-	<i>Elaeocarpus munronii</i> (Wt.) Mast.	Elaeocarpaceae	Evergreen tree	T				
201	Ela	<i>Elettaria cardamomum</i> (L.) Maton.	Zingiberaceae	Pungent aromatic herbaceous perennial plant	C		✓		
202	Vidanga	<i>Embelia ribes</i> Burm. f.	Primulaceae	Climber	C			✓	
203	Vidang Bhed	<i>Embita robusta</i> Roxb.	Primulaceae	Small tree	C	✓			
204	Amalaki	<i>Embllica officinalis</i> Gaertn.	Phyllanthaceae	Small to medium-sized deciduous tree	C	✓		✓	
205	Hirankhuri	<i>Emilia sonchifera</i> (L.) DC.	Compositae	Annual herb	NYR			✓	
206	Hilmochika	<i>Enhydra fluctuans</i> Lour.	Compositae	Trailing marsh herb	DD	✓			
207	Mamajak	<i>Enicostemma littorale</i> Blume	Gentianaceae	Glabrous herb	C	✓			
208	Tagara Bhed	<i>Ervatamia coronaria</i> Stapf.	Apocynaceae	Small perennial shrub	C		✓		
209	Van Daniya	<i>Eryngium foetidum</i> L.	Apiaceae	Annual herb	C		✓		
210	Paribhadra	<i>Erythrina indica</i> Lam.	Leguminosae	Deciduous tree	C	✓			✓
211	Mura	<i>Erythrina stricta</i> Roxb.	Leguminosae	Medium-sized thorny tree	C			✓	
212	Tailparna	<i>Eucahyptus umbellata</i> Domin	Myrtaceae	Large deciduous tree	C	✓			
213	Nadijambu	<i>Eugenia heyneana</i> Wall.	Myrtaceae	Large shrub or small tree	C	✓			
214	-	<i>Euonymus pendulus</i> Wall.	Celastraceae	Evergreen shrub or small tree	C		✓		
215	Dugdhika bhed	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Annual hairy plant	C	✓			
216		<i>Euphorbia cotinifolia</i> L.	Euphorbiaceae	Shrub	NYR			✓	



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217	Snuhi Bhed	<i>Euphorbia miihi</i> Des Moul.	Euphorbiaceae	Succulent plant	C	✓			
218	Snuhi	<i>Euphorbia nerifolia</i> L.	Euphorbiaceae	Erect, branched, prickly, succulent shrub, or small tree	C			✓	
219	Snuhi	<i>Euphorbia pulcherima</i> Willd ex Clott.	Euphorbiaceae	Shrub	C			✓	
220	Snuhi	<i>Euphorbia royleana</i> Boiss.	Euphorbiaceae	Large cactus-like shrub	C			✓	
221	Laghu-Dudhika	<i>Euphorbia thymifolia</i> L.	Euphorbiaceae	Prostrate annual plant	C		✓		
222	Saptlabhed	<i>Euphorbia tirucalli</i> L.	Euphorbiaceae	Deciduous tree	LC	✓		✓	
223	Vishnukranta	<i>Evolvulus alsinoides</i> L.	Convolvulaceae	Slender twine	C	✓			
224	Kapitha	<i>Feronia limonia</i> (L.) Swingle	Rutaceae	Moderate-sized tree	C	✓			
225	Udumber	<i>Ficus racemosa</i> L.	Moraceae	Large tree	C	✓		✓	✓
226	Nyagrodha, Vat	<i>Ficus benghalensis</i> L.	Moraceae	Very large, fast growing, evergreen tree	C	✓		✓	✓
227	Kakodumber	<i>Ficus hispida</i> L.f.	Moraceae	Shrub or small tree	C	✓			✓
228	Ashvatha	<i>Ficus religiosa</i> L.	Moraceae	Very large, fast growing, evergreen tree	C	✓		✓	✓
229	Anjira	<i>Ficus roxburghii</i> L.	Moraceae	Very large, fast growing, evergreen tree	C		✓		
230	Mishreya	<i>Foeniculum vulgare</i> Mill.	Apiaceae	Aromatic biennial herb	C	✓			
231	Paipataka	<i>Fumaria parviflora</i> Lam.	Fumariaceae	Delicate much-branched annual herb	C		✓		
232	Parpatki	<i>Gardenia latifolia</i> Ait.	Rubiaceae	Small deciduous tree or large shrub	C	✓			
233		<i>Geranium graveolens</i> L.	Geraniaceae	Erect, much-branched shrub	C		✓		
234		<i>Ginkgo biloba</i> L.	Ginkgoaceae	Small tree	NYR		✓		
235	Langli	<i>Gloriosa superba</i> L.	Colchicaceae	Perennial herb	LC	✓		✓	
236	Madhuyashti	<i>Glycyrrhiza glabra</i> L.	Leguminosae	Perennial herb	C	✓			
237	Gambhari	<i>Gmelina arborea</i> Roxb.	Verbenaceae	Deciduous tree	C	✓		✓	✓
238	UdhyanKarpas	<i>Gossypium arboreum</i> L.	Malvaceae	Perennial shrub	C	✓		✓	
239	Kapas	<i>Gossypium herbaceum</i> L.	Malvaceae	Perennial shrub	C	✓			
240	Nagbala-pratinidhi	<i>Grewia abutilifolia</i> Vent. ex Juss.	Malvaceae	Small tree	C	✓			✓
241	Gudsharkara	<i>Grewia helicterifolia</i> Wall. ex G. Don.	Malvaceae	Small tree	C	✓			
242	Nagbala	<i>Grewia hirsuta</i> Vahl.	Malvaceae	Perennial shrub	C	✓			
243	Parushak	<i>Grewia subinaequalis</i> DC.	Malvaceae	Small tree	C	✓			
244	Koot Rudraksha	<i>Guazuma tomentosa</i> H.B. & K.	Malvaceae	Medium-sized tree	C	✓			
245	Meshshringi	<i>Gymnema sylvestris</i> R.Br.	Apocynaceae	Large climber	C	✓			✓
246	Ajandha	<i>Gynandropsis gynandra</i> (L.) Briq.	Capparidaceae	Annual herb	C	✓			
247	Chaalmoogra	<i>Gynocordia odorata</i> R.Br.	Achariaceae	Evergreen tree	C	✓		✓	
248	Haridru	<i>Haldinia cordifolia</i> (Roxb.) Ridsd.	Rubiaceae	Deciduous tree	C	✓			
249		<i>Hedychium coronarium</i> J.Koenig	Zingiberaceae	Perennial underground rhizome	C		✓		
250	Shathi	<i>Hedychium spicatum</i> Buch-Ham	Zingiberaceae	Small, hardy perennial	C		✓		

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251	Avartani	<i>Helicteres isora</i> L.	Malvaceae	Sub-deciduous shrub or small tree	C	✓			✓
252	Kamraj	<i>Helminthostachys zelanica</i> L.	Ophioglossaceae	Terrestrial, herbaceous, fern-like plant	DD	✓			
253	Sariva	<i>Hemidesmus indicus</i> R. Br.	Apocynaceae	Perennial vine	C	✓			✓
254	Japa	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Large shrub or small tree	C	✓			
255	Ambashtaki	<i>Hibiscus sabdariffa</i> L.	Malvaceae	Annual, erect, bushy, herbaceous shrub	C	✓			
256	Kutaj	<i>Holarthra antidysenterica</i> Wall.	Apocynaceae	Bushy shrub	C	✓		✓	
257	Putikarani, chirbiiva	<i>Holoptelea integrifolia</i> Planch.	Ulmaceae	Large deciduous tree	C	✓			✓
258	Jivanti bhed	<i>Holostemma ada-kodien</i> Schult.	Apocynaceae	Twining shrub	C	✓			
259	Sugandhmantri	<i>Homalomena aromatica</i> Schott.	Araceae	Rhizomatous aromatic perennial herb	C		✓		
260	Yava	<i>Hordeum vulgare</i> L.	Poaceae	Annual grass	C	✓			
261	-	<i>Houttuynia cordata</i> Thunb.	Saururaceae	Herbaceous perennial plant	NYR			✓	
262	Parasikayavani	<i>Hyoscyamus niger</i> L.	Solanaceae	Robust, leafy plant	C		✓		
263	-	<i>Hyptis suaveolens</i> Poit.	Lamiaceae	Branching pseudocereal plant	C	✓			
264	Krishna Sariva	<i>Ichnocarpus frutescens</i> R. Br.	Apocynaceae	Evergreen woody twiner	C	✓			
265	Darbha	<i>Imperata cylindrica</i> Beauv	Poaceae	Perennial rhizomatous grass	C	✓			
266	Nili	<i>Indigofera tinctoria</i> L.	Leguminosae	Erect, branched, half-woody shrub	C	✓			
267	Kalambi	<i>Ipomoea aquatica</i> Forsk.	Convolvulaceae	Semi-aquatic tropical plant	LC	✓		✓	
268	-	<i>Ixora arborea</i> Roxb.	Rubiaceae	Evergreen tree	C	✓			✓
269	-	<i>Ixora coccinea</i> L.	Rubiaceae	Evergreen small tree	C	✓			
270	Mallika	<i>Jasminum sambak</i> (L.) Ait	Oleaceae	Small shrub	C	✓		✓	
271	Gandka	<i>Jasminum officinale</i> L.	Oleaceae	Small shrub	C		✓		
272	Vyaghreranda bhed	<i>Jatropha curcas</i> L.	Euphorbiaceae	Perennial poisonous shrub	C	✓	✓		✓
273	Rakt-Vyaghreranda	<i>Jatropha gossipifolia</i> L.	Euphorbiaceae	Small shrub	C	✓	✓		
274	Chandramool	<i>Kaempferia galangal</i> L.	Zingiberaceae	Rhizomatous aromatic perennial herb	C	✓			
275	Ashtibhakhsha	<i>Kalanchoe pinnata</i> Pers.	Crassulaceae	Small shrub	C			✓	✓
276	Kahu	<i>Lactuca sativa</i> L.	Compositae	Annual plant	C		✓		
277	Alabu	<i>Lagenaria siceraria</i> (Molina) Standl.	Cucurbitaceae	Annual, running or climbing vine	C	✓			✓
278	-	<i>Lagerstomia parviflora</i> Roxb.	Lythraceae	Deciduous tree	C			✓	
279	Jingini	<i>Larrea coromandelica</i> (Houtt.) Merrill.	Anacardiaceae	Deciduous tree	C	✓			✓
280	Chaturangi	<i>Lantana camara</i> L.	Verbenaceae	Evergreen shrub	NYR	✓			✓
281	Madyantika	<i>Lawsonia inermis</i> L.	Lythraceae	Small perennial shrub	C	✓			✓
282	Masoor	<i>Lens culinaris</i> Medic.	Leguminosae	Annual herb	C	✓			✓
283	Chandrashur	<i>Lepidium sativum</i> Linn.	Brassicaceae	Annual herb	C	✓			✓
284	Jeevanti	<i>Leptadenia reticulata</i> (Retz.) Wight & Arn.	Apocynaceae	Twining shrub	C	✓		✓	
285	Babool bhed	<i>Leucaena leucocephala</i> (Lam.) de Wit	Leguminosae	Deciduous tree	C	✓			✓

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286	Dronpushpi	<i>Leucas cephalotus</i> (Roth) Spreng.	Lamiaceae	Annual herb	C	✓			
287	-	<i>Leucas indica</i> (L.) Br.	Lamiaceae	Erect, annual plant	C			✓	
288	Atasi	<i>Linum usitatissimum</i> L.	Linaceae	Annual herb	C	✓			
289	Jalpipali	<i>Lippia nodiflora</i> R.	Verbenaceae	Perennial shrub	C	✓			
290	Litchi	<i>Litchi chinensis</i> Sonn.	Sapindaceae	Evergreen tree	NYR			✓	
291	Kankol	<i>Litsea cubeba</i> (Lour.) pers.	Lauraceae	Evergreen tree	C			✓	
292	Medasak	<i>Litsea glutinosa</i> (Lour.) Robinson	Lauraceae	Evergreen or deciduous tree	C	✓			
293	Medak	<i>Litsea umbrosa</i> Nees.	Lauraceae	Evergreen Tree	NYR		✓		
294	Devdali	<i>Luffa echinata</i> Roxb.	Cucurbitaceae	Climber	C	✓			
295	Raktavrintak	<i>Lycopersicon esculentum</i> Mill	Solanaceae	Annual plant	C	✓			
296	-	<i>Lygodium flexuosum</i> (L.) Sw.	Lygodiaceae	Perennial vine	NYR			✓	
297	Madhuk	<i>Madhuca longifolia</i> (Koen.) Macbr.	Sapotaceae	Deciduous tree	C	✓			✓
298	-	<i>Maesa indica</i> (Roxb.) A. DC.	Primulaceae	Large, evergreen, glabrous shrub	C			✓	
299	Kampilla	<i>Mallotus philippinensis</i> (Lam.) Mull.Arg.	Euphorbiaceae	Evergreen tree	C			✓	
300	-	<i>Malvaviscus arboreus</i> Cav. var. <i>arboreus</i>	Malvaceae	Shrub	NYR			✓	
301	-	<i>Malvaviscus conzattii</i> Greenm.	Malvaceae	Shrub	NYR		✓		
302	Amra	<i>Mangifera indica</i> L.	Anacardiaceae	Evergreen tree	DD	✓			
303	-	<i>Manihot esculenta</i> Cratz.	Euphorbiaceae	Semi-woody perennial shrub	C			✓	
304	Tavakshir Pratidhi	<i>Maranta arundinacea</i> L.	Marantaceae	Perennial plant	C	✓			
305	-	<i>Marjorana hostensis</i> L.	Lamiaceae	Herb	C			✓	
306	Kaknasa	<i>Martynia annua</i> L.	Martyniaceae	Bushy annual herb	C	✓			✓
307	-	<i>Melastoma malabathricum</i> L.	Melastomataceae	Evergreen shrub	NYR			✓	
308	Mahanimb	<i>Melia azadirachta</i> L.	Meliaceae	Evergreen tree	C	✓			
309	-	<i>Mentha arvensis</i> L.	Lamiaceae	Herbaceous perennial plant	C			✓	
310	-	<i>Mentha piperita</i> L.	Lamiaceae	Herbaceous perennial plant	C			✓	
311	Putiha	<i>Mentha spicata</i> L.	Lamiaceae	Herbaceous perennial plant	C	✓			
312	Nagakeshara	<i>Mesua ferrea</i> L.	Clusiaceae	Evergreen tree	NYR			✓	
313	Jeevak/Risbaak?	<i>Microstylis wallichi</i> Lindl.	Orchidaceae	Terrestrial or lithophytic orchid	C			✓	
314	Akashnimba	<i>Millingtonia hortensis</i> L. f.	Bignoniaceae	Evergreen tree	NYR	✓			
315	Lajjalu	<i>Mimosa pudica</i> L.	Mimosaceae	Perennial plant	C	✓			✓
316	Bakul	<i>Mimusops elengi</i> L.	Sapotaceae	Small tree	C	✓			✓
317	Rajadan	<i>Mimusops hexandra</i> Roxb.	Sapotaceae	Tree or a shrub	C	✓			✓
318	Krishnakeli	<i>Mirabilis jalapa</i> L.	Nyctaginaceae	Perennial shrub	C			✓	
319	Girikadamba	<i>Mitragyna parviflora</i> (Roxb.) Korth.	Rubiaceae	Evergreen or deciduous tree	C	✓			✓
320	Karkotaki	<i>Momordica dioica</i> Roxb.	Cucurbitaceae	Large perennial climber	C	✓			✓
321	Shigru	<i>Moringa oleifera</i> Lam.	Moringaceae	Small, deciduous tree	NYR			✓	
322	Shigru(Shwet)	<i>Moringa pterygosperma</i> Gaertn.	Moringaceae	Small, deciduous tree	C	✓			✓
323	Toot	<i>Morus alba</i> L.	Moraceae	Evergreen tree	C	✓			✓

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						Jhansi	Ranikhet	Itanagar	Pune
324	Kapikacchu	<i>Mucuna pruriens</i> (L.) DC.	Leguminosae	Annual, climbing shrub	C	✓	✓	✓	✓
325	Kaidanya	<i>Murraya koenigii</i> (L.) Spreng.	Rutaceae	Small or medium-sized tree	C	✓	✓	✓	✓
326	Kamini	<i>Murraya pinniculata</i> (L.) Jack	Rutaceae	Tropical, evergreen plant	C	✓	✓	✓	✓
327	Kadali	<i>Musa paradisiaca</i> L.	Musaceae	Tropical tree-like herb	C	✓	✓	✓	✓
328	-	<i>Musa sapientum</i> L.	Musaceae	Herbaceous perennial	C	✓	✓	✓	✓
329	Kaiyaphal	<i>Myrica esculenta</i> Buch-Ham	Myricaceae	Medium-sized tree	C	✓	✓	✓	✓
330	-	<i>Nephrolepis cordifolia</i> (L.) Presl	Nephrolepidaceae	Fern	NYR	✓	✓	✓	✓
331	Karveer	<i>Nerium indicum</i> Mill.	Apocynaceae	Small, deciduous tree	C	✓	✓	✓	✓
332	Tamrapama	<i>Nicotiana tabacum</i> L.	Solanaceae	Herbaceous perennial	C	✓	✓	✓	✓
333	Kalajaji	<i>Nigella sativa</i> L.	Ranunculaceae	Annual flowering plant	C	✓	✓	✓	✓
334	Parijatak	<i>Nyctanthes arbortristis</i> L.	Oleaceae	Large shrub or small tree	C	✓	✓	✓	✓
335	Kumud	<i>Nymphaea nouchali</i> Burm.f.	Nymphaeaceae	Water-lily	C	✓	✓	✓	✓
336	Munjariki	<i>Ocimum basilicum</i> L.	Lamiaceae	Annual herb	C	✓	✓	✓	✓
337	Tulsi bhed	<i>Ocimum gratissimum</i> L.	Lamiaceae	Perennial herb	C	✓	✓	✓	✓
338	Tulsi	<i>Ocimum sanctum</i> L.	Lamiaceae	Perennial herb	C	✓	✓	✓	✓
339	Trivrtta	<i>Operculina turpethum</i> (L.) Silva Manso	Convolvulaceae	Herbaceous vine	C	✓	✓	✓	✓
340	-	<i>Opuntia dillenii</i> Haw.	Cactaceae	Fleshy shrub	C	✓	✓	✓	✓
341	-	<i>Opuntia stricta</i> (Haw.) Haw.	Cactaceae	Fleshy shrub	C	✓	✓	✓	✓
342	Marubak	<i>Origanum majorana</i> L.	Lamiaceae	Perennial herb	NYR	✓	✓	✓	✓
343	Van Tulsi	<i>Origanum vulgare</i> L.	Lamiaceae	Perennial herb	C	✓	✓	✓	✓
344	Shaali	<i>Oriza sativa</i> L.	Poaceae	Annual grass	C	✓	✓	✓	✓
345	Shyonak	<i>Oroxylum indicum</i> (L.) Vent.	Bignoniaceae	Evergreen tree	C	✓	✓	✓	✓
346	Tinish, Syandan	<i>Ougenia oojensis</i> (Roxb.) Hochr.	Leguminosae	Medium-sized deciduous tree	C	✓	✓	✓	✓
347	-	<i>Oxalis debilis</i> L.	Oxalidaceae	Bulbous plant	C	✓	✓	✓	✓
348	Changeri	<i>Oxalis corniculata</i> L.	Oxalidaceae	Creeping weed	C	✓	✓	✓	✓
349	Prasarini	<i>Paederia foetida</i> L.	Rubiaceae	Perennial twining vine	C	✓	✓	✓	✓
350	-	<i>Paederia scandens</i> L.	Rubiaceae	Perennial herb	C	✓	✓	✓	✓
351	Chandra	<i>Paeonia emodi</i> Wall.	Paeoniaceae	Robust shrubby perennial	NYR	✓	✓	✓	✓
352	Ketaki	<i>Pandanus odoratissimus</i> L. f.	Pandanaceae	Small branched tree or shrub	C	✓	✓	✓	✓
353	Khakhasa bhed	<i>Papaver somniferum</i> L.	Papaveraceae	Annual herb	C	✓	✓	✓	✓
354	Haimavati	<i>Paris polyphylla</i> J.E. Smith	Melanthiaceae	Creeping rhizomatous forest plant	C	✓	✓	✓	✓
355	-	<i>Pedilanthus tithymaloides</i> (L.) Poit.	Euphorbiaceae	Succulent plant	NYR	✓	✓	✓	✓
356	Uttamami	<i>Pergularia extensa</i> N.E. Br.	Apocynaceae	Perennial twining herb	C	✓	✓	✓	✓
357	Kakjanga	<i>Peristrophe bicalyculata</i> Nees	Acanthaceae	Herb	C	✓	✓	✓	✓
358	Mudga	<i>Phaseolus radiatus</i> L.	Leguminosae	Annual plant	C	✓	✓	✓	✓
359	Lal basak	<i>Phlogacanthus thysiflorus</i> Nees	Acanthaceae	Shrub	C	✓	✓	✓	✓
360	Khajjur	<i>Phoenix sylvestris</i> Roxb	Areaceae	Xerophytic tree	C	✓	✓	✓	✓
361	Nal	<i>Phragmites karka</i> Trin ex Steud.	Poaceae	Perennial reed, with creeping rhizomes	C	✓	✓	✓	✓

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362	Bhumyamalaki	<i>Phyllanthus fraternus</i> Webster.	Phyllanthaceae	Erect annual herb	C	✓			✓	
363	Tankari	<i>Physalis minima</i> L.	Solanaceae	Erect annual herb	C	✓				
364	Tambul	<i>Piper betel</i> L.	Piperaceae	Perennial vine	C		✓			
365	Pippali	<i>Piper longum</i> L.	Piperaceae	Climber	C	✓	✓		✓	
366	-	<i>Piper mullesua</i> L.	Piperaceae	Woody climber	C		✓		✓	
367	Amrood	<i>Pisidium guajava</i> L.	Myrtaceae	Small tree	C		✓			
368	Jangal Jalebi	<i>Pithecellobium dulce</i> Benth.	Mimosaceae	Large, thorny evergreen tree	C	✓			✓	
369	Aswagola bheda	<i>Plantago erosa</i> Wall.	Plantaginaceae	Perennial herb	C		✓		✓	
370	Rasna	<i>Pluchea lanceolata</i> C.B. Clarke	Compositae	Undershrub	C	✓				
371	Neel-Chittrak	<i>Plumbago capensis</i> Thunb.	Plumbaginaceae	Evergreen shrub	C	✓				
372	Chittrak	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Herb	C	✓	✓		✓	
373	Devaganagalu	<i>Plumeria acuminata</i> Ait.L.	Apocynaceae	Small tree	DD			✓		
374	Vankakadi	<i>Podophyllum hexendrum</i> Royle.	Berberidaceae	Succulent herb	C		✓			
375	Kashthdaru	<i>Polyalthia longifolia</i> (Sonn.) Thwaites.	Annonaceae	Tall tree	C	✓			✓	
376	Meda	<i>Polygonatum cirrhifolium</i> (Wall.) Royle	Asparagaceae	Rhizomatous perennial herb	NYR		✓			
377	Maha-medā	<i>Polygonatum verticillatum</i> (L.) Alloni.	Asparagaceae	Erect, robust plant	NYR		✓			
378	Karanja	<i>Pongamia pinnata</i> (L.) Pierre.	Leguminosae	Deciduous tree	C	✓	✓		✓	
379	Lonika	<i>Portulaca oleracea</i> L.	Portulacaceae	Succulent herb	C			✓	✓	
380	Vajradanti	<i>Potentilla fulgens</i> Wallich	Rosaceae	Perennial herbaceous plant	C		✓			
381	-	<i>Pouzolzia hirta</i> Hassk..	Urticaceae	Shrub	NYR			✓		
382	Agnimanth	<i>Premna latifolia</i> Roxb.	Lamiaceae	Tree	C		✓			
383	Shami	<i>Prosopis cineraria</i> Druce.	Mimosaceae	Evergreen thorny tree	C	✓				
384	Padmak	<i>Prunus cerasoides</i> D. Don	Rosaceae	Deciduous tree	C		✓			
385	Alu Bukhara	<i>Prunus domestica</i> L.	Rosaceae	Deciduous tree	NYR			✓		
386	Aaruk	<i>Prunus persica</i> Batsch.	Rosaceae	Deciduous tree	DD		✓		✓	
387	Madhuri	<i>Psidium guajava</i> L.	Myrtaceae	Evergreen tree	LC		✓		✓	
388	Khairjuri	<i>Phoenix sylvestris</i> Roxb.	Arecaceae	Date palm	C				✓	
389	Amalaki	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Small to medium-sized deciduous tree	C				✓	
390	Bakuchi	<i>Psoralea corylifolia</i> L.	Leguminosae	Annual herb	C		✓			
391	Bijak	<i>Pterocarpus marsupium</i> Roxb.	Leguminosae	Deciduous tree	C	✓			✓	
392	Muchukunda	<i>Pterospermum acerifolium</i> Willd.	Sterculiaceae	Tropical trees and shrubs	C	✓			✓	
393	Vidarikanda	<i>Pueraria tuberosa</i> (Roxb.ex Willd) DC.	Leguminosae	Large perennial climber	NYR			✓		
394	Jalapippali	<i>Phylla nodiflora</i> (L.) Greene	Verbenaceae	Herb	C				✓	
395	Bhumyaamalaki Bheda	<i>Phyllanthus madaraspatensis</i> L.	Phyllanthaceae	Erect or spreading subshrub	C				✓	
396	Lavali-phala	<i>Phyllanthus acidus</i> (L.) Skeels	Phyllanthaceae	Small deciduous tree	C				✓	
397	Dadim	<i>Punica granatum</i> L.	Lythraceae	Shrub	C			✓		
398	Putranjiva	<i>Putranjiva roxburghii</i> Wall.	Putranjivaceae	Moderate-sized, evergreen tree	NYR	✓				

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399	-	<i>Quamoclit coccinea</i> Moench.	Convolvulaceae	Shrub	NYR			✓
400	-	<i>Radermachera xylocarpa</i> (Roxb.) K. Schum.	Bignoniaceae	Large deciduous tree	C	✓		
401	Madana	<i>Randia dumetorum</i> (Retz.) Lam.	Rubiaceae	Tree	C		✓	
402	Devkandar Kandeer	<i>Ranunculus sceleratus</i> L.	Ranunculaceae	Annual herb	C	✓		
403	Sarpagan-dhabhed	<i>Rauwolfia canescens</i> L.	Apocynaceae	Small tree or shrub	C	✓		
404	Sarpagandha	<i>Rauwolfia serpentina</i> Benth. ex. Kurz	Apocynaceae	Antipsychotic herb	C	✓	✓	✓
405	Sarpagandha Bheda	<i>Rauwolfia tetraphylla</i> (L.) Benth. Ex. Kurz.	Apocynaceae	Small tree or shrub	DD		✓	✓
406	-	<i>Rhododendron arboreum</i> Sm.	Ericaceae	Evergreen large tree	NYR	✓		
407	Tintidaka	<i>Rhus parviflora</i> Roxb.	Anacardiaceae	Shrub	NYR	✓		✓
408	Eranda	<i>Ricinus communis</i> L.	Euphorbiaceae	Erect, tropical shrub or small tree	C	✓	✓	✓
409	Kakoli/ Kshir Kakoli	<i>Roscoea procera</i> Wall	Zingiberaceae	Perennial plant	C	✓	✓	
410	-	<i>Rosmarinus officinalis</i> L.	Lamiaceae	Woody, perennial herb	C	✓	✓	
411	Manjistha	<i>Rubia cordifolia</i> L.	Rubiaceae	Perennial climbing herb	C	✓	✓	
412	Chukra	<i>Rumex vesicarius</i> L.	Polygonaceae	Annual herb	C	✓		
413	Ikshu	<i>Saccharum officinarum</i> L.	Poaceae	Giant grass	C	✓	✓	
414	Kash	<i>Saccharum spontaneum</i> L.	Poaceae	Perennial grass	C	✓	✓	
415	Shar	<i>Sacchiraum munja</i> Roxb.	Poaceae	Perennial grass	C	✓		
416	Shalmali	<i>Salmalia malabarica</i> (DC.) Schott & Endl.	Bombacaceae	Evergreen tree	C	✓		
417	Pillu	<i>Salvadora persica</i> L.	Salvadoraceae	Small tree or shrub	C	✓		
418	Nagdaman	<i>Sansevieria roxbergiana</i> Schult. f.	Asparagaceae	Herb	NYR	✓	✓	
419	Ashok	<i>Saraca asoca</i> (Roxb.) Willd.	Leguminosae	Evergreen tree	C	✓		✓
420	Ashoka	<i>Saraca indica</i> L.	Leguminosae	Evergreen tree	C	✓	✓	
421	Somvalli	<i>Sarcostemma acidum</i> Voigt.	Apocynaceae	Perennial shrub	C	✓		
422	Kushta	<i>Saussurea lappa</i> C.B. Clarke	Compositae	Tall perennial herb	C	✓	✓	
423	Koshamra	<i>Schleichera oleosa</i> (Lour.) Oken.	Sapindaceae	Tree	NYR	✓		
424	Shwet Mokshak	<i>Schrebera swietenoides</i> Roxb.	Oleaceae	Moderate-sized deciduous tree	C	✓		
425	Talmishri	<i>Scoparia dulcis</i> L.	Scrophulariaceae	Branched herb	C	✓		
426	Bhallatak	<i>Semecarpus anacardium</i> L.f.	Anacardiaceae	Small tree or shrub	C	✓	✓	✓
427	Til	<i>Sesamum indicum</i> L.	Pedaliaceae	Herb	C	✓		
428	Shal	<i>Shorea robusta</i> Gaertn.f.	Dipterocarpaceae	Moderate to slow-growing tree	C	✓		
429	Bala bheda	<i>Sida cordata</i> L.	Malvaceae	Herb	C	✓		
430	Bala	<i>Sida cordifolia</i> L.	Malvaceae	Undershrub	C	✓		✓
431	Mahabala	<i>Sida rhombifolia</i> L.	Malvaceae	Shrubby plant	C	✓		
432	-	<i>Smilax aspera</i> L	Smilacaceae	Climbing shrub	C		✓	
433	Brahati Bheda	<i>Solanum anguvi</i> Lamk.	Solanaceae	Shrub	C	✓		✓
434	Brahati Bheda	<i>Solanum incanum</i> L.	Solanaceae	Shrubby plant	C	✓		
435	Brahati	<i>Solanum indicum</i> L.	Solanaceae	Shrub	LC		✓	
436	Kakmachi	<i>Solanum nigrum</i> L.	Solanaceae	Annual weed	C	✓	✓	✓

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437	Kantkari Bhed	<i>Solanum sisymbirifolium</i> Lamk.	Solanaceae	Shrub	C	✓			
438	—	<i>Solanum surattense</i> Burm.f.	Solanaceae	Shrub	C	✓			
439	Brahati Bhed (shwet)	<i>Solanum torvum</i> Sw.	Solanaceae	Evergreen shrub or small tree	C	✓	✓		✓
440	—	<i>Solanum viarum</i> Dunal.	Solanaceae	Perennial shrub	LC		✓		
441	—	<i>Sonchus oleraceus</i> L.	Compositae	Erect annual herb	C		✓		
442	Mansrohini	<i>Soyimida febrifuga</i> A. Juss.	Meliaceae	Deciduous tree	C	✓			
443	Akarkara	<i>Spilanthes acmella</i> Murr	Compositae	Annual erect or ascending stout herbs	C		✓		✓
444	—	<i>Spilanthes paniculata</i> Wall.	Compositae	Herb	C			✓	
445	Amratak	<i>Spondias pinnata</i> (L.f.) Kurz.	Anacardiaceae	Deciduous tree	C	✓			
446	Rajpatha	<i>Stephania japonica</i> (Thunb.) Miers	Menispermaceae	Climber	C		✓		
447	Katira	<i>Sterculia urens</i> Roxb.	Malvaceae	Medium-sized, deciduous tree	C	✓			
448	—	<i>Sterculia alata</i> Roxb.	Malvaceae	Tall tree	NYR				✓
449	—	<i>Sterculia foetida</i> L.	Malvaceae	Tall, straight tree	NYR				✓
450	—	<i>Spathodea campanulata</i> Deauv.	Bignoniaceae	Tall, straight tree	NYR				✓
451	—	<i>Stachytarpheta jamaicensis</i> Vahl.	Verbenaceae	Sprawling shrub	C				✓
452	—	<i>Solanum virginianum</i> L.	Solanaceae	Perennial shrub	C				✓
453	Uddalak vrkha	<i>Sterculia villosa</i> Roxb.	Sterculiaceae	Medium-sized, deciduous tree	C	✓			
454	Patala	<i>Stereospermum suaveolens</i> Dc.	Bignoniaceae	Large deciduous tree	C			✓	
455	—	<i>Stevia rebaudiana</i> (Bert.) Bertoni	Compositae	Herbaceous perennial	C		✓		✓
456	Chirayata	<i>Swertia chirayata</i> (Roxb. ex Fleming.) Karsten.	Gentianaceae	Shrub	C		✓		✓
457	—	<i>Swietenia mahagoni</i> (L.) Jacq.	Meliaceae	Large deciduous tree	LC				✓
458	—	<i>Syzygium rubicundum</i> Wight & Arn.	Myrtaceae	Herb	C				✓
459	Jambu	<i>Syzygium cumini</i> (Linn.) Skeel	Myrtaceae	Deciduous tree	NYR		✓		
460	Chincha	<i>Tamarindus indica</i> L.	Caesalpiniaceae	Large tree	C	✓			✓
461	—	<i>Tabebuia argentea</i> (Bureau & K. Schum.) Britton	Bignoniaceae	Tree	C				✓
462	Zhandu	<i>Tagetes erecta</i> L.	Compositae	Annual herb	C				✓
463	—	<i>Taxus baccata</i> L.	Taxaceae	Medium-sized evergreen coniferous tree	C		✓		
464	Gallu	<i>Taxus wallichiana</i> Zucc.	Taxaceae	Medium-sized evergreen coniferous tree	C			✓	
465	Rohitak	<i>Tecomella undulata</i> (Sm.) Seem	Bignoniaceae	Evergreen tree	C	✓			✓
466	Shak	<i>Tectona grandis</i> L.f.	Verbenaceae	Large deciduous tree	C	✓			✓
467	Jivanti-bhed	<i>Tellosma pallida</i> (Roxb.) Craib	Asclepiadaceae	Vine with slender stem	LC	✓			
468	Shwet-Sharpunkha	<i>Tephrosia villosa</i> Pers.	Leguminosae	Annual or perennial bushy herb	NYR	✓			
469	Sharpunkha	<i>Tephrosia purpurea</i> Pers.	Leguminosae	Annual or perennial bushy herb	C	✓			
470	Mashparni	<i>Teraminus labialis</i> Spreng.	Leguminosae	Perennial climber	C	✓			

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471	Arjun	<i>Terminalia arjuna</i> (Roxb) W. & A.	Combretaceae	Large, evergreen tree	C	✓		✓
472	Bibhitak	<i>Terminalia bellirica</i> Roxb.	Combretaceae	Tall tree	C	✓		✓
473	Kshudrabija	<i>Terminalia catapa</i> L.	Combretaceae	Small tree	LC			✓
474	Haritaki	<i>Terminalia chebula</i> Retz.	Combretaceae	Evergreen tree	C	✓	✓	
475	Mamira	<i>Thalictrum foliolosum</i> DC.	Ranunculaceae	Herb	C		✓	
476	Aranyakarpas, Bharadwaji Vankapas	<i>Thespesia lampas</i> (Cav.) Alef.	Malvaceae	Erect, slightly branched shrub	C	✓		✓
477	Parish	<i>Thespesia populnea</i> Sobnd. ex Correa	Malvaceae	Evergreen tree	C	✓		
478	Ashvamara	<i>Thevetia peruviana</i> (Pers.) Merrill	Apocynaceae	Large shrub or a small tree	C	✓	✓	
479	Ban Ajmod	<i>Thymus serpyllum</i> L.	Lamiaceae	Creeping shrub	NYR		✓	
480	Guduchi	<i>Tinospora cordifolia</i> (Willd.) Miers	Menispermaceae	Climbing shrub	C	✓		✓
481	-	<i>Trema orientalis</i> Blume	Cannabaceae	Shade tree	C			✓
482	Varshabhu	<i>Trianthema portulacastrum</i> L.	Aizoaceae	Succulent shrub	LC	✓		
483	Gokhur	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Perennial vine	C	✓		✓
484	Jayanti	<i>Tridax procumbens</i> L.	Compositae	Herb	C	✓		✓
485	Methika	<i>Trigonella foenum-graecum</i> L.	Leguminosae	Herb	C	✓		
486	Arkaparni	<i>Tylophora indica</i> (Burm.f.) Merrill	Asclepiadaceae	Twining or climbing herb	C	✓		✓
487	Gundra	<i>Typha angustifolia</i> Watt non L.	Typhaceae	Perennial plant	C	✓		
488	Triparni	<i>Uraria lagopoides</i> DC.	Leguminosae	Herb	C	✓		
489	Prshniparni	<i>Uraria picta</i> Desv.ex DC.	Leguminosae	Erect perennial, undershrub	C	✓		✓
490	Vanpalandu	<i>Uraria indica</i> Kunth.	Asparagaceae	Perennial herb	C	✓		
491	Tagar	<i>Valeriana jatamansi</i> DC	Caprifoliaceae	Rhizomatous herb	C		✓	
492	Vrkshadhi	<i>Vanda roxburghii</i> R. Br.	Orchidaceae	Epiphytic orchid	C	✓		
493	Kaivantika	<i>Ventilago denticulata</i> Willd.	Rhamnaceae	Herb	C	✓		
494	Kaalijiri	<i>Vernonia anthelmintica</i> (L.) Willd.	Compositae	Annual herb	NYR		✓	
495	Sahadevi	<i>Vernonia cinerea</i> Less.	Compositae	Annual herb	C	✓		
496	Ushir	<i>Vetiveria zizanioides</i> (L.) Nash	Poaceae	Aromatic grass	C	✓		✓
497	Mashparni-bhed	<i>Vigna umbellata</i> (Thunb.) Ohwi & Ohashi	Poaceae	Annual herb	C	✓		
498	Sandpushpa BHed	<i>Vinca rosea</i> L.	Apocynaceae	Small subshrub	LC	✓	✓	
499	Banfa	<i>Viola serpens</i> Wall	Violaceae	Perennial herb	C		✓	
500	Nirgundi	<i>Vitex negundo</i> L.	Verbenaceae	Small tree	C		✓	✓
501	Nirgundi	<i>Vitex negundo</i> L. (Violet flowered)	Verbenaceae	Small tree	C	✓		
502	-	<i>Vitex negundo</i> L. (White flowered)	Verbenaceae	Small tree	C	✓		
503	-	<i>Vitis trifolia</i> L.	Vitaceae	Climbing vine	NYR		✓	
504	Draksha	<i>Vitis vinifera</i> L.	Vitaceae	Perennial liana	C	✓		
505	-	<i>Waltheria indica</i> L.	Sterculiaceae	Shrub or subshrub	C	✓		
506	Lakhanmurva	<i>Wattakaka volubilis</i> (L.f.) Stapf.	Asclepiadaceae	Woody vine	LC	✓		



Sl. no.	Sanskrit name <sup>3</sup>	Botanical name <sup>4,6</sup>	Family	Habit <sup>7</sup>	IUCN status <sup>5</sup>	STATUS			
						Jhansi	Ranikhet	Itanagar	Pune
507	-	<i>Withania caogulans</i> Dunal	Solanaceae	Herb	C	✓			
508	Ashwagandha	<i>Withania somnifera</i> Dunal	Solanaceae	Perennial herb	C	✓	✓		✓
509	Dhataki	<i>Woodfordia fruticosa</i> Kurz	Lythraceae	Shrub (or) small tree	C	✓		✓	
510	Strikutaj	<i>Wrightia tinctoria</i> R.Br.	Apocynaceae	Small, deciduous tree	C	✓			✓
511	Artagal	<i>Xanthium strumarium</i> L.	Compositae	Annual herb	C	✓			
512	-	<i>Zamia furfur</i> L.f. ex Aiton	Zamiaceae	Cycad	NYR	✓			
513	Tejovati	<i>Zanthoxylum alatum</i> Roxb.	Rutaceae	Small tree or large spiny shrub	C		✓		
514	Kola/Badar	<i>Zizyphus mauritiana</i> Lamk.	Rhamnaceae	Spiny, evergreen shrub or small tree	C				✓
515	Badar-Bheda	<i>Zizyphus oenoplia</i> Mill.	Rhamnaceae	Small tree or climbing, thorny shrub	C				✓
516	Kol, Kuval	<i>Zizyphus jujuba</i> Lam.	Rhamnaceae	Small deciduous tree or shrub	C	✓		✓	
517	Shunthi, Ardraka	<i>Zingiber officinale</i> Rosc.	Zingiberaceae	Herbaceous perennial	C			✓	
518	Sihoolgranthi Vacha	<i>Zingiber zerumbet</i> Rosc. ex Sm.	Zingiberaceae	Herbaceous perennial	C	✓			✓

IUCN status of medicinal plants: C: Common; LC: Least concern; LR: Lower risk; V: Vulnerable; CE: Critically endangered; DD: Data deficient; NYR: Not yet reported; T: Threatened

533 species (excluding repetition) of medicinal plants are growing in these four gardens, out of which, 332 plant species maintained in the garden of RARI, Jhansi. As per the IUCN status, four plant species are critically endangered, viz., *Bambusa arundinacea* Willd., *Chlorophytum borovillianum* Baker, *Commiphora wightii* (Arn.) Bhandari, and *Sida acuta* Burm.f.; 20 species are least concerned and rare.

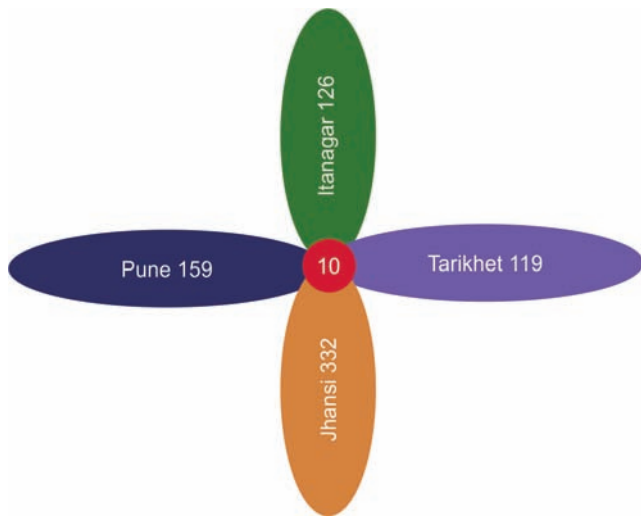
In RAIFR, Pune, 159 species of plants were maintained; out of which 12 species are least concerned and 1 species is vulnerable. In RARI, Itanagar, 126 plant species were maintained; out of which 4 species are critically endangered viz. *Brugmansia suaveolens* syn. *Datura metel* L., *Hydnocarpus kurzii* (king.) warb., *Rhyncostylis retusa* (L.) Blume and *Thuja orientalis* L., 6 species least concerned, 2 vulnerable and threatened.

One hundred and nineteen plant species of medicinal plants were maintained by RARI, Tarikhet; out of which 4 species critically endangered, viz., *Bambusa arundinacea* Willd., *Pistacia integerrima* Stew.Ex Brandis., *Sapindus mukorossi* Gaertn and *Solanum xanthocarpum* Schard.; 8 species are rare and vulnerable. It was also observed that 10 plant species, viz., *Acorus calamus* L., *Aegle marmelos* (L.) Correa, *Asparagus racemosus* Willd., *Carica papaya* L., *Gmelina arborea* Roxb., *Murraya koenigii* (L.) Spreng., *Oroxylum indicum* (L.) Vent., *Pongamia pinnata* (L.) Pierre., *Rauwolfia serpentina* Benth. ex. Kurz. and *Ricinus communis* L. are present in all the four gardens of the Council. This seems that these plants can be cultivated in all the geographical zones from the altitude ranging between 285 and 1,638 m. A detailed graphical representation of plants maintained in CCRAS gardens are presented in Figure 2, and their IUCN status is presented in Graph 1.

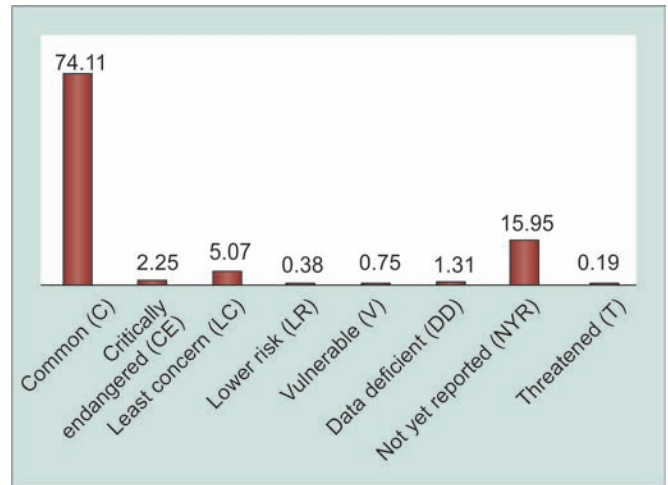
Forty species of medicinal plants belonging to family Fabaceae are largest in number followed by 25 species each from Malvaceae, Asteraceae; 23 species from Apocynaceae; 21 species from Solanaceae; 16 species from Euphorbiaceae; 15 species from Zingiberaceae; 13 each from Lamiaceae, Caesalpiniaceae, Rubiaceae, Rutaceae, Verbenaceae, and Mimosaceae; 9 species each from Bignoniaceae, Cucurbitaceae, Amaranthaceae, and Araceae. Distribution of plants as per their family status is presented in Graph 2. Among these plants, herbs were dominating other life forms, such as big trees, shrubs, climbers, under shrubs, and small trees as presented in Graph 3.

**CONCLUSION**

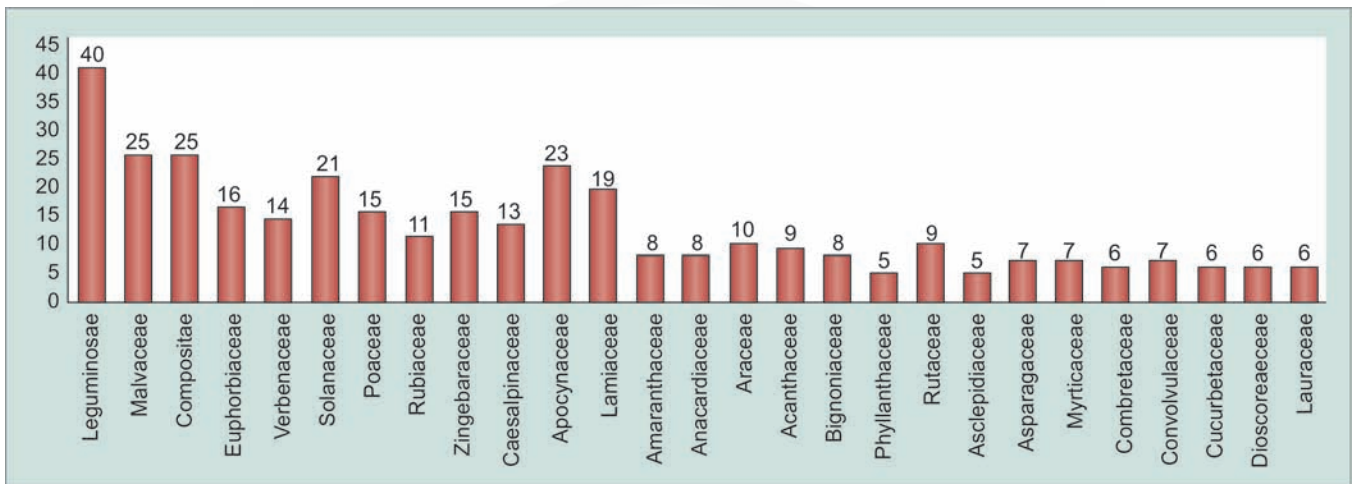
With the increasing demand of herbal formulations, many pharmaceutical industries have been set up and for their



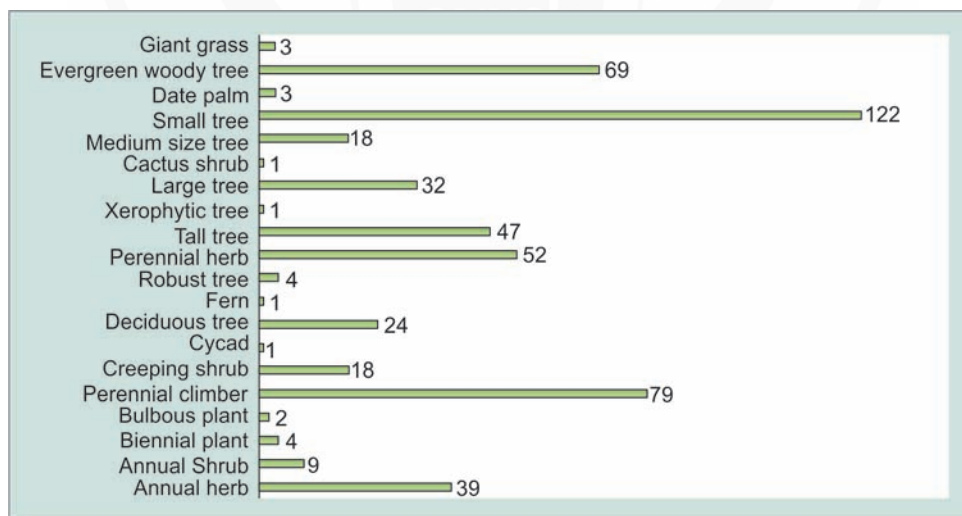
**Fig. 2:** Number of medicinal plant species maintained in CCRAS gardens



**Graph 1:** Graphical representation of the presence of plants species maintained in CCRAS demonstrative gardens according to the IUCN status



**Graph 2:** Distribution of families of the plant species maintained at CCRAS demonstrative gardens



**Graph 3:** Habits of plants species maintained at CCRAS demonstrative gardens

trade the demand of the raw material has been increased. Due to this unplanned and unscientific exploration of medicinal plant species, large numbers of species are at the verge of extinction. These data will be helpful

for conservation of medicinal plants in the respective phytogeographical region. The results also indicate that few species can be cultivated in all the geographical zones from the altitude ranging between 285 and 1638 m.

The results also pave a path for the mass cultivation of the important plant species in general and for the critically endangered and vulnerable species in particular at their respective ecological zones. The Council is also exploring the possibility of initiation for development of biodiversity database of the medicinal plants mentioned in these gardens.

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## हिन्दी सारांश

### औषधीय महत्व के वानस्पतिक जैव विविधता का संरक्षण: सीसीआरएएस के योगदान का एक संकलन

**पृष्ठभूमि:** प्राचीन काल से विभिन्न रोगों को कम करने एवं उनके उपचार के लिए औषधीय पादपों का उपयोग किया जाता रहा है। विभिन्न पारंपरिक चिकित्सा पद्धतियों में वर्णित कई औषधीय पादप औषध की खोज संबंधी प्रक्रिया में प्रमुख योगिक के विकास हेतु महत्वपूर्ण सूचना के रूप में कार्य करते हैं। पादप आधारित औषधियों के विकास में अपरिष्कृत औषधि की पहचान एक मूलभूत योगदान है। औषधीय पादपों के कृषिकरण के लिए प्रमुख उद्देश्यों में अनुकूलनशीलता, वृद्धि, औषधीय पादपों के फलने-फूलने का समय और उपयुक्त परिपक्वता अवधि शामिल हैं। इन तथ्यों को ध्यान में रखते हुए, केंद्रीय आयुर्वेदीय विज्ञान अनुसंधान परिषद (सीसीआरएएस) ने प्रदर्शनात्मक उद्देश्य हेतु विभिन्न भौगोलिक क्षेत्रों में पारम्परिक चिकित्सा पद्धतियों में प्रयुक्त औषधीय पादप उद्यानों के विकास के लिए कदम उठाए हैं।

**उद्देश्य:** यह योगदान भारत के विभिन्न राज्यों में स्थित भौगोलिक कृषि जलवायु क्षेत्रों (ऊंचाई 285 मीटर से 1638 मीटर के बीच) में पारंपरिक और लोक चिकित्सा में प्रयुक्त औषधीय पादपों के प्रदर्शन में सीसीआरएएस के औषधीय मूल्य की वनस्पति जैव विविधता के संरक्षण को प्रमुख रूपसे प्रदर्शित करती है।

**कार्यप्रणाली:** औषधीय पादप अनुसंधान कार्यक्रम के अंतर्गत औषधीय पादपों की खेती मुख्य रूप से विभिन्न जलवायु क्षेत्रों में स्थित चार उद्यानों में की जाती है यथा क्षेत्रीय आयुर्वेद अनुसंधान संस्थान (आरएआरआई), झांसी (उत्तर प्रदेश), क्षेत्रीय आयुर्वेद मौलिक अनुसंधान संस्थान (आरएआईएफआर), पुणे(महाराष्ट्र), आरएआरआई ईटानगर (अरुणाचल प्रदेश) और आरएआरआई, रानीखेत (ताड़ीखेत) (उत्तराखंड)।

**अवलोकन:** इन चार उद्यानों में औषधीय पादपों की कुल 533 प्रजातियों का रख रखाव किया जाता है, जिनमें 332 पादप प्रजातियों का आरएआरआई, झांसी द्वारा रख-रखाव किया गया; जिसमें 4 प्रजाति गंभीर रूप से लुप्तप्राय हैं, 20 प्रजातियों के विषय में कम चिंताजनक स्थिति है और दुर्लभ हैं। 159 औषधीय पादप प्रजातियों का आरएआईएफआर, पुणे द्वारा रख-रखाव किया गया; जिनमें से 12 प्रजातियों के विषय में कम चिंताजनक स्थिति है और 1 प्रजाति की स्थिति दुर्बल है। औषधीय पादपों की 126 पादप प्रजातियां आरएआरआई, ईटानगर द्वारा रख-रखाव किया गया; जिनमें से 4 प्रजातियों सम्बन्धी कृषि गंभीर रूप से लुप्त हो रही है, 6 प्रजातियों के विषय में कम चिंताजनक स्थिति है, 2 की स्थिति दुर्बल और खतरे में हैं। औषधीय पादपों की 119 प्रजातियों का रख-रखाव आरएआरआई, रानीखेत द्वारा किया गया; जिनमें से 8 प्रजातियों की कृषि कम होती है, 4 प्रजातियां गंभीर रूप से लुप्तप्राय और दुर्बल हैं। रानीखेत और चम्पा स्थित संस्थान (आरएआरआई, रानीखेत) उद्यान में केसर (क्रोकस सटाईवस लिन.) की सफलतापूर्वक खेती की जाती है।

**निष्कर्ष:** उक्त आकड़े विशिष्ट औषधीय पादपों के पादप भौगोलिक क्षेत्रों की पहचान के लिए उपयोगी है जो कि विशिष्ट पादप प्रजातियों के उनके प्राकृतिक वास स्थान पर संरक्षण के लिए लाभकारी होगा। यह आवश्यक है कि पादपों को उनके प्राकृतिक वास में विभिन्न कृषि प्रौद्योगिकी की सहायता से बड़े पैमाने पर खेती द्वारा पादपों के संसाधनों को संरक्षित करने के लिए कदम उठाने की आवश्यकता है। वर्तमान में, औषधीय पादपों के पैकेज संबंधी अभ्यास उपलब्ध नहीं हैं और यह आकड़े औषधीय पादपों संबंधी कृषि प्रौद्योगिकी के प्रलेखन हेतु उपयोगी होंगे। महत्वपूर्ण विधियों और प्रोटोकॉल का कार्यान्वयन, कृषि के क्षेत्र में सकारात्मक एवं उत्कृष्ट योगदान सिद्ध होने चाहिए।

**मुख्य शब्द:** संरक्षण, औषधीय पादप, औषधीय पादप प्रजातियाँ, सीसीआरएएस।