Status survey of some locally used important medicinal plants of Vindhyan eco-region

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S. N. Mishra

Contents

CHAPTER-1 DESCRIPTION OF THE PROJECT

1. **Title of the project**: Status survey of some locally used important medicinal plants of Vindhyan eco-region
2. **Project duration** : one year from the date of start

3. **Project cost** : Three lacs only

4. **Executing agency**: Regional research center, M. P. State Biodiversity Board, Government Model Science College (A.P. S. University), Rewa, M. P.

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(A). Background

India is a country with unique biodiversity and widest variety of medicinal plants. It is estimated that about 45,000 species are found in India. Professor P. B. Sharma of BHU has listed more than 600 species of important medicinal plants in his famous book "Dravya Guna Vigyan". Preliminary survey suggests that more than 200 species of these medicinal plants are growing in Vindhyan forests. Name of these undisputable medicinal plants are mentioned in our Sanskrit literature right from Vedas to Charak and Sushrut samhitas as also in modern ayurvedic literature (Flora of M P Vol. 1-3 1995).

Indian people, particularly those from remote areas, have been using various local preparations of these plants from time immemorial. However, except for some ethnobiological survey and a few detailed studies regarding medicinal properties by the scientists of CMAP, NBRI, CDRI and BSI etc., little efforts have been made by the botanists to study in detail the various aspects of biology and conservation of these plants on regional basis. It's a matter of great concern that our precious resources of medicinal plants are gradually vanishing even from the richest areas like Chitrakoot and Amarkantak. A number of plant species of unusual medicinal significance, which were growing in plenty some twenty years ago, are gradually disappearing from their own habitat.

It was, therefore, proposed to undertake detailed Red List Status survey, collection, identification and other aspects of conservation of some locally used medicinal plants as per guidelines from IUCN and CAMP workshop organized by M.P. State Biodiversity Board during 2003 and 2005.

The study is carried out for locally used medicinal plants of Vindhyan eco-region comprising six districts of Rewa division. These districts are: Rewa, Sidhi, Satna, Shahdol, Umaria and Anooppur. A total number of 244 species have as far been analysed for their RET status.

B. Rationale of the study

(i) To develop the list of medicinal plants of Vindhyan eco-region on the basis of their local use.

(ii) To understand the interrelationship between production and consumption of locally used medicinal plants.

(iii) To develop an interrelationship between different stake holders.

C. Main objectives

(i) Red list status survey, collection, identification and taxonomic characterization of locally used important medicinal plants of Vindhyan eco- region.

(ii) To study conservation measures taken so far and evaluation for strategies for ex-situ and in-situ conservation.

D. Project area and target group

Vindhyan region, previously known as Vindhya Pradesh, is named after Vindhyan series of mountains running from Gujrat towards Jharkhand and Bihar. It is a north-eastern part of Madhya Pradesh and northern part of holy Narmada River. The region occuppies an area of about 38,370 km2, out of which 34.5 per cent is covered by, mixed deciduous forests. Enormous ecological diversification of forests makes the area as an array of habitats for the medicinal plants. The following types of forests are found in Vindhyan eco-region:

1. Moist peninsular high quality sal forest
2. Moist peninsular low quality sal forest
3. Dry peninsular sal forest
4. Western Gangetic moist mixed deciduous forest
5. Southern dry mixed deciduous forest
6. Moist tropical forest
7. Moist deciduous forest
8. Northern tropical deciduous forest
9. Moist sal forest
10. Moist mixed deciduous forest
11. Dry tropical mixed deciduous forest.
12. Costal and wetland forest
17. Tropical deciduous degraded forest
18. Moist tropical low grade sal forest
19. Dry deciduous sal forest
20. Salai forest

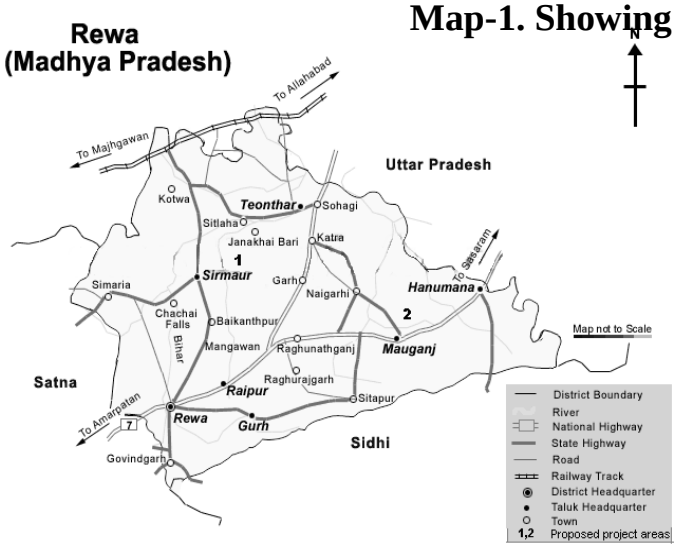
13. Tropical river coastal forest
14. Tropical dry deciduous forest
15. Dry teak forest
16. Dry teak forest
21. Cutch (Khair) forest
22. Dry teak forest
23. Mixed forest
24. Karghai, Salai, Bamboo and Teak

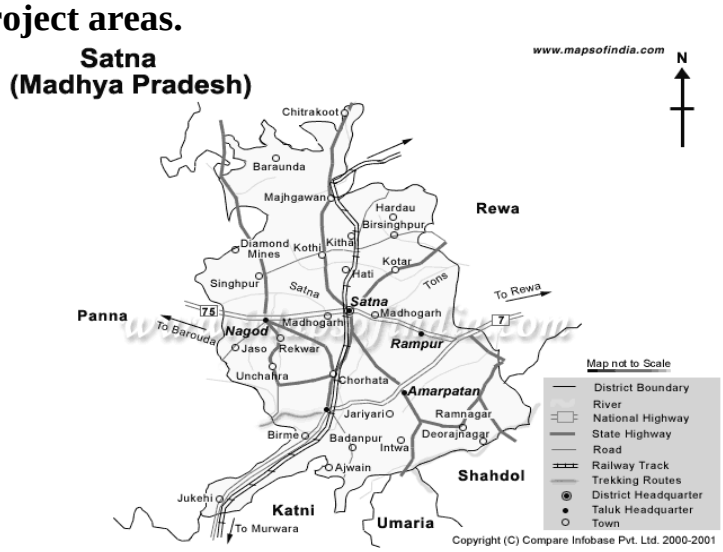
The above variety of forests indicates that the Vindhyan eco-region is much more diversified. There is mixture of south, western and north Indian forest.The sal belt which is right from the forest of Himalaya from west to east from Dehradoon to Lakhimpur Khiri, Bahraich, and extend up to Bastar, Surguja, Sidhi, Shahdol, Dindori, Raipur and Bilaspur, is beautifully represented in this region.

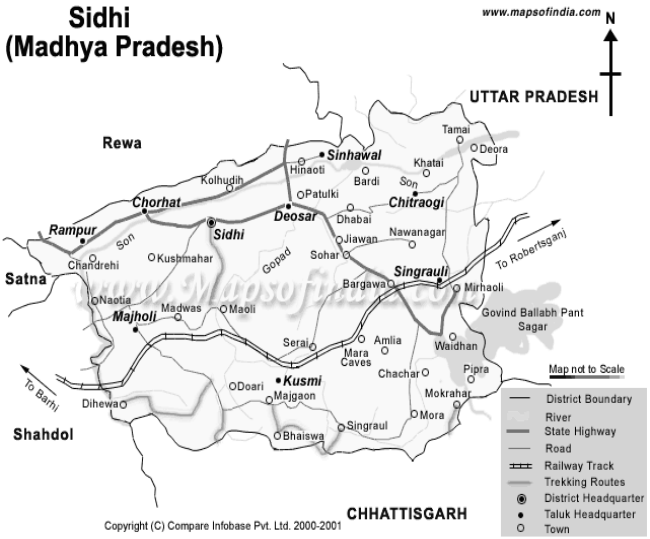
The project area covers six districts of Vindhyan eco-region, i.e., Rewa, Sidhi, Satna, Shahdol, Umaria and Anooppur. Area wise following fifteen places are covered: Rewa (Obari, Kakreri, Sohagi and Govind garh), Sidhi (Sanjay National Park, Chandreh, Mada, and Coal mine area), Satna (Chitrakoot, Gidhkoot, Markandeya and Dharkundi), Shahdol (Byohari,), Umaria (Bandhav garh) and Anooppur (Amarkantak) (Map-1).

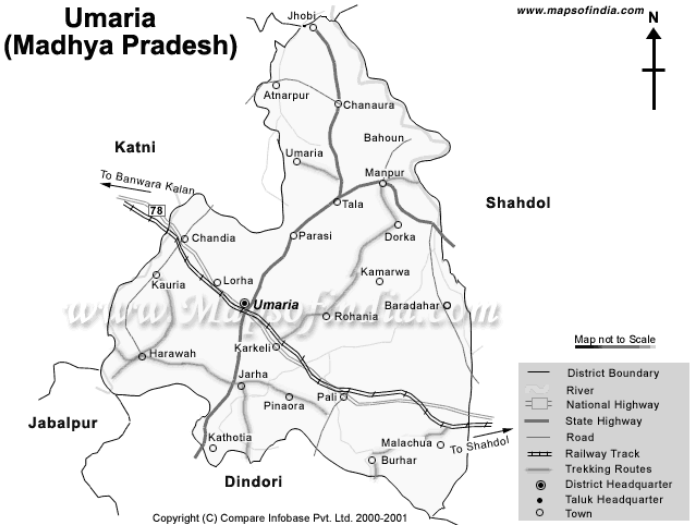
Target groups were local vaidyas, major traders of the regions and local ayurvedic pharmacies, collectors of medicinal plants, students and local knowledgeable persons.

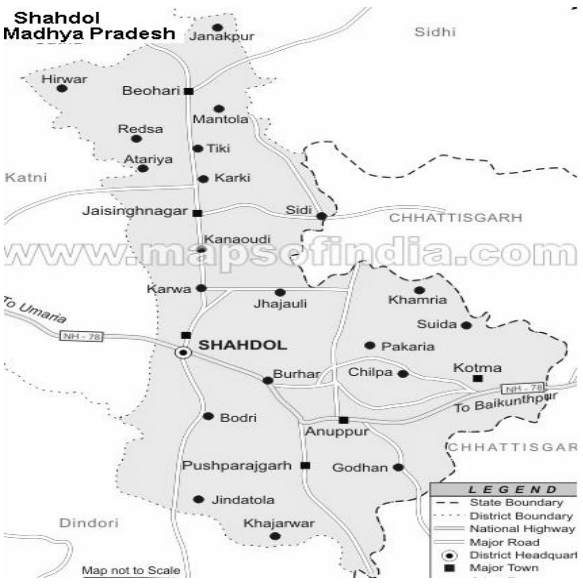
Map-1. Showing project areas.

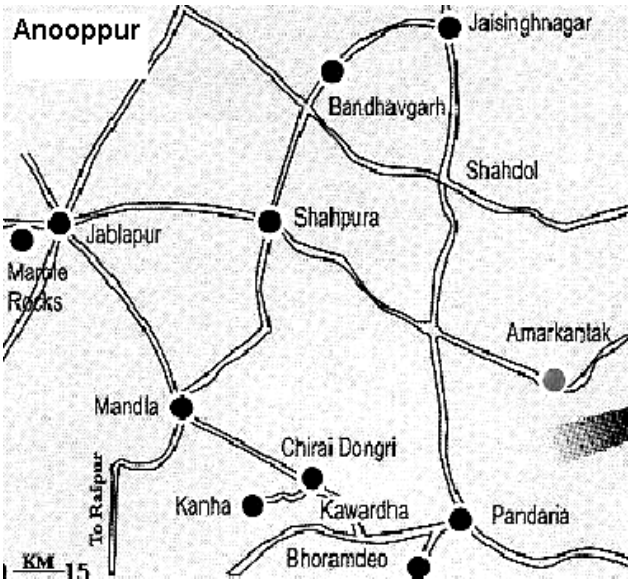












CHAPTER-2 METHODOLOGY

(2.1). Research design

As mentioned in the project proposal, following steps of the research work were carried out.

Step 1. Live contact was made with local vaidyas and knowledgeable parsons of the area and generated a list of medicinal plants which they recommend to their patients.

Step 2. After knowing the name of medicinal plants which were used in the preparation of medicines local traders were consulted to know the marketable plants and their parts.

Step 3. Identification and taxonomic characterization was done by the team. For wider consultation, identification camps were organized by the Society for the Conservation of Nature in collaboration with the forest department, botanists, research scholars, foresters, plant collectors and local knowledgeable persons.

Step 4. Relationships between the production, availability and consumption rate of various species of medicinal plants was studied and a threat list of plants was prepared following the guidelines developed by the IUCN and CAMP workshop organized by the M.P. State Biodiversity Board.

The following variables were taken into account:

(i). Local vaidyaraj, traders, collectors of medicinal plants and ayurvedic pharmaceutical units.

(ii). Potential areas like Amarkantak, Bandhavgarh, Sanjay national park (Sidhi), Chitrakoot, Sohagi and Naro hills have been taken for detailed survey of locally used medicinal plants.

(iii). Local diseases which are treated with ayurvedic medicines.

(iv). Common ayurvedic medicines which are locally made in the region have also been covered.

CHAPTER-3. RESEARCH CARRIED OUT

(1). Sample survey

As the project is directly based on some locally used medicinal plants, survey methods were based on:

(i) **Consultation with stake holders** : Local vaidyaraj, foresters, plant collectors, pansaries and pharmaceautical companies were cunsulted to generate a list of medicinal plants which they recommend to their patients.

(ii) **Direct sampling**: Direct visits were made to different localities of the research area by the survey team and local knowledgeable persons. As far as possible the project areas were visited throughout the year to monitor the seasonal distribution, fruiting and flowering of the medicinal plants. However, owing to meager financial assistance extensive survey could not be carried out and the results are based on wider consultation with local knowledgeable persons. Potential areas like Amarkantak, Bandhavgarh national park, Sanjaya national park, and Chitrakoot, Suhagi, Ataraila and Naro hill were specially surveyed to access the various categories of threat to the highly used local medicinal plants.

(2). Documentation

Documentation was carried out by the literature survey. All possible literature, including various floras, was consulted and a list of about 850 plants was prepared.Out of this, a total number of 286 plant species are found to be in traditional use.The survey team made live contact with local vaidyas, local knowledgeable persons, plant collectors, foresters and others. Division level "Vaidyaraj Sammelan" was organized where hundreds of vaidyas and other interested persons participated. A comprehensive list was prepared so as to discuss the availability of the locally used medicinal plants (Table-**1**).

Table-1. List of medicinal plants in traditional use.

S.n.	Botenical name	Local name	Family
1.	*Abrus precatorius* L.	Ratti	Fabaceae
2.	*Abutilon indicum* (Lam.) S.W.	Kanghi	Malvaceae
3.	*Acacia catechu* (L.f.) Willd.	Khair	Mimosaceae
4.	Achyranthes aspera L.	Apamarg	Amaranthaceae
5.	*Achyranthes bidentata* Blume	Apamarg	Amaranthaceae
6.	*Achyranthes aspera* var *porphyristachya* (Wall. ex Moq.) Hook. f.	Chirchita	Amaranthaceae
7.	*Acorus calamus* L.	Bach	Araceae
8.	*Adhatoda zeylanica* Medik.	Adusa	Acanthaceae
9.	*Aegle marmelos* (L.) Correa	Bel	Rutaceae
10.	*Ailanthus excelsa* Roxb.	Maharukh	Simaroubaceae
11.	*Alangium salvifolium* (L.f.) Wang	Ankol	Cornaceae
12.	*Alangium* sp.	Ankol	Cornaceae
13.	*Alectra chitrakutensis* (Rau) Khanna & Kumar	Nirgundi kand	Scruphulariaceae
14.	*Adiantum capillus-veneris* L.	Hansraj	Adiantaceae
15.	Amaranthus caudatus L.	Ramdana	Amaranthaceae
16.	*Amaranthus hybridus* L. var *incurvatus*	Lal bhaji	Amaranthaceae
17.	*Amaranthus lividus* L.	Marsa	Amaranthaceae
18.	*Amaranthus spinosus* L.	Kali marsa	Amaranthaceae
19.	*Ampelocissus latifolia* (Roxb.) Planch.	Amraula	Vitaceae
20.	*Ampelocissus tomentosa* L.	Dokar bel	Vitaceae
21.	*Anacyclus pyrethrum* DC.	Akarkara	Asteraceae
22.	*Andrographis paniculata* (Burm. f.) Willich ex Nees	Kalmegh	Acanthaceae
23.	*Anisomeles indica* (L.) Kuntze	Vantulsi	Lamiaceae
24.	*Anogeissus latifolia* (Roxb. Ex DC) Ball ex Bedd.	Dhawa	Combretaceae
25.	*Anona raticulata* L.	Ramphal	Annonaceae
26.	*Anona squamosa* L.	Sitafal	Annonaceae
27.	*Anthocephallus chinensis* L.	Kadamb	Rubiaceae

28.	*Argemone mexicana* L.	Satyanasi	Papaveraceae
29.	*Argyreia speciosa* Sw.	Vidhara	Convolvulaceae
30.	*Arisaema flavum* L.	Kala telia kand	Araceae
31.	*Arisaema flavom* Schoot	Vansuran,bakchan	Araceae
32.	*Arisaema* sp.	Safed teliakand	Araceae
33.	*Arisaema tortuosum* (Wall.) Schott	Vanmakka	Araceae
34.	*Aristolochia bracteolata* Lam.	Kidamari	Aristolochiaceae
35.	*Aristolochia indica* L.	Batilha	Aristolochiaceae
36.	*Aristolochia palmeta* L.	Iswarmool	Aristolochiaceae
37.	*Asparagus racemosus* Willd.	Satawar	Liliaceae
38.	*Azadiracta indica* L.	Neem	Meliaceae
39.	*Bacopa monnieri* (L.) Wettst.	Brahmi	Schrophulariaceae
40.	Balanites aegyptiaca (L.) Delile	Ingudi	Balanitaceae
41.	*Bambusa arundinacea* (Retz) Willd	Bans	Poaceae
42.	*Banincasa hispida* L.	Petha	Cucurbitaceae
43.	*Barleria prionitis* L.	Katsariya	Acanthaceae
44.	*Barleria prattensis* Santspau	Vajradanti	Acanthaceae
45.	*Boswellia alba* Roxb.	Poi	Poaceae
46.	*Boswellia serrata* Roxb.	Sarai	Bursaraceae
47.	*Bauhinia purpurea* L.	Koilar	Caesalpiniaceae
48.	*Bauhinia racemosa* Lamk.	Asta	Caesalpiniaceae
49.	*Bauhinia semla* L.	Thaver	Caesalpiniaceae
50.	B*auhinia vahlii* (Wt.& Arn) Benth.	Mahuline	Caesalpiniaceae
51.	*Bauhinia verigata* L.	Kachnar	Caesalpiniaceae
52.	*Blumea lacera* DC.	Jangali muli	Asteraceae
53.	*Boerhavia diffusa* Bank. ex Roxb.	Rakta punarnava	Nyctaginaceae
54.	*Boerhavia procumbens* Bank. ex Roxb.	Safed punarnava	Nyctaginaceae
55.	*Bombax ceiba* L.	Semal	Bombacaceae
56.	*Bombax insigne* Wall	Kapok	Bombacaceae

57.	*Buchnania lanzan* Spreng.	Char	Anacordiaceae
58.	*Butea monosperma* L.	Palas	Fabaceae
59.	*Caesalpinia bonduc* (L.) Roxb.	Gataran	Caesalpiniaceae
60.	*Caessalpinia sappan* L.	Patang	Caesalpiniaceae
61.	*Calotropis procera* R Br.	Aak	Asclepiadaceae
62.	C*alotropis gigantea* R Br.	Safed madar	Asclepiadaceae
63.	*Capperis zeylenica* L.	Baghnakhi	Capparidaceae
64.	*Cardiospermum halicacabum* L	Kanfuti	Sapinaceae
65.	*Careya arborea* Roxb.	Kumbhi	Lecythidaceae
66.	*Carissa carandus* L	Karonda	Apocynaceae
67.	*Carissa opaca* L.	Karonda	Apocynaceae
68.	*Cayratia trifolia* (L.) Domin	Amlaparni	Vitaceae
69.	*Caesalpinea sapan* L.	Patang	Caesalpiniaceae
70.	*Caesalpinea bonduc* (L) Roxb.	Gataran	Caesalpiniaceae
71.	*Cassia tora* L.	Chakora	Fabaceae
72.	*Celastrus paniculatus* Willd.	Malkangni	Celastraceae
73.	*Centella asiatica* (L) Urb.	Mandookparni	Apiaceae
74.	*Centella rotundifolia* Roxb.	Brahmi	Apiaceae
75.	*Centipeda minima* (L.) R. Br & Aschers.	Nakchhikani	Asteraceae
76.	*Chlorophytum arundinaceum* L Baker	Safed moosli	Liliaceae
77.	*Chlorophytum tuberosum* Baker	Safed moosli	Liliaceae
78.	*Cheilanthus saperia* L.	Silver fern	Cheilanthaceae
79.	*Cissampelos pareira* L.	Parhin	Menispermaceae
80.	*Cissus quandrangularis* L.	Hadjor	Vitaceae
81.	*Citrullus colosynthes* (L.) Schrad.	Indrayan	Cucurbitaceae
82.	*Citrus lemona* (L) Berm.	Neebu	Rutaceae
83.	*Citrus medica* var *limetta* L.	Meetha nimbu	Rutaceae
84.	*Citrus medica* var *limonium* L.	Jamha nimbu	Rutacae
85.	*Clematis gouriana* Roxb. ex DC.	Gajprasaran	Ranunculaceae
86.	*Clerodendrum indicum* L.	Bharangi	Verbenaceae

87.	*Clitoria ternatea* L.	Aparajita	Fabaceae
88.	*Coccina grandis* (L.) Voigt.	Kundaru	Cucurbitaceae
89.	*Coleobronchia oppositifolia* L.	Vanchana	Lamiaceae
90.	*Commelina benghalensis* L.	Kanchara	Comelinaceae
91.	*Cordia dichotoma* Forst.	Lasora	Boraginaceae
92.	*Cordia macleodii* (Griff.) Hook. & Thomso	Dahiman	Boraginaceae
93.	*Costus speciosus* Koeing.	Keo kand	Costaceae
94.	*Crateva unilocularis* L.	Varun	Capparaceae
95.	*Crinum latifolium* L.	Sudarshan kand	Amaryllidaceae
96.	*Crotalaria retusa* Baker in Hook.	Ghunghunia	Fabaceae
97.	*Croton* sp.	Rendvisaur	Euphorbiaceae
98.	*Cynodon dactylon* L.	Doob	Poaceae
99.	Curcuma amada Roxb.	Amahaldi	Zingiberaceae
100.	*Curcuma longa* L.	Haldi	Zingiberaceae
101.	*Cucurbita moschata* Duc.	Kaddoo	Cucurbitaceae
102.	*Curculigo orchioides* Gaertn.	Kali musali	Hypoxidaceae
103.	*Curcuma amada* Roxb.	Van haldi	Zingiberaceae
104.	*Curcuma caesia* L.	Kali haldi	Zingiberaceae
105.	*Curcuma aromatica* Salisb.	Van haldi	Zingiberaceae
106.	*Cyperus scariosus* L.	Gondila, Nagarmotha	Cyperaceae
107.	*Crotalaria medica* L.	San	Fabaceae
108.	*Cordia macleodii* (Griff.) Hook. & Thomso	Dahiman	Boraginaceae
109.	Dalbergia latifolia Roxb.	Shisham	Fabaceae
110.	*Dalbergia sisso* Roxb.	Sisu	Fabaceae
111.	*Dalbergia labeck* L.	Siris	Fabaceae
112.	*Datura metal* L.	Dhatoor	Solanaceae
113.	*Desmodium gangeticum* (L.) DC.	Salparni	Fabaceae
114.	*Desmodium laxiflorum* DC.	Bari Chhuimui	Fabaceae

115.	*Desmodium motorium* (Houtt.) Merr.	Teligraph plant	Fabaceae
116.	*Desmodium tortuosum* (SW) DC.	Chhuimui	Fabaceae
117.	*Desmodium velutianum* Desv.	Chhuimui	Fabaceae
118.	*Digitalis purpurea* L.	Vanmooli	Gentianaceae
119.	*Dillenia pentagyna* Roxb.	Karkat	Dilleniaceae
120.	Dimia extensa L.	Duddhi	
121.	*Dioscorea alata* Roxb.	Kirachi kanda	Dioscoriaceae
122.	*Dioscorea hispida* Dennst.	Baichandi	Dioscoriaceae
123.	*Dioscorea oppositifolia* L.	Baichandi	Dioscoriaceae
124.	*Dioscorea* sp.	Agathi kand	Dioscoriaceae
125.	*Dioscoria cordata* L.	Khanima	Dioscoriaceae
126.	*Dioscoria bulbifera* L.	Kesaria kand	Dioscoriaceae
127.	*Dioscoria globosa* Roxb.	Suari kand	Dioscoriaceae
128.	*Dioscoria pentaphylla* L	Saur kand	Dioscoriaceae
129.	*Diospirus malonoxilon* L.	Tendu	Ebanaceae
130.	*Diospyros kaki* L.	Bistendu	Ebanaceae
131.	*Diospyros montana* Roxb.	Patwan	Ebanaceae
132.	*Diospyros tomentosa* L.	Tendu	Ebanaceae
133.	*Diplocyclos palmatus* (L.) Jaffery	Shiv lingi	Cucurbitaceae
134.	*Dioscorea alata* L.	Pindalu	Discoriaceae
135.	*Digitalis purpurea* L	Vanmooli	Gentianaceae
136.	*Dolicos lableb* L.	Sem	Fabaceae
137.	*Dolicos* sp.	Jangali sem	Fabaceae
138.	*Dracena* sp.	Drecena	Liliaceae
139.	*Dryopteris aspara* (D.Don.) Ktze.	Jatashankari	Aspidiaceae
140.	*Dryopteris* sp	Jatashankar	Aspidiaceae
141.	*Dryopteris* sp.	Jatasankar parwati	Aspidiaceae
142.	*Echinops echinatus* Roxb.	Utkatara	Asteraceae
143.	*Eclipta prostrate* L.	Ghamira	Asteraceae

144.	*Elephantopus scaber* L.	Go jihva	Amaranthaceae
145.	*Embelia ribes* Brum. f.	Baibidang	Myrsinaceae
146.	*Embelia tsjerium-cottam* A. DC.	Vaibidang	Myrsinaceae
147.	*Enicostema oxillare* (Lam.) A. Raynal	Nari damdami	Gentianaceae
148.	*Entada scandens* (L.) Benth.	Deo semal	Mimosaceae
149.	*Erythrina indica* L.	Hadua	Fabaceae
150.	*Eulophia herbacea* Lindl.	Bilari kand	Orchidaceae
151.	*Euphorbia nerifolia* L.	Senhud	Euphorbiaceae
152.	*Euphorbia thymifolia* L.	Bhui anvala	Euphorbiaceae
153.	*Evolvulus alsinoides* L.	Shankhpuspi	Convolvulaceae
154.	*Feronia limonia* (L.) Swingle	Kaitha	Rutaceae
155.	*Ficus benghalensis* L.	Bargad	Moraceae
156.	*Ficus krishnae* L.	Bat	Moraceae
157.	*Ficus religiosa* L.	Pipal	Moraceae
158.	*Ficus* sp.	Kathumar	Moraceae
159.	*Ficus recemosa* L.	Gular	Moraceae
160.	*Ficus tomentosa* L.	Baril	Moraceae
161.	*Ficus variens* Dryander	Pakar	Moraceae
162.	*Flacourtia indica* (Burm.f.) Merr.	Katei	Flacourtiaceae
163.	*Gardenia jasminoides* Ellis.	Gandhraj	Rubiaceae
164.	*Gardenia resinifera* Roth.	Dikamali	Rubiaceae
165.	*Gardenia gummifera* L.f.	Dikamali	Rubiaceae
166.	*Gardenia* sp.	Gandhraj	Rubiaceae
167.	*Garuga pinnata* L.	Kekar	Myrsinaceae
168.	*Gloriosa superba* L.	Kalihari	Liliaceae
169.	*Grewia hirsuta* L.	Gudsakari	Tiliaceae
170.	*Grewia rothii* L.	Gangeran	Tiliaceae
171.	*Grewia subinaequalis* DC.	Falsa	Tiliaceae

172.	*Gymnema sylvestre* (Retz.) R.Br. ex Schult.	Gudmar	Asclepiadaceae
173.	*Haldinia cordifolia* (Roxb) Ridsd.	Haldu	Rubiaceae
174.	*Heliotropium ovalifolium* L.	Jangali mooli	Boraginaceae
175.	*Hemidesmus indicus* (L.) R.Br.	Anant mool	Asclepiadaceae
176.	*Holarrhena antidysentrica* Wall.	Kurchi	Apocynaceae
177.	*Holarrhena pubescens* (Buch.-Ham.) Wallich ex G Don.	Kurrya	Apocynaceae
178.	*Holoptelea integrifolia* Roxb.	Chilla	Ulmanaceae
179.	*Hygrophylla auricula* L.	Tal makhana	Acanthaceae
180.	*Ichnocarpus frutescence* (L.) R. Br.	Dhimar bel	Apocynaceae
181.	*Ipomea nil* L.	Kala dana	Convolvulaceae
182.	*Ipomea pes-caprae* (L.) R.Br.	Sham lata	Convolvulaceae
183.	*Ipomia carnea* L.	Behaya	Convolvulaceae
184.	*Isoetes indica* L.	Isoetes	Isoitaceae
185.	*Lagerstomia perviflora* L.	Sedha	Lythraceae
186.	*Lanne coromandelica* (Houtt.) Merr.	Guruja	Anacardiaceae
187.	*Litsea monopetala* L.	Meda	Lauraceae
188.	*Leea asiatica* (L.) Ridsdale	Hasiadafar	Leeaceae
189.	*Listea* sp.	Meda	Lauraceae
190.	*Litsea glutineta* L.	Meda	Lauraceae
191.	*Leucas aspera* (Willd.) Link	Guma	Lamiaceae
192.	*Leucas cephalotus* (Koing ex Roth.) Spreng	Dron puspi	Lamiaceae
193.	*Luffa echinata* L.	Bandal	Cucurbitaceae
194.	*Lygodium flexuosus* Sw.	Bhoot raj	Lygodiaceae
195.	*Lygodium* sp.	Choti bhulan	Lygodiaceae
196.	*Malotus philipensis* (Lam) Muell	Sinduri	Euphorbiaceae
197.	*Marsdenia tanacissima* (Roxb.) Moon	Dudhi lata	Asclepiadeceae
198.	*Marsilea quadrifolia* L.	Pan bhaji	Marseliaceae

199.	*Melia azedarach* L.	Bakain	Meliaceae
200.	*Millettia extensa* (Benth.) Baker	Guhilari	Fabaceae
201.	*Mitragyna parviflora* (Roxb) Korth.	Kaima	Rubiaceae
202.	*Momordica charantia* L.	Karela	Cucurbitaceae
203.	*Mucuna pruriens* (L) DC.	Kemachhha	Fabaceae
204.	*Mucuna pruriens* (L.) DC.	Jangali kemachha	Fabaceae
205.	*Murraya exotica* (L.) Spreng.	Kamini	Rutaceae
206.	*Murraya koenigii* (L.) Spreng.	Meethi neem	Rutaceae
207.	*Murraya paniculata* (L.) Jack.	Athil	Rutaceae
208.	*Musa sapiantum* L.	Vankela	Musaceae
209.	*Nervilia parinina* (King & Pantl.) Seidenf.	Van singhara	Orchidaceae
210.	*Nyctanthes orbortristis* L.	Seharua	Oleaceae
211.	*Nardostachys DC.*	Jatamansi	Valerianaceae
212.	*Ocimum americanum* L.	Van tulsi	Lamiaceae
213.	*Ocimum basilicum* L.	Shyama tulsi	Lamiaceae
214.	*Ocimum sanctum* L.	Rama tulsi	Lamiaceae
215.	*Operculina terpathum* L.	Nishoth	Convolvulaceae
216.	*Oxystelma esculanta* L.	Dudhara	Asclepiadaceae
217.	*Paedaria foitida* L.	Prasarini	Rubiaceae
218.	*Passiflora incrernata* L.	Ghari fool	Passifloraceae
219.	*Pedalium murex* L.	Bada gokharu	Pedaliaceae
220.	*Pergularia aemia* (Forssk.) Chiov.	Dudhi bel	Asclepiadaceae
221.	*Peucedanum dhana* Buch.-Ham.	Bhojraj	Apiaceae
222.	*Peucedanum nagpurnse* Prain	Kamraj	Apiaceae
223.	*Peucedanum nagpurnse* Prain	Tejraj	Apiaceae
224.	*Peuraria tubrosa* L.	Patal kumhara	Fabeceae
225.	*Phoenix sylvestris* Roxb.	Khajoor	Arecaceae
226.	*Phyllanthus amarus* L.	Bhu amla	Euphorbiaceae

227.	*Phyllanthus emblica* L.	Amala	Euphorbiaceae
228.	*Phyllanthus urineria* L.	Lal bhuamla	Euphorbiaceae
229.	*Phyllanthus niruri* L.	Amilaki	Euphorbiaceae
230.	*Plumbago zeylanica* L.	Baghnakhi	Plumbaginaceae
231.	*Polygala chinensis* L.	Bijnauri	Polygalaceae
232.	*Premna obtusifolia* R Br	Agnimath	Verbenaceae
233.	Prosopis cenereria L.	Sami	Mimosaceae
234.	*Prosopis julifera* L.	Safed kikar	Mimosaceae
235.	*Psoralea corylifolia* L.	Bakuchi	Fabaceae
236.	*Pteris* sp.	Jatashankari	Pteridaceae
237.	*Pterocarpus marsupium* L.	Beeja	Fabaceae
238.	*Pterospermum* sp.	Muchkund	Sterculiaceae
239.	*Pterospermum acerifolium* (L.) Willd.	Muchkund	Sterculiaceae
240.	*Pueraria tuberosa* (Roxb.ex Willd.) DC.	Bidari kand	Fabaceae
241.	*Randia nilotica* L.	Kharhar	Rubiaceae
242.	*Rauvolfia serpentina* L.	Sarpgandha	Apocynaceae
243.	*Rauvolfia tetraphylla* L.	Chota chand	Apocynaceae
244.	*Saccharum munja* L.	Moonja	Poaceae
245.	*Saccharum officinale* L	Ganna	Poaceae
246.	*Saccharum spontanium* L.	Kush	Poaceae
247.	*Salix tetrasperma* Roxb.	Baishi	Salicaceae
248.	*Sapindus mukorossi* Gaert.	Reetha	Sapindaceae
249.	*Schleichera oleosa* (Lour.) Oken	Kusum	Sapindaceae
250.	*Schrebera swietenioides* Roxb.	Ban palash	Oleaceae
251.	*Semicarpus anacardium* L.	Bhilma	Anacardiaceae
252.	*Sesbania grandifora* L.	Lal bhunga	Mimosaceae
253.	*Shorea robusta* Gaertn. F.	Sal	Dipterocarpacea
254.	*Sida acuta* L.	Mahabala	Malvaceae
255.	*Sida cordifolia* L.	Bala	Malvaceae

256.	*Sida cordata* L.	Bala	Malvaceae
257.	*Solanum indicum* L.	Barikateri	Solanaceae
258.	*Solanum nigrum* L.	Makoi	Solanaceae
259.	*Soymida febrifuga* L.	Rohina	Meliaceae
260.	*Sphaeranthus indicus* L.	Gorakhmundi	Asteraceae
261.	*Sterculia urens* Roxb.	Kullu	Sterculiaceae
262.	*Steriospermum suaveolens* DC.	Chota padar	Bignoniaceae
263.	*Streiospermum chelonoides* DC.	Ardhkapari	Bignoniaceae
264.	*Tephrosia purpurea* (L.) Pers.	Sarpunkha	Fabaceae
265.	*Terminalia bellirica* (Gaertn.) Roxb.	Baheda	Combretaceae
266.	*Terminalia chebula* Retz.	Harra	Combretaceae
267.	*Thespesia lampas* (Cav.) Dalz.& Gibs.	Van kapas	Malvaceae
268.	*Thevetia nerrifolia* Juss.	Pila kaner	Apocynaceae
269.	*Tinospora cordifolia* (L.) Merr.	Giloya	Menispermaceae
270.	*Tribulus terrestris* L.	Gokhuru	Zygophyllaceae
271.	*Trichosanthes bracteata* (Lam.) Voight	Lal indrayan	Cucurbitaceae
272.	*Tridax procumbens* L.	Ghau patta	Asteraceae
273.	*Tylophora indica* (Burm.F.) Merr.	Anant mool	Asclepiadaceae
274.	*Uraria picta* (Jacq) Desv.	Prishnparni	Fabaceae
275.	*Urgenia indica* (Roxb.) Kunth.	Jangali pyaj	Liliaceae
276.	*Vanda roxburghii* R.Br.	Banda	Orchidaceae
277.	*Vigna trilobata* (L.) Verdc.	Van moong	Fabaceae
278.	*Vioca indica* L.	Van chhuroi	Asteraceae
279.	*Vitex nigundo* L.	Nirgundi	Verbenaceae
280.	*Woodfordia fruticosa* (L.) Kurz.	Kurja	Apocynaceae
281.	*Wrightia tinctoria* (Roxb.) R Br.	Indrajau	Apocynaceae
282.	*Zingiber officinale* Roscoe	Adarakh	Zingiberaceae
283.	*Zingiber purpureum* Roscoe	Van adarakh	Zingiberaceae
284.	*Ziziphus jujuba* L	Ber	Rhamnaceae
285.	*Ziziphus oenoplia* (L.) Mill.	Barari	Rhamnaceae
286.	*Ziziphus xylopyrus* (Retz) Willd.	Ghotahar	Rhamnaceae

(3). Taxonomic Validation

The list of medicinal plants, prepared out of this survey and in consultation with local knowledgeable persons, was varified by the collection team. Finally, these plants were identified by the survey team in consultation with local botanists and scientists from reputed institutions like Botanical Survey of India, Allahabad University and Deendayal Research Institute, Chitrakoot. Dr K. K. Khanna, Dy. Director, Botanical Survey of India , Allahabad Zone; Professor D. R. Misra, Head of the department of Botany, University of Allahabad, Professor Devendra Kumar Chauhan and Dr S. P. Tiwari of the same Department, Dr R. L. S. Sikarwar of Deendayal Research Institute, Chitrakoot; Dr A. P. Tiwari and associates of Agriculture Collge, Rewa; Dr S. N. Dwivedi of Janta College, Rewa, and Sri B. L. Pandeya, Ex Joint Director, Agriculture, actively participated in taxonomic validation and determination of Red list categories.

(4). Determination of Red List categories

After collection and identification of locally used medicinal plants, intensive debate and discussion were initiated among the botanists, researchers, plant collectors and local knowledgeable persons for the assessment of Red list status. Various categories were determined on the basis of guide lines developed by the IUCN and CAMP workshop.

The IUCN guide lines have been followed in the preparation of Red list categories. The IUCN Red list categories are intended to be an internationally recognized and easily and widely understood system for classifying species at high risk of global extinction. Twenty years period in case of herbs and three generations for shrubs and trees have been taken for assessment of various categories. There are seven categories for the interpretation of threat. These are:

1. Extinct **2. Extinct in wild**

3. Critically Endangered **4. Endangered**

5. Vulnerable **6. Near Threatened**

7. Least concern

Above categories are based on the analysis of sufficient amount of data about the species. The species for which sufficient data is not available are placed under the

category – **Data Deficient.** Only a very small number of species are evaluated so far and a large chunk is **Not Evaluated**. A total number of 244 species are evaluated in this work and placed under different categories as given in Table**- 2.**

Table 2. Showing number of species evaluated under different categories.

S.N.	Status/Category	No. of species	Example
1	Regionally extinct in wild	03	Kali haldi, Telia kand
2	Critically endangered	42	Drosera, Nirgundi kand
3	Endangered	88	Bach, Brahmi, Somvalli
4	Vulnerable	55	Danti, Gurmar, Giloy
5	Near threatened	05	Anant mool, Nishoth
6	Least concern	46	Nagbala, Bel
7	Data deficient	05	Kala jeera, Tamal
	Total	**244**	

1. Extinct in wild (EW)

These taxa are known only to survive in cultivation, and not recorded from their past wild range even after the survey of their whole life cycle period. The following 3 taxa have been determined under this category (Table **2.1**).

Table 2.1 Showing plant species under Extinct in wild category.

No	Botanical name	Local name	Family	Habitat
1	*Arisaema flavum*	Telia Kand	Araceae	Moist forest
2	*Curcuma caesia*	Kali haldi	Zingibaraceae	Shady moist forest
3	*Acorus calamus*	Kali Bach	Araceae	Wet land

2. Critically endangered (CR)

The species which have been placed under this category suggest that the chance of their extinction is much higher the wild. As per IUCN guide lines a taxon is critically endangered when the best available evidence indicates that it meats any of the criteria (1 -5) deals with extant of occurrence , area of occupancy, location and quantitative analysis. Following 42 species are placed in this category (Table **2.2**).

Table 2.2 Showing Critically endangered plant species.

S.N.	Botenical name	Local name	Family
1	*Abroma angusta*	Ulat kambal	Sterculiaceae
2	*Abrus precatorius*	Safed gunja	Fabaceae
3	*Abrus precatorius*	kali gunja	Fabaceae
4	*Alectra chitrakutensis*	Nirgundi Kand	Scrofulariaceae
5	*Anacardium semicarpus*	Bhelma	Anacardiaceae
6	*Andrographis paniculata*	Kalmegh	Acanthaceae
7	*Anona raticulata*	Ramphal	Annonaceae
8	*Chlorophytum arundinaceum*	Safed moosli	Liliaceae
9	*Crateva unilocularis*	Varun	Capparaceae
10	*Curculigo orchioides*	Kali musli	Hypoxidaceae
11	*Curcuma amada*	Ama haldi	Zingiberaceae
12	*Curcuma anguistifolia*	Tikhur	Zingiberaceae
13	*Curcuma aromatica*	Van Haldi	Zingiberaceae
14	*Cordia macleodii*	Dahiman	Boraginaceae
15	*Desmodium motorium*	Teligraph plant	Fabaceae
16	*Dillenia pentagyna*	Karkat	Dilleniaceae
17	*Embelia ribes*	Baibedang	Myrsinaceae
18	*Embelia tsjerium-cottam*	Vaividang	Myrsinaceae
19	*Entada scandens*	Deo semal	Mimosaceae
20	*Erithrina indica*	Hadua, paribhadra	Erithrina indica
21	*Eulophia herbacea*	Bilari kand	Orchidaceae
22	*Litsea monopetala*	Meda	Lauraceae
23	*Listea sp.*	Meda	Lauraceae
24	*Litsea glutineta*	Meda	Lauraceae

25	*Luffa echinata*	Bindal	Cucurbitaceae
26	*Marsdenia tanacissima*	Dambel	Asclepiadaceae
27	*Murraya paniculata*	Athil	Rutaceae
28	*Musa sapiantum*	Kela	Musaceae
29	*Nervelia parinina*	Vansighada	Orchidaceae
30	*Operculina terpathum*	Nishoth	Convolvulaceae
31	*Oxystelma esculanta*	Dudhatra	Asclepiadaceae
32	*Paedaria foetida*	Prasarini	Rubiaceae
33	*Peucedanum dhana*	Bhojraj	Apiaceae
34	*Peucedanum nagpurnse*	Kamraj	Apiaceae
35	*Peucedanum nagpurnse*	Tejraj	Apiaceae
36	*Peuraria tuberosa*	Patal kumhara	Fabeceae
37	*Psoralea corylifolia*	Bakuchi	Fabaceae
38	*Pterospermum*	Muchkund	Sterculiaceae
39	*Rauvolfia serpentina*	Sarpgandha	Apocynaceae
40	*Rauvolfia tetraphylla*	Chota chand	Apocynaceae
41	*Streiospermum chelonoides*	Adh kapari	Bignoniaceae
42	*Zingiber purpureum*	Van adrakh	Zingiberaceae

3. Endangered (EN)

A taxon is Endangered when the best available evidence indicates that it meets any of the criteria **A** to **E** for endangered and it is therefore considered to be facing a very high risk of extinction in the wild . Following 88 species are placed in this category (Table-**2.3**).

Table 2.3 Showing Endangered plant species.

S.N.	Botenical name	Local name	Family
1	*Abelmoschus manihot*	Van bhindi	Malvaceae
2	*Abelmoschus moschatus*	Kasturi bhindi	Malvaceae
3	*Abrus precatorius*	Lal gunja	Fabaceae
4	*Acacia auriculiformis*	Gandh babul	Mimosaceae
5	*Adiantum philippense*	Hansraj	.Adiantaceae
6	*Ailanthus excelsa*	Maha rukh	Allangiaceae
7	*Alangium salvifolium*	Ankol	Allangiaceae
8	*Ampelocissus latifolia*	Amroula	Vitaceae
9	*Ampelocissus tomentosa*	Doker bel	Vitaceae
10	*Anona squomosa*	Sitafal	Annonaceae
11	*Argyreia speciosa*	Vidhra	Convolvulaceae
12	*Arisaema flavum*	Vansuran Vakchan	Araceae
13	*Arisaema sp.*	Safed telia	Araceae
14	*Arisaema tortuosum*	Van makka	Araceae
15	*Balanites aegyptiaca*	Ingudi	Balanitaceae
16	*Bambusa arundinacea*	Bans	Poaceae
17	*Banincasa hispida*	Petha	Cucurbitaceae
18	*Basella alba*	Poi	Basellaceae
20	*Blumea lacera*	Jangali muli	Asteraceae
21	*Caesalpinia sappan*	Patang	Ceasalpiniaceae
22	*Capperis zeylanica*	Bagha nakhi	Capparidaceae
23	*Cayratia trifolia*	Amlaparni	Vitaceae
24	*Celastrus paniculatus*	Malkagni	Celastraceae
25	*Chlorophytum sp.*	Safed moosali	Liliaceae
26	*Chlorophytum tuberosum*	Safed moosli	Liliaceae
27	*Cheilanthus saperia*	Silver fern	Cheilanthaceae
28	*Cissampelos pareira*	Padin	Menispermaceae
29	*Coccinia minima*	Chota kunduru	Cucurbitaceae

30	*Coleobronchia oppositifolia*	Van chana	Lamiaceae
31	*Costus speciosus*	Keo kand	Costaceae
32	*Crotalaria sp.*	Sanai	Fabaceae
33	*Crotalaria sp.*	Van san	Fabaceae
34	*Desmodium gangeticum* .	Sal parni	Fabaceae
35	*Dioscoria sp.*	Kirachi kanda	Dioscoreaceae
36	*Digitalis purpurea*	Van mooli	Gentianaceae
37	*Dioscorea alata*	Kirchi	Dioscoreaceae
38	*Dioscorea hispida*	Suari kand	Dioscoreaceae .
39	*Dioscorea oppositifolia*	Kirachi kanda	Dioscoreaceae
40	*Dioscorea sp.*	Agathi kand	Dioscoreaceae
41	*Dioscorea sp.*	Kesaria kand	Dioscoreaceae
42	*Dioscoria cordata*	Khanima	Dioscoreaceae
43	*Dioscoria pentaphylla*	Suvar kand	Dioscoreaceae
44	*Diospyros kaki*	Amal	Ebanaceae
45	*Diospyros montana*	Patwan	Ebenaceac
46	*Dioscorea alata*	Pindalu	Dioscoreaceae
47	*Digitalis purpurea*	Van mooli	Gentianaceae
48	*Dolicos sp.*	Jangali sem	Fabaceae
49	*Dracena sp*	Dracena	Liliaceae
50	*Dryopteris aspera*	Jatashankari	Aspidiaceae
51	*Dryopteris sp*	Jatashankari	Aspidiaceae
52	*Dryopteris sparsa*	Jatashankari	Aspidiaceae
53	*Elephantopus scaber*	Gojihva	Amaranthaceae
54	*Ficus krishnii*	Makhan katori	Moraceae
55	*Ficus tomentosa*	Baril	Moraceae
56	*Ficus variens*	Pakri	Moraceae
57	*Gardenia jasminoides*	Gandh raj	Rubiaceae
58	*Gardenia resinifera*	Dikamali	Rubiaceae
59	*Gloriosa superba*	Kalihari	Liliaceae
60	*Grewia hirsuta*	Gudsakari	Tiliaceae
61	*Grewia rothii*	Gangeran	Tiliaceae
62	*Grewia subeneqalis*	Falsa	Tiliaceae
63	*Haldinia cordifolia*	Haldu	Rubiaceae
64	*Heliotropium ovalifolium*	Jangali mooli	Boraginaceae

65	*Hibiscus sp.*	Jangali bhindi	Malvaceae
66	*Holoptelea integrifolia*	Chilla	Ulmaceae
67	*Ipomea nil*	Kala dana	Convalvulaceaec
68	*Isoetes indica*	Isoetes	Isoetaceae
69	*Lannea coromandelica*	Guruja	Anacardiaceae
70	*Lygodium flexuosus*	Bholan	Lygodiaceae
71	*Malotus philipinensis*	Sinduri	Euphorbiaceae
72	*Millettia extensa*	Guhilari	Fabaceae
73	*Murraya koenigii*	Meethi neem	Rutaceae
74	*Passiflora incarnata*	Ghari fool	Passifloraceae
75	*Pergularia daemia*	Dudhi bel (utran)	Asclepiadaceae
76	*Premna obtusifolia*	Agnimath	Verbenaceae
77	*Pterocarpus marsupium*	Beeja	Fabaceae
78	*Pterospermum acerifolium*	Kanak champa	Sterculiaceae
79	*Pueraria tuberose*	Vidarikand (Patal kumhra)	Fabaceae
80	*Randia nilotica*	Kharhar	Rubiaceae
81	*Schleichera oleosa*	Kusum	Sapindaceae
82	*Schrebera swietenioides*	Ban palas	Oleaceae
83	*Soymida febrifuga*	Rohina	Meliaceae
84	*Sterculia urens*	Kullu	Sterculiaceae
85	*Steriospermum suaveolens*	Chota pader	Bignoniaceae
86	*Thespesia lampas*	Vankapas	Malvaceae
87	*Trichosanthes bracteata*	Mahakala (Lal indrayan)	Cucurbitaceae
88	*Tylophora indica*	Anantmool	Asclepiadaceae

4. **Vulnerable(VU)**

A taxon is considered vulnerable when the best available evidence indicates that it meets any of the criteria A to E for vulnerable and it is considered to be facing a high risk of extinction in the wild. The following 55 species have been placed under the vulnerable category (Table **2.4**).

Table 2.4 Showing Vulnerable plant species.

S.N.	Botenical name	Local name	Family
1	*Achyranthes bidentata*	Apamarg	Amaranthaceae
2	*Ailanthus excelsa*	Maha rukh	Simaroubaceae
3	*Aristlochia indica*	Kidamari	Aristolochiaceae
4	*Aristolochia bractiata*	Ishar mool	Aristolochiaceae
5	*Aristolochia indica*	Iswar mool	Aristolochaceae
6	*Bacopa monnieri*	Brahmi	Scrophulariaceae
7	*Bauhinia vahlii*	Mahuline	Caesalpiniaceae
8	*Caesalpinia crista*	Gataran	Caesalpiniaceae
9	*Citrullus colosynthes*	Indrayan	Cucurbitaceae
10	*Citrulus sp.*	Indrayan	Cucurbitaceae
11	*Citrus media*	Jamhari nibu	Rutaceae
12	*Clitoria ternatea*	Aprajita	Fabaceae
13	*Coccina grandis*	Kundru	Cucurbitaceae
14	*Coccinia sp*	Kundru	Cucurbitaceae
15	*Commelina benghalensis*	Kanchara	Comelinaceae
16	*Cordia dichotoma*	Lasora	Boraginaceae
17	*Dioscoria bulbifera*	Kesaria kand	Dioscoriaceae
18	*Dioscoria globosa*	Kirchi kanda	Dioscoriaceae
19	*Diospirus montana*	Bis tendu	Ebenaceae
20	*Dolicos lebleb*	Sem	Fabaceae

21	*Feronia limonia*	Kaitha	Rutaceae
22	*Ficus benghalensis*	Bargad	Moraceae
23	*Ficus religiosa*	Pipal	Moraceae
24	*Ficus sp.*	Kathumar	Moraceae
25	*Ficus recemosa*	Gular	Moraceae
26	*Flacourtia indica*	Katei	Flacourtiaceae
27	*Gardenia gummifera*	Dekamali	Rubiaceae
28	*Gymnema sylvestre*	Gudmar	Asclepiadaceae
29	*Hemidesmus indicus*	Anant mool	Apocynaceae
30	*Holarrhena antidysentrica*	Kurchi	Apocynaceae
31	*Holarrhena pubescens*	Kurrya	Apocynaceae
32	*Hygrophylla auricular*	Tal makhana	Acanthaceae
33	*Ichnocarpus frutescence*	Dhimar bel	Apocynaceae
34	*Ipomea pes-caprae*	Shama lata	Convalvulaceae
35	*Mitragyna parviflora*	Kaima	Rubiaceae
36	*Mucuna pruriens*	Jangli kenvach	Fabaceae
37	*Ocimum basilicum*	Tulsi	Lamiaceae
38	*Ocimum sanctum*	Ram tulsi	Lamiaceae
39	*Pedalium murex*	Bada gokhru	Pedaliaceae
40	*Phylanthus urinaria*	Bhu amla lal	Euphorbiaceae
41	*Saccharum spontanium*	Grass	Poaceae
42	*Semicarpus anacaredium*	Bhilma	Anacardiaceae
43	*Sesbania grandifora.*	Lal ghunga	Mimosaceae
44	*Sida acuta*	Maha bala	Malvaceae
45	*Solanum indicum*	Badi kateri	Solanaceae
46	*Terminalia bellirica*	Bahera	Combretaceae
47	*Terminalia chebula*	Harra	Combretaceae
48	*Thevetia nerrifolia*	Pila kaner	Apocynaceae
49	*Tinospora cordifolia*	Giloya	Menispermaceae
50	*Tribulus terrestris*	Chota gokhru	Zygophyllaceae
51	*Uraria picta*	Prishna parni	Fabaceae
52	*Vanda roxburghii*	Vanda	Orchidaceae

53	*Woodfordia fruticosa*	Indrajoo	Apocynaceae
54	*Wrightia tinctoria*	Indra jao	Apocynaceae
55	*Ziziphus oenoplia*	Barari	Rhamnaceae

4. Near threatened (NT)

A taxon is considered near threatened when it has been evaluated against the criteria but does not qualify for critically endangered, endangered and vulnerable .It is likely to qualify for a threatened category in the near future. The following taxa fullfil the criteria of **Near Threatened** (Table **2.5**).

Table 2.5. Showing Near Threatened plant species.

S.N.	Botenical name	Local name	Family
1	*Alangium salvifolium*	Ankol	Alangiaceae
2	*Barleria prattensis*	Katsarya	Acanthaceae
3	*Momordica charantia*	Karela	Cucurbitaceae
4	*Mucuna pruriens*	Kraunch	Fabaceae
5	*Solanum nigrum*	Makoi	Solanaceae

4. Least concern (LC)

An evaluated taxon against the criteria that does not qualify for critically endangered, endangered, vulnerable or near threatened. Most of the species occur in this category. Following are the plant species placed under **Least concern** category (Table **2.6**)

Table 2.6 Showing the taxa placed under Least concern category.

S.N.	Botenical name	Local name	Family
1	*Acacia catechu*	Khair	Mimosaceae
2	*Achyranthus aspera*	Apamarg	Amaranthaceae
3	*Achyranthus aspera* var *porphyristechya*	Apamarg	Amaranthaceae
4	*Adhatoda zeylanica*	Adusa	Acanthaceae
5	*Aegle mormelous*	Bel	Rutaceae

6	*Amaranthus spinosus*	Jangali marsa	Amaranthaceae
7	*Anacyclus pyrethrum*	Akarkara	Asteraceae
8	*Anisomelis indica .*	Vantulsi	Lamiaceae
9	*Anthocephallus chinensis*	Kadamb	Rubiaceae
10	*Argemone maxicana*	Satyanashi	Papaveraceae
11	*Asparagus racemosus*	Sataver	Liliaceae
12	*Boswelia serat*	Sarai	Bursaraceae
13	*Boerhavia procumbens*	Safed punarnava	Nyctaginaceae
14	*Bombax ceiba*	Semal	Bombacaceae
15	*Buchanania lanzan*	Char	.Anacardiaceae
16	*Calotropis procera*	Madar	Asclepiadeaceae
17	*Calotropis gigantia*	Swet madar	Asclepiadeaceae
18	*Carisa carandus*	Karonda	Apocynaceae
19	*Carissa opaca*	Jangli karonda	Apocynaceae
20	*Clerodendrum indicum*	Bharangi	Verbenaceae
21	*Croton sp.*	Croton	Euphorbiaceae
22	*Cucurbita moschata*	Kaddoo	Cucurbitaceae
23	*Cyprus scariosus*	Nagarmotha	Cypraceae
24	*Dalbergia latifolia*	Shisham	Fabaceae
25	*Dalbergia sissoo*	Sisu	Fabaceae
26	*Desmodium velutianum*	Desmodium	Fabaceae
27	*Diospyros montana*	Patvan , bistendu	Ebenaceae
28	*Echinops echinatus .*	Utkatra	Asteracea
29	*Ipomia carnea*	Behaya	Convolvulaceae
30	*Lagerstomia perviflora*	Sendha	Lythraceae
31	*Marsilea quadrifolia*	Marselia	Marsileaceae
32	*Melia azedirach*	Bakain	Meliaceae
33	*Nyctanthes orbortristis*	Seharua	Oleaceae
34	*Phoenix sylvestris*	Khaju	Arecaceae
35	*Phyllanthus amarus*	Bhu amla	Euphorbiaceae
36	*Phyllanthus embleca*	Amala	Euphorbiaceae
37	*Plumbago zeylanica*	Chitrak (white)	Plumbaginaceae

38	*Polygala chinensis*	Bijnouri	Polygalaceae
39	*Prosopis cenereria*	Sami	Mimosaceae
40	*Shorea robusta*	Sal	Dipterocarpacea
41	*Sida cordifolia*	Bala	Malvaceae
42	*Sphaeranthus indicus*	Gorakhmundi	Asteraceae
43	*Tridax procumbens*	Ghaupala	Asteraceae
44	*Vigna trilobata* .	Van moog	Fabaceae
45	*Vioca indica*	Van chhuroi	Asteraceae
46	*Vitex negundo*	Nirgundi	Verbenaceae

4. Data deficient (DD)

Data deficient is not a category of threat. A taxon when it has not adequate information of distribution/population to assess its risk of extinction, it is justified under **Data deficient** status. Table **2.7** shows the list of taxa categorized under the **Data deficient**.

Table 2.7 Showing plant species under Data deficient.

S.n.	**Botanical name**	**Local name**	**Family**
1	*Achyranthes aspera* var *porphyristechya*	Apamarg	Amaranthaceae
2	*Arisaema tortuosum*	Van makka	Araceae
3	*Gardinia gummifera*	Deecamali	Rubiaceae
4	*Polygala chinensis*	Bijnauri	Polygalaceae
5	*Pteris* sp.	Jatashankari	Pteridaceae

(v). Interrelationship among various stake holders

The survey team visited the projected areas of Vindhyan eco-region for the evaluation of medicinal plants. The following 163 vaidyaraj and local knowledgeable persons, 10 local gunia, 10 local bhomkas, 5 pansaries and local traders, and 11 local manufacturers shared their knowledge with the team.

Table 3. List of Local Vaidyaraj and local knowledgeable persons.

S.n.	Name	Address
1	K.P. Dwivedi	Village and Post Sirmaur, Dist Rewa (M.P.)
2	Hari Shankar Dwivedi	Village and post Dekha, Rewa (M.P.)
3	Ajay Dubey	Village and post Amarpatan, Dist Rewa (M.P.)
4	Devnath Mishra	Village and Post Atrailla, Dist Rewa (M.P)
5	Md. Lateef	Village and Post Atrailla, Dist Rewa (M.P)
6	Md. Y.K. Afridee	Village and Post Mauganj Dist Rewa (M.P)
7	Vishnu Kant Mishra	Village and Post Sirmaur, Dist Rewa (M.P.)
8	Shiv Mohan Singh	Village and Post Amarpatan, Dist Rewa (M.P)
9	Shiv Das Singh	Village and Post Amarpatan, Dist Rewa (M.P)
10	Ramakant Tiwari	Village and Post Semariya Dist Rewa (M.P)
11	Dinesh Singh	Village and Post Raipur Karchuliyan Dist Rewa (M.P)
12	Ramashraya Pal	Village and Post Sotha,r Dist Rewa (M.P.)
13	Ramayan Pratap Singh	Village and Post Amarpatan, Dist. Satna (M.P)
14	Kailash Tiwari	Village and Post Tivani, Dist. Rewa (M.P)
15	Virendra Kumar Tiwari	Village and Post Katha Tyothar, Dist Rewa (M.P.)
16	Jay Lal Kumar Tiwari	Village and Post Katha Tyothar, Dist Rewa (M.P.)
17	Rajendra Patel	Village and PostGorega Dist. Rewa (M.P)
18	Vidya Singh	Village and Post Narawea, Dist. Rewa (M.P.)
19	Ashok Kumr Shrivastava	Village and Post Raipur Karchuliyan, Dist. Rewa (M.P.)

20	Md .Ramjan	Village and Post Nagva, Dist Rewa (M.P.)
21	Ram Harsh Tiwari	Village and Post Khamhariya Tiviran, Dist Rewa (M.P.)
22	Sueresh Pandey	Village and Post Khamahariya, Dist Rewa (M.P.)
23	Raheesh Khan	Village and Post Raipur Karchulion, Dist Rewa (M.P.)
24	Ram Saran Singh	Village and post Kothiya Byohari, Dist. Shahdol (M.P.)
25	Ram khelavan Chaudhri	Village and Post Khajuha, Rewa (M.P.)
26	Santosh Chaudhri	Village and Post Khajuha, Rewa (M.P.)
27	Veerbhan Singh	Village and Post Raipur Karchulion, Dist Rewa (M..P.)
28	Umesh Kumar	Village and Post Rewa (M..P.)
29	Rakesh Mishra	Village Anantpur, Post Eng. coll., Rewa (M.P.)
30	Ashok Chaudhari	Village and Post Sirmaur, Dist Rewa (M.P.)
31	Shiv Ram Singh	Village and Post Amarpatan, Dist Satna (M..P.)
32	Pushpendra Singh	Village and Post Gudh, Dist Rewa (M.P.)
33	S.P. Tripathi	Village and Post Semariya,Dist Rewa (M.P.)
34	Gaya Prasad Pandey	Village and Post Karkeri, Dist Rewa (M.P.)
35	Gaukaran Prasad Tiwari	Village and Post Gangev, Dist Rewa (M.P.)
36	Janardan Prasa Mishra	Village and Post Gangev, Dist Rewa (M.P.)
37	Rajendra Patel	Village and Post Gangev, Dist Rewa (M.P.)
38	Hari Shanker Dwavedi	Village and Post Dhekaha, Dist Rewa (M.P.)
39	Nijam Khan	Village and Post Naigadhi, Dist. Rewa (M.P.)
40	Neerendra Singh	Village and Post Raipur Karchuliyan, Dist. Rewa (M.P.)
41	Janardan Payasi	Village and Post Dabhaura, Dist Rewa (M.P.)
42	Rama Shankar Tiwari	Village and Post Atrailla, Dist. Rewa (M.P)
43	Shiv Shankar Gautam	Village and Post Atrailla, Dist. Rewa (M.P.)
44	K.P. Singh	Village and Post Amarpatan, Dist. Satna (M.P)
45	Shri Ramlal Vishwakarma	Village and Post Amarkantak, Mai Ki Bagiya, Dist.Anuppur (M.P.)
46	Vaidya Jagannath Singh	Village and Post Shikarganj, Dist. Sidhi (M P)
47	Chudamani Kushwaha	Village and Post Kitha, Dist Satna (M.P.)
48	Jagannath Singh	Village and Post Sonvarsha, Dist. Satna (M.P.)
49	Yaduvans Prasad Dwivedi	Village and Post Kitha, Dist Satna (M.P.)

50	Ram Raj Tiwari	Village and Post Bakiya, Satna (M.P.)
51	Santosh Kumar Jain	Village and Post Amarkantak, Dist Anooppur (M.P.)
52	Yamuna Prasad	Village and Post Paldeva, Chitrakoot Dist .Satna (M.P.)
53	Urmila Prasad Gupta	Village and Post Rajendra gram, Dist Shahdol (M.P.)
54	Brajendra Tiwari	Village Puras, Post Mahsav, Dist Rewa (M.P.)
55	Rakesh Kumar Singh	Village and post Post Deusar, Dist Sidhi (M.P.)
56	Badri Narayan Singh Chandel	Village and Post Deusar, Dist Sidhi (M.P.)
57	Kamal Nayan Pandey	Village Nebula, Post Hardi Baikunthpur, Dist. Rewa (M.P.)
58	Vansh Gopal Tailor	Village and Post Baikunthpur, Dist Rewa (M.P.)
59	Vaidya Saraswati Sukhlal	Village and Post Khutehi, Dist. Rewa (M.P.)
60	Vaidya Vishvanath Singh	Village and Post Phool dewas, Dist. Rewa (M.P.)
61	Vansh Vardhan Tiwari	Village and Post Sirmaur, Dist Rewa (MP)
62	Devendra Singh Mandauv	Village and Post Baikunthpur, Dist Rewa (M.P.)
63	Rajkaran Singh Hatva	Village and Post Baikunthpur, Dist .Rewa (M.P.)
64	Ram Kripal Mishra	Village Umarinada, Post Sirmaur, Dist Rewa (M.P.)
65	Ram Bhaddra Dubey	Village and Post Mau, Dist Rewa (M.P.)
66	Raj Bhan Singh	Village and Post Tilkhan, Dist Rewa (M.P.)
67	Ram Krishna Dubey	Village and Post Umri Shahpur, Dist Rewa (M.P.)
68	Bhupendra Mani Tripathi	Village Gahnaua, Post Umri, Dist Rewa (M.P.)
69	Rama Govind Tiwari	Village Chubahi, Post Majhauli, Dist Sidhi (M.P.)
70	Rama Avtar Gupta	Village Chama Dorar, Post Majhauli, Dist Sidhi (M.P.)
71	Ram Shiya Dubey	Village and Post Sirmaur, Dist Rewa (M.P.)
72	Rajneesh Kumar Tripathi	Village and Post Khaira, Dist Rewa (M.P.)
73	Krishna Dash	Village and Post Amarkantak, Dist Anooppur (M.P.)
74	Ganesh Singh	Village and Post Tamra, Dist Rewa (M.P.)
75	Ganga Dhar	Village and post Amarkantak, Dist Anooppur (M.P.)
76	Dr. M. Kumar	Village and Post Baratal, Dist Jabalpur (M P.)
77	Ravi Karan	Village and Post Chitrakoot, Dist Satna (M P.)

78	Brij Bhushan Dwivedi	Village Pathar, Post Kachhar, Chitrkoot, Dist. Satna (M P.)
79	Niranjan Shah	Village and Post Shikri ganj, Dist Shidi (M P.)
80	Batuk Prasad Tripathi	Fort Road, Dist. Rewa (M P.)
81	Ram Ku mar	Village and Post Amarkantak,,Dist. Anooppur
82	Pooran Dash Baba	Village and Post Chitrakoot, Dist. Satna (M P.)
83	H.L. Sharma	Village and Post Dhekaha, Dist Rewa (M P.)
84	Narendra Singh	Village and Post Umaria, Dist Umaria (M P.)
85	Ram Kishor	Village and Post Chitrkoot, Dist. Satna (M P.)
86	B.L. Sharma	Bajrang Nager, Dist. Rewa (M P.)
87	Baij Nath Tiwari	Village and Post Kyoti, Dist. Rewa (M P.)
88	Muni Madhav Mishra	Village and Post Gauri, Dist. Rewa (M P.)
89	Ram Pal Singh	Village and Post Majhiyar, Dist. Rewa (M P.)
90	Chhote Lal Bahroliya	Village and Post Sohgi, Dist Rewa (M.P.)
91	Bhaiya Lal	Village and Post Sohgi, Dist Rewa (M.P.)
92	Janki Sharma	Village and Post Chitrkoot, Dist. Satna (M P.)
93	Ram Naryan Chaurasiya	Village and Post Baraudh, Dist Satna (M.P.)
94	Ram Suresh Dwivedi	Village and Post Mauganj, Dist Rewa (M.P.)
95	Kamta Prasad	Village and Post Chitrkoot, Dist. Satna (M P.)
96	Sugreev Yadav	Village and Post Gadhra Atraila, Dist Rewa (M.P.)
97	Baldau Prasad Mishra	Village and Post Gadhra Atraila, Dist Rewa (M.P.)
98	Shiv Narayan Mishra	Village and Post Hanumana, Dist Rewa (M.P.)
99	Devendra Mishra	Village and Post Hanumana, Dist Rewa (M.P.)
100	Rama Shanker Mishra	Village and Post Rewa (M P.)
101	Vinod Pandey	Village and Post Baisa, Dist Rewa (M.P.)
102	Dr. Kirti Kumar Tripathi	Village and Post Pal,i Dist Sahdol (M.P.)
103	Bihari Lal Kushwaha	Village and Post Manda, Dist Sidhi (M.P.)
104	Shiv Prashad	Dist. Sahdol (M.P.)
105	R. Pandey	Village and Post Majhauli, Dist Sidhi (M.P.)
106	T.V.Singh	Village and Post Rewa, (M P.)
107	Surendra Mishra	Village Padra, Post Rewa, (M P.)
108	Brij Lal Tiwari	Manash bhawan, Rewa (M P.)

109	Jagdeesh Tamrakar	Venkat Road, Rewa,(M P.)
110	Shivanand Mishra	Village and Post Devshar, Dist Sidhi (M.P.)
111	Chandrika Prasad	Village and Post Rangauli, Dist Sidhi (M.P.)
112	Rajendra Mishra	Village and Post Gangev, Dist Rewa (M.P.)
113	Mahendra Mishra	Village and Post Gadhra Atraila, Dist Rewa (M.P.)
114	Amrit Prasad	Village and Post Gadhra Atraila, Dist Rewa (M.P.)
115	R.P.Shukla	Village and Post Hanumna, Dist Rewa (M.P.)
116	A.K. Shukla	Village and Post Rewa (M P.)
117	Janendra Mishra	Village and Post Mokhri, Dist Rewa (M.P.)
118	Ashok Shukla	Village and Post Hardi Khurd, Dist Rewa (M.P.)
119	Ram Mitra Pandey	Village and Post Hardi Khurd, Dist Rewa (M.P.)
120	Ramayan Mishra	Village and Post Ghudh, Dist Rewa (M.P.)
121	Ram Jiyavan Dubey	Village and Post Ghudh, Dist Rewa (M.P.)
122	Raj Kumar Pandey	Village Bara, Rewa (M P.)
123	Pushp Raj Singh	Village and Post Ghudh, Dist Rewa (M.P.)
124	Prashant kumar	Village and Post Tikar, Dist Rewa (M.P.)
125	Shiv Shevak	Village and Post Paira Tyothar, Dist Rewa (M P.)
126	Saleem Khan	Village and Post Raipur Karchulion, Dist Rewa (M.P.)
127	Krishan Kumar Dwivedi	Village and Post Hanumana, Dist Rewa (M.P.)
128	Shiv Ram Dwivedi	Village and Post Hanumana, Dist Rewa (M.P.)
129	Visheshar Prasad Mishra	Village and Post Ghudh, Dist Rewa (M.P.)
130	Dinesh Mishra	Village and Post Atraila, Dist Rewa (M.P.)
131	Shiv Kumar Singh	Village and Post Dabhaura, Dist Rewa (M.P.)
132	Bal Bihari singh	Village and Post Sirmau, Dist Rewa (M.P.)
133	Rajendra Prasad Dwivedi	Village and Post Dabhaura, Dist Rewa (M.P.)
134	Shiv RamTiwari	Village and Post Dabhaura, Dist Rewa (M.P.)
135	Ram Gopal	Village and Post Dabhaur, Dist Rewa (M.P.)
136	Panna Lal Dwivedi	Village and Post Dabhaura, Dist Rewa (M.P.)
137	Ashok Kumar Gautam	Village and Post Dabhaura, Dist Rewa (M.P.)
138	Nagendra Prasad Pandey	Village and Post Sirmaur, Dist Rewa (M.P.)
139	Ashok Kumar Sharma	Village and Post Sirmaur, Dist Rewa (M.P.)

140	Ram Milan Majhik	Panden tola, Rewa (M P.)
141	Shantosh Kumar Mishra	Village and Post Atraila, Dist Rewa (M.P.)
142	Badri Prasad Yadav	Village and Post Atraila, Dist Rewa (M.P.)
143	Shankh Dhar Dwivedi	Village and Post Atraila, Dist Rewa (M.P.)
144	Samay Lal Sharma	Village and Post Atraila, Dist Rewa (M.P.)
145	Jeetendra Gautam	Village and Post Sonaura, Dist Rewa (M.P.)
146	Mahendra Singha Chauhan	Village and Post Majhauli, Dist Sidhi (M.P.)
147	Rakesh Singh	Village and Post Sothr, Dist Sidhi (M..P.)
148	Man Bahor Patel	Village and Post Sothr, Dist Sidhi (M..P.)
149	Lal Mani Shukla	Village and Post Raipur Karchulion, Dist Rewa (M.P.)
150	Bhushn Shingh	Village and Post Patehra, Dist Rewa (M.P.)
151	Vayanual haq	Village and Post Naigadhi, Dist Rewa (M.P.)
152	S.K.Mishra	Village and Post Dabhaura, Dist Rewa (M.P.)
153	S.D.Dwivedi	Village and Post Atraila, Dist Rewa (M.P.)
154	Dr. R.P. Joshi	Village and Post Dhekaha, Rewa Dist. (M P.)
155	Dr. B.L. Pandey	Near Bal Bharti School, Dist. Rewa (M P.)
156	Dr. B K. Patel	Amahiya, Dist. Rewa (M P.)
157	Dr. S.S. Shikarwar	Village and Post Sitapur, D R I, Chitrakoot, Dist Satna (M P.)
158	Vidya Singh	Village and Post Narawea, Dist Rewa (M.P.)
159	Janardan Payashi	Village and Post Dabhaura, Dist Rewa (M.P.)
160	Rakesh Singh	Village and Post Sothar, Dist Rewa (M.P.)
161	Man Bahor Patel	Village and Post Sothar, Dist Rewa (M.P.)
162	Surya Pal Singh	Amahiya, Dist. Rewa (M. P.)
163	Yagya Narayan Pandey	Village Mahauta, P.O. Vasigada, Dist. Rewa, (M.P)

Table 4. List of local gunia

S.n.	Name	Address
1	Badri Narayan Singh	Village and Post Deosar, Dist Sidhi (M.P.)
2	Krishna Dash	Village and Post Amarkantak, Dist Anooppur (M.P.)
3	Niranjan Shah	Village and Post Shikar ganj, Dist Sidhi (M.P.)
4	Narendra Singh	Village and Post Umariya, (M.P.)
5	Shiv kumar Shingh	Village and Post Shahdol (M.P.)
6	Ram Bhajan Tiwari	Village and Post Dash purva, Dist Rewa (M.P.)
7	Shantosh Kumar Upadhyay	Village Anantpur, Post E.College, Dist Rewa (M.P.)
8	Choote Lal patel	Village Hirudeeh, Post Dagardua, Dist Rewa (M.P.)
9	Mahendra Singh	Venkat takis, Dist. Rewa (M.P.)
10	Mangal Singh	Village and Post Judmaniya, Dist Rewa (M.P.)

Table 5. List of local bhomka

S.n.	Name	Address
1	Choote Lal Bahroliya	Village and Post Sohagi, Dist Rewa (M.P.)
2	Asharu baiga	Village and Post Amarkantak, Dist Anooppur (M.P.)
3	Thoonu Gond	Village and Post Amarkantak, Dist Anooppur (M.P.)
4	Ram kumar Gond	Village and Post Amarkantak, Dist Anooppur (M.P.)
5	Pooran baba	Village and Post Chitrakoot, Dist Satna (M.P.)
6	Kinkau Shingh	Village and Post Judmaniya, Dist Rewa (M.P.)
7	Ram Prasad Patel	Village and Post Umari, Dist Rewa (M.P.)
8	Ram Sajeevan Vishwakarma	Village and Post Umari, Dist Rewa (M.P.)
9	Mohan Bashoor	Village and Post. Umari, Dist Rewa (M.P.)
10	Lachhiman Prasad Rajak	Village Paliya Post Umari, Dist Rewa (M.P.)

Table 6. List of traders/pansaries

S.n.	Name	Address
1	Hari Bhukahan Pansari	Fort Road, Rewa
2	Shankar Medical Stores	Venkat Road, Rewa
3	Shri Ayurveda Pharmacae	Fort Road, Rewa
4	Shri Mohan Das Agrawal	Sitapur, Chitrakoot, Satna
5	Sukh Ram Yadav	Jagatpur, Bandhavgarh, Umaria

Table 7. List of local manufacturers

S.n.	Name	Address
1	Hari Bhukahan Pasari	Fort Road, Rewa (M.P.)
2	Shankar Medical Stores	Venkat Road, Rewa (M.P.)
3	Shri Ayurveda Pharmacae	c/o Dr B.P Tripathi, Dhekha, Rewa (M.P.)
4	Janki Sharma	Village and Post Pal deo, Chitrakoot, Satna (M P)
5	Ram Saran Singh	Village Kothiya, Post Byohari, Dist. Shahdol (M.P.)
6	Rajan Babu Pathak	Dharkundi, Dist. Satna
7	Sushil Chaturvedi	Sarbhang area, Dist. Satna
8	Raj Kumar	Amarkantak, Dist. Anooppur
9	Krishna Das	Kapildhara, Amarkantak, Anooppur
10	Muni Madhav Mishra	Gauri, Tahsil Hanumana, Dist. Rewa
11	Chakra Dhar Tripathi	Shiv nagar, Dist. Rewa

(vi) Relationship between production and consumption of locally used medicinal plants

With the increasing interest in the use of herbal medicine various informations regarding their productivity, demand and supply are urgently required. There have been same studies on the national level covering these parameters. However, there is no such study, specifically for Vindhyan eco-region, and therefore, this is the first estimation of its kind from this region as specified by the Madhya Pradesh Biodiversity Board.

As per objective of the project informations, the availability of the locally used medicinal plants, their local demand, supply and other relevant informations are collected through various stake holders (Table-**8**).

Table-8. Showing plants and their production|consumption

S.n.	Plant name	Useful part	Estimated production in tons	Estimated consumption/ demand in tons
1	Apamarg	All parts	154	130
2	Dahiman	Leaves, Bark, Wood	20	N E
3	Amala	Fruit	758	2660
4	Dhawai Dhaya	Fruit	27	53
5	Kala Sindhiya	Kand	0.2	1.4
6	Nirgundi kand	All parts	0.05	1.2
7	Ishwarmool	All parts	15	25
8	Gau jihva	Patti	27	29
9	Talmakhana	All parts	45	40
10	Kesaria kand	Kand	2	4.8
11	Dwidhara	Kand	0.1	1
12	Satawar	Root	267	840
13	Hansraj	Root	0.06	1.4
14	Ghritkumar	Leaves	260	400
15	Bankapas	Root	2	4.5
16	Ashok	All parts	180	540
17	Neem	All parts	141	1386
18	Brahmi	Leaves	117	397
19	Pippali	Fruit	104	332
20	Adoosa	All parts	96	235
21	Tulsi	All parts	93	303
22	Bel	All parts	90	260
23	Chitrak	All parts	67	436

S.n.	Plant name	Useful part	Estimated production in tons	Estimated consumption/ demand in tons
24	Dhai	All parts	57	174
25	Harra	All parts	51	136
26	Bhui amala	All parts	40.1	117
27	Guruch	All parts	36.1	104
28	Gokharu	All parts	27.9	78.5
29	Guggul	All parts	45	148
30	Punarnava	All parts	41.5	119
31	Manjishtha	Allpart	22.3	66
32	Siras	Bark	23.1	66.7
33	Sankhauli	All parts	22.5	69.0
34	Kewach	Fruit	22.3	67.0
35	Salparni	Leaves	2.6	58.6
36	Mahua	All parts	220.3	358
37	Amaltash	All parts	79	310
38	Methi	Seeds, stem leaves	345	386
39	Gurmar	All parts	54	68
40	Ashwagandha	Allparts	113.6	322
41	Aprajita	All parts	2	3.5
42	Nari damdami	All parts	12	15
43	Adoosa	All parts	3.8	5.7
44	Kalmegh	All parts	20	45
45	Safed musali	Roots	25	38
46	Jamun	Bark, Fruits	24	29
47	Ashok	All parts	25	35
48	Arjun	Bark	34	47
49	Chirayta	Bark	24	34
50	Bachhnag	All parts	3	9

(vii). Spatial distribution

A total number of 15 places are covered for spatial distribution. These are :

1- Obari 2- Kakreri,

3-Sohagi and 4-Govindgarh of Rewa district;

5- Sanjay National Park, 6-Chandereh,

7-Mada, 8- Coal mine area of Sidhi district;

9-Chitrakoot, 10-Gidhkoot,

11-Markandeya 12- Dharkundi of Satna district

13- Byohari of Shahdol district; 14-Bandhavgarh of Umaria district and

15- Amarkantak of Anuppur district.

Distribution of important medicinal plants of these areas is given in table- **9** where the places are shown by their number.

Rewa district

1- Obari 2- Kakreri

3- Sohagi 4- Govindgarh

Sidhi district

5- Sanjay National Park, 6- Chandereh,

7- Mada, 8- Coal mine area

Satna district

9- Chitrakoot 10- Gidhkoot

11- Markandeya 12- Dharkundi

Sahdol district

13- Byohari

Umaria district

14- Bandhavgarh

Anooppur district

15- Amarkantak

Table 9. Showing spatial distribution of important medicinal plants in 15 places (**1**-Obari, **2**- Kakreri, **3**-Sohagi and **4**-Govindgarh of Rewa district; **5**-Sanjay National Park, **6**-Chandereh, **7**-Mada, **8**-Coal mine area of Sidhi District; **9**-Chitrakoot, **10**-Gidhkoot, **11**-Markandeya, **12**- Dharkundi of Satna district, **13**- Byohari of Sahdol district; **14**-Bandhavgarh of Umaria district and **15**-Amarkantak of Anooppur district).

1. Critically endangered

S.n.	Botenical name, Local name and family	Rewa	Sidhi	Satna	Shahdol	Umaria	Anoop pur
1	*Abroma angusta*, Ulatkambal, Sterculiaceae	1,2					15
2	*Abrus precatorius*, Safedgunja, Fabaceae			9			15
3	*Abrus precatorius*, Kaligunja Fabaceae						15
4	*Alectra chitrakutensis*, Nirgundi kand, Scrufulariaceae	1,2		9			
5	*Andrographis paniculata*, Acanthaceae	1,2	5,6	9			15
6	*Anona reticulata*, Ramfal, Annonaceae	4		9			15
8	*Chlorophytum arundinaceum*, Safed moosli, . Liliaceae	1,2,3,4	5,6,7	9	13	14	15
9	*Cordia macleodii*, Dahiman, Boraginaceae	1,2,4	5	9	13		15
10	*Crateva unilocularis*, Vuch, Capparaceae	1		9			15
11	*Curculigo orchioides*, Kalimusli, Hypoxidaceae	1,2	5,7	9	13	14	15
12	*Curcuma amada*, Ama haldi, Zingiberaceae			9			15
13	*Curcuma aromatica*, Van Haldi, Zingiberaceae		7	9	13	14	15
14	*Desmodium motorium*, Teligraph plant, Fabaceae		5,7	9			
15	*Dillenia pentagyna*, Karkat, Dilleniaceae	4	5		13		15

16	*Embelia ribes*, Baibedang, Myrsinaceae			9			15
17	*Embelia tsjerium-cottam*, Vaividang, Myrsinaceae						15
18	*Entada scandens*, Semal, Mimosaceae			9			
19	*Erithrina indica*, Hadua, Fabaceae			9			
20	*Eulophia herbacea*, Bilarikand, Orchidaceae			9			
21	*Litsea monopetala*, Meda, Lauraceae			9			
22	*Listea sp.*, Meda, Lauraceae			9			
23	Litsea glutinota, Meda, Lauraceae			9			
24	*Luffa echinata*, Bandal, Cucurbitaceae			9			
25	*Marsdenia tanacissima*,Dudhi lata, Asclepiadeceae			9			15
26	*Murraya paniculata*, Athi, Rutaceae	1,2	6,7				15
27	*Musa sapiantum*, Van Kela, Musaceae		5				15
28	*Nervilia parinina*, Vansighada, Orchidaceae		5,6				
29	*Operculina terpathum*, Nishoth, Convolvulaceae	1,2	5,6	9			15
30	*Oxystelma esculanta*, Dudhara, . Asclepiadaceae						15
31	*Paedaria fotida*, Prasarini, Rubiaceae	1,2		9		14	15
32	*Peucedanum dhana*, Bhojraj, Apiaceae		5,6,7	9,12			
33	*Peucedanum nagpurnse*, kamraj, Apiaceae	1,2,3	5,6,7	9,10,11	13	14	15
34	*Peucedanum nagpurnse*, Tejra, Apiaceae		5,6,7	9,10,11	13	14	15
35	*Peuraria tubrosa*, Patal kumhra, Fabeceae	1,2	6	9,10,11			15
36	Psoralea corylifolia, Bakuchi, Fabaceae	1		9			15
37	*Pterospermum acerifolium*, Muchkund, Sterculiaceae	1,2	6	9		14	15

38	*Rauvolfia serpentina*, Sarpgandha, Apocynaceae						15
39	*Rauvolfia tetraphylla*, Chota chand, Apocynaceae	1,2	6,7,8	9,10,12	13	14	
40	*Streiospermum chelonoides*, Ardhakapri, Bignoniaceae		6				
41	*Zingiber purpurem*, Van adark, Zingiberaceae		6,7		13		15

2. Endangered

S.n.	**Botenical name,Local name,family**						
1	*Abelmoschus manihot*, Vanbhindi, Malvaceae	1,2	5,6,7	9,10,11,	13	14	15
2	*Abelmoscus moschatus*, Kasturibhindi, Malvaceae	1,2	5,6,7	9,11	13	14	15
3	*Abrus precatorius*, Lalgunja, Fabaceae	1,2,3,4	5,6,7	9,10,11, 12	13	14	15
4	*Acacia auriculiformis*, Mimosaceae	1,2,3,4	5,6,7	9,10,11,	13	14	15
5	*Adiantum philippense*, Hansraj, Adiantaceae	1,2,3,4	5,6,7	9,10,11, 12	13	14	15
6	*Ailanthus excelsa*, Maharukh, Simarouubaceae	1,2	5,6,7	9,10,11,	13	14	15
7	*Alangium salvifolium*, Ankol, Allangiaceae	1,2,4	5,6,7	9,10,11, 12	13	14	15
8	*Ampelocissus latifolia*, Amroula, Vitaceae	1,2,4	5,6,7	9,10,11, 12	13	14	15
9	*Ampelocissus tomentosa*, Dokerbel, Vitaceae	1,2,4	5,6,7	9,10,11, 12	13	14	15
10	*Anona squomosa*, Sitafal, Annonaceae	1,2	5,6,7	9,11	13	14	15
11	*Argyreia speciosa*, Vidhra, Convolvulaceae	1,2,4	5,6,7	9,10,11,	13	14	15
12	*Arisaema flavom*, Vansuran, Aeraceae	1,2,3,4	5,6,7	9,10,11, 12	13	14	15
13	*Arisaema* sp., Safed telia, Araceae	1,2	5,6,7	9,10,11,	13	14	15
14	*Arisaema tortousum*, Vanmakka, Araceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15

15	*Balanites aegeptaica*, Ingudi, Balanitaceae	1,2		9,10			
16	*Bambusa* sp., Bans, Arundinacea	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
17	*Banincasa hispida*, Petha, Cucurbitaceae	1,2,4	6,7,8	9,11,12	13	14	15
18	*Basella alba*, Poi, Poaceae	2,3	5,6,8	9,10,12	13		15
19	*Blumea lacera*, Jangali muli, Asteraceae	1,2,4	5,6,8	9,10,11,12	13	14	15
20	*Caessalpinia sappan*, Patang, Caesalpiniaceae	1,4	5,8	9,12	13		15
21	*Capperis zeylanica*, Bayghranakhi, Capparidaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
22	*Cayratia trifolia*, Amlaparni, Vitaceae		6,7	9	13		15
23	*Celastrus paniculatus*, Malkagni, Celastraceae	1	6	9	13	14	15
24	*Chlorophytum* sp.,Liliaceae	1,2,3	6,7	9			15
25	*Chlorophytum tuberosum*, Safed musli, Liliaceae	1,2,3	5,6,7	9,10,12	13	14	15
26	*Cheilanthus aspera*, Silverfern, Cheilanthaceae	1,4	5,6,7,8	9,10,11,12	13	14	15
27	*Cissampelos pareira*, Padin, Menispermaceae		6	9	13		
28	*Coccinia minima*,Chota kunduru, Cucurbitaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
29	*Coleobronchia oppositifolia*, Van chana, Lamiaceae			9	13		15
30	*Costus speciosus*, Keokand, Costaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
31	*Crotolaria* sp., Fabaceae	1		9	13		
32	*Crottoleria* sp., Van san, Fabaceae	1,2,	5,6,7,8	9,10,11,12	13	14	15
33	*Desmodium gangeticum*, Salparni, Fabaceae	1,2	5,6,	9,10,12	13	14	15
34	*Dioscoria* sp., Kirchi kanda, Dioscoriaceae	1,2,4	5,6,7,8,	9,11	13	14	15
35	*Digitalis purpurea*, Vanmooli, Gentianaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
36	*Dioscorea alata*, Kirchi, Dioscoriaceae	1,2,4,	5,6,8	9,10			15

37	*Dioscorea hispida*, Surikand, Dioscoriaceae	1,2	5,6,7	9,11,12		14	15
38	*Dioscorea oppositifolia*, Baichandi, Dioscoreaceae		6,7				
39	*Dioscorea* sp., Agathikand, Dioscoreaceae		6,7				
40	*Dioscorea* sp., Kesariakand, Dioscoreaceae		6,7				
41	*Dioscoria cordata*, Khanima, Dioscoriaceae		6,7,8,	9,10			15
42	*Dioscoria pentaphylla*, Suvarkand, Dioscoriaceae		6				15
43	*Diospyros kaki*, Tamal, Ebenaceac	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
44	*Diospyros montana*, Patwan, Ebenaceac	1,4	5			14	
45	*Discorea alata*, Pindalu, Dioscoriaceae		5,6,				15
46	*Digitalis purpurea*, Vanmooli, Gentianaceae	1,2,4	5,7,8	9,10,12	13	14	15
47	*Dolicos* sp.,Jangali sem, Papilionaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
48	*Dryopteris aspera*, Fern, Aspidiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
49	*Dryopteris* sp, Jatashankari, Aspidiaceae	1,2,4	5,7	9,10,12	13		15
50	*Dryopteris sparsa*, Jatashankari, Aspidaceae	1	5,7			14	15
51	*Elephantopus scaber*, Gojihva, Amaranthaceae	1,2,4	5,7,8	9,10,11,12	13	14	15
52	Ficus krishnii, Moraceae	4					15
53	*Ficus tomentosa*, Baril, Moraceae	1,4					15
54	*Ficus variens*, Pakri, Moraceae	1,4		9			15
55	*Gardenia jasminoides*, Gandh raj, Rubiaceae		5,6	9,11	13		
56	*Gardenia resinifera*, Dikamali, Rubiaceae		5,6	9,11			15
57	*Gloriosa superba*, Kalihari, Liliaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
58	*Grewia hirsute*, Gudsankari, Tiliaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15

59	*Grewia rothii*, Gangeran, Tiliaceae	2,4	7	9,11			
60	*Grewia subenequalis*, Falsa, Tiliaceae			9			
61	*Haldinia cordifolia*, Haldu, Rubiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
62	*Heliotropium ovalifolium*, Jangali mooli, Boraginaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
63	*Hibiscus* sp., Malvaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
64	*Holoptelea integrifolia*, Chilla, Ulmaceae	1		9			15
65	*Ipomea nil*, Kaladana, Convolvulaceaec	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
66	I*soetes indica*, Isoetaceae	4	5,7				
67	*Lannea coromendelica*, Gunja, Anacardiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
68	*Lygodium flexuosus*, Bhootraj (Bholan), Lygodiaceae	4		9			
69	*Mallotus phillipensis* ,Sinduri, Euphorbiaceae		5,6				
70	*Millettia extensa*, Guhilari, Fabaceae	4	7	9			
76	*Murraya koenigii*, Meethi neem, Rutaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
77	*Passiflora edulis*, Gharifool, Passifloraceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
78	*Pergularia daemia* Dudhibel, Asclepiadaceae		5,6	9,11			15
79	*Premna obtusifolia*, Arni,Verbanaceae		6				
81	*Pterocarpus marsupium*, Beeja, Fabaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
82	*Pterospermum acerifolium*, Kanak champa, Sterculiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
83	*Pueraria tuberosa*, Vidarikand (Patalkumhra), Fabaceae	1,2,	5,6		13		15
84	*Randia nilotica*, Kharhar, Rubiaceae			9,11			
85	*Schleichera oleosa*, Kusum, Sapindaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15

86	*Schrebera swietenioides*, Banpalas, Oleaceae			9,11			
87	*Soymida febrifuga*, Rohina, Meliaceae			9,11			15
88	*Sterculia urens* Kullu Sterculiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
89	*Steriospermum suaveolens*, Bignoniaceae Chota pader			9,11		14	15
90	*Thespesia lampas*, Vankapas, Malvaceae	1,3	5,6,8	9			
91	*Trichosanthes bracteata*, Mahakala (Lal indryan), Cucurbitaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
92	*Tylophora indica*, Anantmool, Asclepiadaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15

3. Vulnerable

S.n.	Botenical name, local name and Family	Rewa	Sidhi	Satna	Shahdol.	Umria	Anooppur
1	*Achyranthus bidentata*, Apamarge, Amaranthaceae			9			
2	*Ailanthus excelsa*,Ajain, Simaroubaceae	1,2	5,6	9		14	15
3	*Aristlochia indica*, Kidamari, Aristolochiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
4	*Aristolochia bractiata*, Isharmool, Aristolochiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
5	*Aristolochia indica*, Iswarmool, Aristolochaceae	1,3,	5,6,7,8	9,10,11,12	13	14	15
6	*Bacopa monneri*, Brahmi, Scrophulariaceae		5,7			14	15
7	*Bauhinia vahlii*, Mahuline, Caesalpiniaceae	1,2,3	5,6,7	9,10,11,12	13	14	15

8	Caesalpinia crista, Gataran, Caesalpiniaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
9	*Citrullus colosynthes*, Indrayan, Cucurbitaceae	1,2,3	5,6,	9,11,12	13	14	15
10	*Citrulus* sp., Indrayan, Cucurbitaceae	1,2,3,4	5,6,8	9,11,12	13	14	15
11	*Citrus media*, Jamhari nibu, Rutaceae	4	8	9,12	13	14	15
12	*Clitoria ternatea*, Aprajita, Fabaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
13	*Coccina grandis*, Kundru, Cucurbitaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
14	*Coccinia* sp., Kundru, cucurbitaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
15	*Commelina benghalensis*, Kanchara, Commelinaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
16	*Cordia dichotoma*, Lasora, Boraginaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
17	*Dioscoria bulbifera*, Kesaria kand, Dioscoriaceae	2		9	13		
18	*Dioscoria globosa*, Kirchi kanda, Dioscoriaceae	2		9	13		
19	*Diospirus montana*, Bis tendu, Ebenaceae	4					15
20	*Dolicos leblab*, Sem, Fabaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
21	*Feronia limonia*, Kaitha, Rutaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
22	*Ficus benghalensis*, Bargad, Moraceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
23	*Ficus religiosa*, Pipal, Moraceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
24	*Ficus* sp., Kathumar, Moraceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
25	*Ficus recemosa*, Gular, Moraceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
26	*Flacourtia indica*, Katei, Flacourtiaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
27	*Gardinia gumifera*, Dekamali, Rubiaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
28	*Hemidesmus indicus*, Anantmool, Apocynaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15

29	*Holerrhena antidysentrica*, Kurchi, Apocynaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
30	*Holarrhena pubescens*, Kurrya Apocynaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
31	*Hygrophylla auricular*, Talmakhana, Acanthaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
32	*Ichnocarpus frutescence*, Dhimarbel, Apocynaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
33	*Ipomea pes-caprae*, Shamalata, Convolvulaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
34	*Mitragyna parviflora*, Kaima, Rubiaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
35	*Mucuna pruriens*, Janglikenvach, Fabaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
36	*Ocimum basilicum*, Tulsi, Lamiaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
37	*Ocimum sanctum*, Ram tulsi, Lamiaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
38	*Pedalium murex*, Badagokhru, Pedaliaceae	2		9			15
39	*Phylanthus urinaria*, Bhuamla lal, Euphorbiaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
40	*Saccharum spontanium*, Poaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
41	*Semicarpus anacaredium*, Bhelma, Anacardiaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
42	*Sida acuta*, Mahabala, Malvaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
43	*Solanum indicum*, Badi kateri, Solanaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
44	Terminalia bellirica, Bahera, Combretaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
45	*Terminalia chebula*, Harra, . Combretaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
46	*Thevetia nerrifolia*, Pila kaner, Apocynaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
47	*Tinospora cordifolia*, Giloya, . Menispermaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15

48	*Tribulus terrestris*, Chota gokhru, Zygophyllaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
49	*Uraria picta*, Prishnaparni, Fabaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
50	*Vanda roxburghii*, Vanda, Orchidaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
51	*Woodfordia fruticosa*, Dhawai, Lythraceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
52	*Wrightia tinctoria*, Indrajoo, Apocynaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15
53	*Ziziphus oenoplia*, Barari, Rhamnaceae	1,2,3,4	5,6,7,8	9,10,11, 12	13	14	15

4. Data difficient

S.n.	**Botenical name, Local name and Family**	**Rewa**	**Sidhi**	**Satna**	**Shahdol**	**Umaria**	**Anoop pur**
1	*Alangium salvifolium*, Ankol, Alangiaceae	1,2,3,4	5,6,7,8	9,10,1 1,12	13	14	15
2	*Barleria prattensis*, Katsarya, Acanthaceae	1,2,3,4	5,6,7,8	9,10,1 1,12	13	14	15
3	*Momordica charantia*, Karela, Cucurbitaceae	1,2,3,4	5,6,7,8	9,10,1 1,12	13	14	15
4	*Mucuna pruriens*, Kraunch, Fabaceae	1,2,3,4	5,6,7,8	9,10,1 1,12	13	14	15
5	*Solanum nigrum*, Makoi, Solanaceae	1,2,3,4	5,6,	9,10,1 1,12	13	14	15
6	*Urgenia indica*, Jangli pyaj (Pindalu,Bazra kand), Liliaceae	1,2,3	5,7	9,10,1 1,12	13	14	15

(viii). Spatial distribution of important medicinal plants of rainy season

1. Critically endangered

S.n.	Botenical name,local name and family	Rewa	Sidhi	Satna	Shahdol	Umari a	Anoop pur
1	*Abroma angusta*, Ulatkambal, Sterculiaceae	1,2					15
2	*Abrus precatorius*, Safedgunja, Fabaceae			9			15
3	*Abrus precatorius*, Kali gunja, Fabaceae						15
4	*Alectra chitrakutensis*, Nirgundi Kand, Scrofuleriaceae	1,2		9			
5	*Andrographis paniculata*,Kalmegh, Acanthaceae	1,2	5,6	9			15
6	*Anona raticulata*, Ramfal, Annonaceae	4		9			15
7	*Chlorophytum arundinaceum*, Safedmoosli, Liliaceae	1,2,3,4	5,6,7	9	13	14	15
8	*Curculigo orchioides*, Kalimusli, Hypoxidaceae	1,2	5,7	9	13	14	15
9	*Curcuma amada*, Ama haldi, Zingiberaceae			9			15
10	*Curcuma aromatica*, Van Haldi, Zingiberaceae		7	9	13	14	15
11	*Desmodium motorium*, Teligraph plant, Fabaceae		5,7	9			
12	*Embelia ribes*, Baibedang, Myrsinaceae			9			15
13	*Embelia tsjerium-cottam*, Vaividang, . Myrsinaceae						15
14	*Eulophia herbacea*, Bilarikand, . Orchidaceae			9			
15	*Litsea monopetala*, Meda, Lauraceae			9			
16	*Luffa echinata*, Khaksi, Cucurbitaceae			9			
17	*Marsdenia tenacissima*,Dudhia bela,			9			15

	Asclepiadaceae						
18	*Musa sapiantum*, Van Kela, Musaceae		5				15
19	*Nervilia parinina*, Vansighada, Orchidaceae		5,6				
20	*Operculina terpathum*, Nishoth, Convolvulaceae	1,2	5,6	9			15
21	*Oxystelma esculenta*, Dudhara, Asclepiadaceae						15
22	*Paedaria foetida*, Prasarini, Rubiaceae	1,2		9		14	15
23	*Peucedanum dhana*, Bhojraj, Apiaceae		5,6,7	9,12			
24	*Peucedanum nagpurense*, Kamraj, Apiaceae	1,2,3	5,6,7	9,10,11	13	14	15
25	*Peucedanum nagpurense*, Tejraj, Apiaceae		5,6,7	9,10,11	13	14	15
26	*Peuraria tuberosa*, Fabeceae Patal kumhra	1,2	6	9,10,11			15
27	*Psoralea corylifolia*, Bakuchi, Fabaceae	1		9			15
28	*Pterospermum* sp., Muchkund, Sterculiaceae	1,2	6	9		14	15
29	*Rauvolfia serpentina*, Sarpgandha Apocynaceae						15
30	*Rauvolfia tetraphylla*, Chota chand, Apocynaceae	1,2	6,7,8	9,10,12	13	14	
31	*Streiospermum chelonoides*, Ardhakapri, Bignoniaceae		6				
32	*Zingiber purpurea*, Vanadark, Zingiberaceae		6,7		13		15

2. Endangered

S.n.	Botenical name, Local name and Family						
1	*Abelmoschus manihot*, Vanbhindi, Malvaceae	1,2	5,6,7	9,10,11,	13	14	15
2	*Abelmoscus moschatus*, Kasturibhindi, Malvaceae	1,2	5,6,7	9,11	13	14	15
3	*Abrus precatorius*, Lalgunja, Fabaceae	1,2,3,4	5,6,7	9,10,11,12	13	14	15
4	*Acacia auriculiformis*, Mimosaceae	1,2,3,4	5,6,7	9,10,11,	13	14	15
5	*Adiantum philippense*, Hansraj, Adiantaceae	1,2,3,4	5,6,7	9,10,11,12	13	14	15
6	*Ampelocissus latifolia*, Amroula, Vitaceae	1,2,4	5,6,7	9,10,11,12	13	14	15
7	*Ampelocissus tomentosa*, Dokerbel, Vitaceae	1,2,4	5,6,7	9,10,11,12	13	14	15
8	*Argyreia speciosa*, Vidhra, Convolvulaceae	1,2,4	5,6,7	9,10,11,	13	14	15
9	*Arisaema flavom*, Vansuran, Aeraceae .	1,2,3,4	5,6,7	9,10,11,12	13	14	15
10	*Arisaema* sp., Safedtelia, Araceae	1,2	5,6,7	9,10,11,	13	14	15
11	*Arisaema tortousum*, Vanmakka, Araceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
12	*Banincasa hispida*, Petha, Cucurbitaceae	1,2,,4	,6,7,8	9,11,12	13	14	15
13	*Basella alba*, Poi ,Poaceae	2,3	5,6,8	9,10,12	13		15
14	*Blumea lacera*, Jangali muli, Asteraceae	1,2,4	5,6,8	9,10,11,12	13	14	15
15	*Cappris zeylanica*, Bayghranakhi, Capparidaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
16	*Cayratia trifolia*, Amlaparni, Vitaceae		6,7	9	13		15
17	*Celastrus paniculatus*, Malkagni, Celastraceae	1	6	9	13	14	15
18	*Chlorophytum* sp., Liliaceae	1,2,3	6,7	9			15
19	*Chlorophytum tuberosum*, Safed musli, Liliaceae	1,2,3	5,6,7	9,10,12	13	14	15
20	*Cheilanthus saperia*, Silverfern, Cheilanthaceae	1,4	5,6,7,8	9,10,11,12	13	14	15

21	*Coccinia minima*, Chota Kunduru, Cucurbitaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
22	*Coleobronchia oppositifolia*, Vanchana, Lamiaceae			9	13		15
23	*Costus speciosus*, Keokand, Costaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
24	*Crotoleria* sp., Fabaceae	1		9	13		
25	*Crotoleria* sp., Van san, Fabaceae	1,2,	5,6,7,8	9,10,11,12	13	14	15
26	*Desmodium gangeticum* , Salparni, Fabaceae	1,2	5,6,	9,10,12	13	14	15
27	Diascoria sp., Kirchikanda, Dioscoriaceae	1,2,4	5,6,7,8,	9,11	13	14	15
28	*Digitalis purpurea*, Vanmooli, Gentianaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
29	Dioscorea alata, Kirchi, Dioscoriaceae	1,2,4,	5,6,8	9,10			15
30	*Dioscorea hispida*, Suarikand, Dioscoriaceae	1,2	5,6,7	9,11,12		14	15
31	*Dioscorea oppositifolia*, Kirchikand, Dioscoreaceae		6,7				
32	*Dioscorea* sp., Agathikand, Dioscoreaceae		6,7				
33	*Dioscorea* sp., Kesariakand, Dioscoreaceae		6,7				
34	*Dioscoria cordata* Chitrakoot		6,7,8,	9,10			15
35	*Dioscoria pentaphylla*, Suarkand, Dioscoreaceae		6				15
36	*Diospyros kaki* ,Tamal, Ebenaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
37	*Diospyros montana*, Patwan, Ebenaceae	1,4	5			14	
38	*Discorea alata*, Pindalu,		5,6,				15
39	*Digitalis purpurea*, Vanmooli, Gentianaceae	1,2,4	5,7,8	9,10,12	13	14	15
40	*Dolicos* sp.,.Jangali sem, Papilionaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15

41	*Dryopteris aspera*, Aspidaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
42	*Dryopteris* sp., Aspidaceae						
43	*Dryopteris spasra*, Jatashankari, Aspidaceae	1	5,7			14	15
44	*Elephantopus scaber*, Gojihva, Amaranthaceae	1,2,4	5,7,8	9,10,11,12	13	14	15
45	*Gloriosa superba*, Liliaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
46	*Grewia hirsute*, Gudsakari, Tiliaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
47	*Grewia rothii*, Gangeran, Tiliaceae						
48	*Grewia subeneqalis*, Tiliaceae			9			
49	*Heliotropium ovalifolium*, Jangali mooli, Boraginaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
50	*Hibiscus* sp., Malvaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
51	*Holoptelea integrifolia*, Chilla, Ulmaceae	1		9			15
52	*Ipomea nil*, Kaladana, Convalvulaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
53	*Isoetes indica*, Isoetaceae	4	5,7				
54	*Lygodium flexuosus*, Bhootraj (Bholan), Lygodiaceae	4		9			
55	*Passiflora incarneta*, Gharifool, Passifloraceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
56	*Pergularia daemia*, Dudhibel (utran), Asclepiadaceae		5,6	9,11			15
57	*Premna obtusifolia*, Agnimath, Verbeneceae		6				
58	*Pterocarpus marsupium*, Beeja, Fabaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
59	*Pterospermum acerifolium*, Sterculiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
60	*Pueraria tuberosa*, Vidarikand (Patal kumhra), Fabaceae	1,2,	5,6		13		15
61	*Thespesia lampas*, Vankapas, Malvaceae	1,3	5,6,8	9			

62	*Trichosanthes bracteata*, Mahakala (Lal indryan), Cucurbitaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
63	*Tylophora indica*, Anantmool, Asclepiadaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15

3. Vulnerable

S.n.	Botenical name local name and Family	Rewa	Sidhi	Satna	Shahdol	Umaria	Anoop pur
1	*Achyranthus bidentata*, Apamarg, Amaranthaceae			9			
2	*Ailanthus excelsa*, Ajain, Simaroubaceae	1,2	5,6	9		14	15
3	*Aristlochia indica*, Kidamari, Aristolochiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
4	*Aristolochia bracteata*, Isharmool, Aristolochiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
5	*Aristolochia indica*, Iswarmool, Aristolochaceae	1,3,	5,6,7,8	9,10,11,12	13	14	15
6	*Bacopa monnieri*, Brahmi, Scrophulariaceae		5,7			14	15
7	*Citrullus colosynthes*, Indrayan, Cucurbitaceae	1,2,3	5,6,	9,11,12	13	14	15
8	*Citrulus* sp., Indrayan, Cucurbitaceae	1,2,3,4	5,6,8	9,11,12	13	14	15
9	*Clitoria ternatea*, Aprajita, Fabaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
10	*Coccina grandis*, Kundru, . Cucurbitaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
11	*Coccinia* sp., Kundru, Cucurbitaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
12	*Commelina benghalensis*, Kanchara, Commelinaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
13	*Dioscoria bulbifera*, Kesaria kand, Dioscoriaceae	2		9	13		
14	*Dioscoria globosa*, Kirchi kanda, Dioscoriaceae	2		9	13		

15	*Dolicos lableb*, Sem ,Fabaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
16	*Hemidesmus indicus*, Anantmool, Apocynaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
17	*Holerrhena antidysentrica*, Kurchi, Apocynaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
18	*Hygrophylla auricular*, Talmakhana, Acanthaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
19	*Ichnocarpus frutescence*, Dhimarbel, Apocynaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
20	*Ipomea pes-caprae*, Shamalata, Convolvulaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
21	*Mucuna pruriens*, Jangli kenvach, Fabaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
22	*Ocimum basilicum*, Tulsi, Lamiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
23	*Ocimum sanctum*, Ram tulsi, Lamiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
24	*Pedalium murex*, Badagokhru, Pedaliaceae	2		9			15
25	*Phyllanthus urinaria*, Bhuamla lal, Euphorbiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
26	*Saccharum spontanium*, Grass, Poaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
27	*Semicarpus anacaredium*, Bhelma, Anacardiaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
28	*Sida acuta*,. Mahabala, Malvaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
29	*Solanum indicum*, Badi kateri, Solanaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
30	Terminalia bellirica, Bahera, Combretaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
31	*Terminalia chebula* , Harra, Combretaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
32	*Thevetia nerrifolia*, Pila kaner, Apocynaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15

33	*Tinospora cordifolia*, Giloya, Menispermaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
34	*Tribulus terrestris*, Chota gokhru, Zygophyllaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
35	*Uraria picta*, Prishnaparni, Fabaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
36	Vanda roxburghii, Vanda, Orchidaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15

4. Data deficient

S.n.	**Botenical name, local name and family**	**Rewa**	**Shidhi**	**Satna**	**Shahdol**	**Umaria**	**Anoop pur**
1	*Momordica charantia*, Karela, Cucurbitaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
2	Mucuna pruriens, Kraunch, Fabaceae	1,2,3,4	5,6,7,8	9,10,11,12	13	14	15
3	*Solanum nigrum*, Makoi Solanaceae	1,2,3,4	5,6,	9,10,11,12	13	14	15
4	*Urgenia indica* Jangli pyaj, (Pindalu,Bazrakand), Liliaceae	1,2,3	5,7	9,10,11,12	13	14	15

(ix). Harvesting techniques

S.n.	Name of medicinal plant	Harvesting technique
1	*Aegle mormelous*	Almost every part of the plant is locally used and directly collected from wild
2	*Acacia catechu*	The wood is used in certain preparations for leprosy. It is collected and cut into pieces
3	*Achyranthes aspera*	Entire plant is useful and directly collected from wild
4	*Achyranthes aspera* var *porphyristechya*	Entire plant is useful and directly collected from wild
5	*Achyranthes bidantata*	Entire plant is useful and directly collected from wild
6	*Adhatoda zeylanica*	Entire plant is useful and directly collected from wild
7	*Ailanthus excelsa*	Entire plant is useful and directly collected from wild
8	*Alangium salvifolium*	Barks are collected from mature trees , dried and preserved
9	*Alangium sp.*	Barks are collected from mature trees , dried and preserved
10	*Alectra chitrakutensis*	This is a root parasite on Vitex nigundo. Entire plant is useful and directly collected from wild
11	*Desmodium velutianum*	Entire plant is useful and directly collected from wild
12	*Amaranthus caudatus*	Entire plant is useful and directly collected from wild
13	*Amaranthus hybridus* var *incurvularis*	Entire plant is useful and directly collected from wild
14	*Amaranthus lividus*	Entire plant is useful and directly collected from wild
15	*Amaranthus spinosus*	Entire plant is useful and directly collected from wild
16	*Ampelocissus latifolia* .	Roots are collected dried and kept in dried pots
17	*Ampelocissus tomentosa*	Edible fruits are collected by local people. Sometimes entire plant is collected and used as paste resistant
18	*Anacyclus pyrethrum*	Entire plant is useful and directly collected from wild
19	*Andrographis paniculata*	Entire plant is useful and directly collected from wild
20	*Anisomelis indica*	Entire plant is useful and directly collected from wild
21	*Anona raticulata*	Ripe fruits are collected and sold in market
22	*Anona squomosa*	Ripe fruits are collected and sold in market
23	*Anthocephallus chinensis*	Fresh flowers are collected and used for abornment. Edible fruits are collected and dried
24	*Argemone maxicana*	Entire plant is useful and directly collected from wild
25	*Argyreia speciosa*	Entire plant is useful and directly collected from wild
26	*Aricaema flavum*	Entire plant is useful and directly collected from wild
27	*Arisaema flavom*	Useful corms are collected after rainy season
28	*Arisaema* sp.	Useful corms are collected after rainy season
29	*Arisaema tortousum*	Useful corms are collected after rainy season
30	*Aristlochia tuberosa*	Tubers are useful in medicine preparation and

		collected after rainy season
31	*Aristolochia bracteata*	Useful tubers are collected after rainy season
32	*Aristolochia indica*	Useful tubers are collected after rainy season
33	*Aristolochia palmeta*	Useful tubers are collected after rainy season
34	*Asparagus racemosus*	Modified adventitious roots are important source of medicines. These are directly collected from wild, dried and preserved for further use
35	*Bacopa monnieri*	Entire plant is useful and directly collected from wild
36	*Balanites aegeptiaca*	Fruits are medicinally important and collected from wild
37	*Bambusa arundinacea*	Young buds and grains are consumed as food. These are also used in the preparation of medicated pricles
38	*Banincasa hispida*	The plant is a large trailing herb. Its fruits are eaten as vegetable and can also dried with suger in preparation of petha. Kusmandavaleha is a very important preparation in ayurveda.Fruits can be kept for months in case they are not broken.
39	*Barleria pronites*	Entire plant is useful and directly collected from wild
40	*Barleria prattensis*	Entire plant is useful and directly collected from wild
41	*Basella alba*	Entire plant is useful and directly collected from wild
42	*Basvelia serata*	Sal bark is directly collected from mature plants. Seeds are also collected
43	*Bauhinia purpurea*	Leaves, flowers and fruits are used for various purposes and directly collected from wild.
44	*Bauhinia racemosa*	Leaves, flowers and fruits are used for various purposes and directly collected from wild.
45	*Bauhinia semla*	Fruits are used for various purposes and directly collected from wild.
46	*Bauhinia vahlii*	Leaves, flowers and fruits are used for various purposes and directly collected from wild.
47	*Bauhinia verigata*	Flowers and fruits are used for various purposes and directly collected from wild.
48	*Blumea lacera*	Entire plant is useful and directly collected from wild
49	*Boerhavia diffusa*	Entire plant is useful and directly collected from wild
50	*Boerhavia procumbens*	Entire plant is useful and directly collected from wild
51	*Bombax ceiba*	Roots from the young plants are collected, dried and sold as semra mool. Bark and flowers are also used as medicine
52	*Bombex insigne*	Roots from the young plants are collected, dried and sold as semra mool. Bark and flowers are also used as medicine
53	*Buchanania lanzan*	Fruits are valuable . These are collected from the forest, dried , processed and char is prepared out of them.
54	*Caesalpinia bonduc*	Fresh leaves are used in the preparation of certain

		medicines for fever. Seeds are also useful and collected from dried pods
55	*Caessalpinia sappan*	Heart wood is useful. The wood is cut in to pieces and used in preparation of various medicine. Tooth powder is very useful.
56	*Calotropis procera*	Almost every part is useful . The plant is cut, dried and kept for use. Flowers are most importand , collected and dried for the preparation of Arkadivati.
57	*Calotropis gigantia*	Useful like *C. procera.*
58	*Cappris zeylanica*	Top shoots and young leaves are used as plasters for boils and swellings. Powder relieves toothache. The entire material is collected from wild.
59	*Cardiospermum halicacabum*	The entire plant is collected
60	*Carissa carandus*	An evergrenn spiny shrub.Fruits are used for pickles, jams and chatany
61	*Carissa opaca*	An evergrenn spiny shrub.Fruits are used for pickles ,jams and chatany
62	*Cayratia trifolia*	Whole plant is collected and dried.
63	*Ceasalpinea sapan*	Wood is useful.Collected and dried.
64	*Ceasalpinea bondak*	Leaves and seeds are used in medicine preparation.
65	*Celastrus paniculatus*	Entire plant is useful and directly collected from wild
66	*Centella asiatica*	Entire plant is useful and directly collected from wild
67	*Centella rotundifolia*	Entire plant is useful and directly collected from wild
68	*Chlorophytum arundinaceum*	Roots are collected and processed after rainy seasons
69	*Chlorophytum* sp.	Roots are collected and processed after rainy season
70	*Chlorophytum tuberosum*	Roots are collected and processed after rainy season
71	*Chylanthus saperia*	Entire plant is collected and dried.
72	*Cissampelos pareira*	Roots are useful for medicine .The plants are up-rooted and roots are collected and dried.
73	*Citrullus colosynthes*	Roots are useful for medicine .The plants are up-roote and roots are collected and dried.
74	*Citrulus* sp.	Roots are useful for medicine .The plants are up-rooted and roots are collected and dried.
75	*Citrus lemon*	Fruit juice is important. It is extracted from fresh fruits and used in various preparations.
76	*Citrus medica* var *limetta*	Fruit juice is important. It is extracted from fresh fruits and used in various preparations
77	*Citrus medica* var *limonium*	Fruit juice is important. It is extracted from fresh fruits and used in various preparations
78	*Clerodendrum indicum*	Leaves are useful. Fresh leaves are collected and dried.
79	*Clitoria ternatea*	Entire plant is useful and directly collected from wild
80	*Coccina grandis*	Fruits and roots are useful and directly collected from wild
81	*Coccinia sp.*	Fruits and roots are useful and directly collected from

		wild
82	*Coccinia minima*	Fruits and roots are useful and directly collected from wild.
83	*Coleobronchia oppositifolia*	Fresh leaves are applied.
84	*Commelina benghalensis*	Entire plant is useful and directly collected from wild
85	*Cordia dichotoma*	Leaves and woods are useful
86	*Cordia macleodii*	Leaves and woods are useful
87	*Costus speciosus*	Underground tubers are collected and sold in market
88	*Crataeva* sp.	Leaves, fruits and woods are useful.Directly collected from wild
89	*Crotolaria retusa*	Entire plant is useful and directly collected from wild
90	*Croton* sp.	Seeds are used in certain medicines and directly collected from wild
91	*Croton sp.*	Seeds are used in certain medicines and directly collected from wild
92	*Cucurbita moschata*	Fresh fruits are used
93	*Curculigo orchioides*	Roots are collected from wild, dried and preserved.
94	*Curcuma amada*	Rhizomes are collected from the wild, dried and preserved
95	*Curcuma caesia*	Rhizomes are collected from the wild, dried and preserved
96	*Curcuma aromatica*	Rhizomes are collected from the wild, dried and preserved
97	*Cyprus scariosus*	Rhizomes are collected from the wild. Dried and preserved
98	*Crottoleria medica*	Flowers fruits and seeds are used.
99	*Cordia macleodii*	Leaves are used as mouth wash, woods are taken as stick
100	*Dalbergia latifolia*	Only fresh leaves are used as medicine
101	*Dalbergia sisso*	Only fresh leaves are used as medicine
102	*Dalbergia labeck*	Only fresh leaves are used as medicine
103	*Desmodium gangeticum*	Entire plant is useful and directly collected from wild
104	*Desmodium laxiflorum*	Entire plant is useful and directly collected from wild
105	*Desmodium motorium*	Entire plant is useful and directly collected from wild
106	*Desmodium tortuosum*	Entire plant is useful and directly collected from wild
107	*Dioscoria* sp.	Edible tubers are collected, boiled and eaten. Few medicines are also prepared from them.
108	*Digitalis purpurea*	Entire plant is useful and directly collected from wild
109	*Dillenia pentagyna*	Leaves are used for wound healing
110	*Dimia extensa*	Entire plant is collected for preparation of Chhar
111	*Dioscorea alata*	Edible tubers are collected, boiled and eaten. Few medicines are also prepared out of them.
112	*Dioscorea hispida*	Edible tubers are collected, boiled and eaten. Few medicines are also prepared out of them.

113	*Dioscorea oppositifolia*	Edible tubers are collected boiled and eaten. Few medicines are also prepared out of them.
114	*Dioscorea* sp.	Edible tubers are collected, boiled and eaten. Few medicines are also prepared from them.
115	*Dioscorea* sp.	Edible tubers are collected, boiled and eaten. Few medicines are also prepared from them.
116	*Dioscoria cordata*	Edible tubers are collected, boiled and eaten. Few medicines are also prepared from them.
117	*Dioscoria bulbifera*	Edible tubers are collected, boiled and eaten. Few medicines are also prepared from them.
118	*Dioscoria globosa*	Edible tubers are collected, boiled and eaten. Few medicines are also prepared from them.
119	*Dioscoria pentaphylla*	Edible tubers are collected, boiled and eaten. Few medicine are also prepared from them.
120	*Diospirus malonoxilon*	Leaves and fruits are used.
121	*Diospyros kaki*	Medicinally important fruits are directly collected from wild and kept dry
122	*Diospyros montana*	Medicinally important fruits are directly collected from wild and kept dry
123	*Diospyros tomentosa*	Medicinally important fruits are directly collected from wild
124		
125	*Discorea alata*	Tubers are used in medicine preparations, collected from wild
126	*Digitalis purpurea*	The entire plant is up-rooted and dried.
127	*Dolicos leblab*	Pods and seeds are collected and kept dry
128	*Dolicos* sp.	Pods and seeds are collected and kept dry
129	*Dracena* sp.	Whole plant is collected and kept dry
130	*Dryopteris aspera*	Whole plant is collected and kept dry
131	*Dryopteris* sp.	Whole plant is collected and kept dry
132	*Dryopteris* sp.	Whole plant is collected and kept dry
133	*Dryopteris spara*	Whole plant is collected and kept dry
134	*Echinops echinatus*	Entire plant is useful, directly collected from wild and kept dry
135	*Elephantopus scaber*	Entire plant is useful, directly collected from wild and kept dry
136	*Embelia ribes*	Entire plant is useful, directly collected from wild and kept dry
137	*Embelia tsjerium*	Whole plant is collected and used
138	*Entada scandens*	Whole plant is collected
139	*Erithrina indica*	Entire plant is useful and directly collected from wild
140	*Eulophia herbacea*	Entire plant is useful and directly collected from wild
141	*Feronia limonia*	Fresh fruits are collected and used when required
142	*Ficus benghalensis*	Fruits, bark, leaves and prop roots are coleected

		directly when they are in use
143	*Ficus krishnii*	Fruits, bark, leaves and prop roots are coleected directly when they are in use
144	*Ficus religiosa*	Fruits, bark, leaves and prop roots are coleected directly when they are in use
145	*Ficus sp.*	Fruits, bark , leaves and prop roots are coleected directly when they are in use
146	*Ficus recemosa*	Fruits, bark , leaves and prop roots are coleected directly when they are in use
147	*Ficus tomentosa*	Fruits, bark , leaves and prop roots are coleected directly when they are in use
148	*Ficus variens*	Fruits, bark , leaves and prop roots are coleected directly when they are in use
149	*Flacourtia indica*	Leaves and young shoots are used and collected directly when required
150	*Gardenia jasminoides*	Flowers and young buds are collected
151	*Gardenia resinifera*	Flowers and young buds are collected
152	*Gardinia gumifera*	Flowers and young buds are collected
153	*Gardinia sp.*	Flowers and young buds are collected
154	*Garuga pinnata*	Fruits are collected and used
155	*Gloriosa superba*	Underground rhizomes are collected by up-rooting the plant
156	*Grewia hirsuta*	Fruits are collected and used directly
157	*Grewia rothii*	Fruits are collected and used
158	*Grewia subeneqalis*	Fruits are collected and used
159	*Haldinia cordifolia*	Fresh juice and bark are useful. Bark is collected and kept dry.
160	*Heliotropium ovalifolium*	Entire plant is useful and directly collected from wild
161	*Hemidesmus indicus*	Entire plant is useful and directly collected from wild
162	*Holarrhena antidysentrica*	Entire plant is useful and directly collected from wild
163	*Holarrhena pubescens*	Medicinally important fruits are directly collected from wild
164	*Holoptelea integrifolia*	Fresh leaves are collected and used
165	*Hygrophylla auricula*	Fresh leaves are collected and used
166	*Ichnocarpus frutescence*	Entire plant is useful and directly collected from wild
167	*Ipomea nil*	Fresh leaves are collected and used
168	*Ipomea pes-caprae*	Fresh leaves are collected and used
169	*Ipomia carneabehaya*	Fresh leaves are collected and used
170	*Isoetes indica*	Entire plant is useful and directly collected from wild
171	*Lagerstomia perviflora*	Flowers and fruits are collected, dried and used
172	*Lannea coromandelica*	Young leaves are useful. Either used fresh or dried and kept for further use
173	*Leea asiatica*	Stem bark is useful. Directly taken from stem and used.

174	*Litsea monopetala*	Stem bark is useful. Directly taken from stem and used.
175	*Listea meda*	Stem bark is useful. Directly taken from stem and used.
176	*Litsea glutineta*	Stem bark is useful. Directly taken from stem and used.
177	*Leucas aspara*	Entire plant is useful and directly collected from wild
178	*Leucas cephalotus*	Entire plant is useful and directly collected from wild
179	*Luffa echinata*	Medicinally important fruits are directly collected from wild
180	*Lygodium flexuosus*	Entire plant is useful and directly collected from wild
181	*Lygodium* sp.	Entire plant is useful and directly collected from wild
182	*Malotus philipensis*	Entire plant is useful and directly collected from wild
183	*Marsdenia tanacissima*	Entire plant is useful and directly collected from wild
184	*Marselea quadrifolia*	Entire plant is useful and directly collected from wild
185	*Melia azedirach*	Leaves, fruits, twig, bark etc are used. Seeds are collected for oil also
186	*Millettia extensa*	Roots are used; collected, dried and powdered
187	*Mitragyna parviflora*	Fresh barks are collected, dried and used, when required
188	*Momordica charantia*	Medicinally important fruits are directly collected from wild
189	*Mucuna pruriens*	Medicinally important fruits are directly collected from wild
190		
191	*Murraya exotica*	Fresh leaves are collected and used
192	*Murraya koenigii*	Fresh leaves are collected and used
193	*Murraya paniculata*	Fresh leaves are collected and used
194	*Musa sapiantum*	Fruits are used
195	*Nervilia prainiana*	Entire plant is useful and directly collected from wild
196	*Nyctanthes orbortristis*	Leaves and flowers are collected and used
197	*Mucuna pruriens*	Mature seeds from the pods are taken for medicine preparation
198	*Ocimum americanum*	Young twings and inflorences are used
199	*Ocimum basilicum*	Young twings and inflorences are used
200	*Ocimum sanctum*	Young twings and inflorences are used
201	*Operculina terpathum*	Entire plant is useful and directly collected from wild and kept dry
202	*Oxystelma esculentum*	Entire plant is useful and directly collected from wild and kept dry
203	*Paedaria foetida*	Leaves and roots are useful and directly collected from wild and kept dry
204	*Passiflora incarnata*	Young twigs are collected and used.
205	*Pedalium murex*	Entire plant is useful and directly collected from wild

		and kept dry
206	*Pergularia daemia*	Entire plant is useful and directly collected from wild and kept dry
207	*Peucedanum dhana*	Entire plant is useful and directly collected from wild and kept dry
208	*Peucedanum nagpurnse*	Entire plant is useful and directly collected from wild
209		
210	*Peuraria tubrosa*	Entire plant is useful and directly collected from wild and kept dry
211	*Phoenix sylvestris*	Entire pant is useful
212	*Phyllanthus amarus*	Entire plant is useful and directly collected from wild and kept dry
213	*Phyllanthus minima*	Entire plant is useful and directly collected from wild and kept dry
214	*Phyllanthus urinaria*	Entire plant is useful and directly collected from wild and kept dry
215	*Phyllanthus niruri*	Entire plant is useful and directly collected from wild and kept dry
216	*Plumbago zeylanica*	Entireplant is useful and directly collected from wild and kept dry
217	*Polygala chinensis*	Entire plant is useful and directly collected from wild and kept dry
218	*Premna obtusifolia*	Entire plant is useful and directly collected from wild
219	*Prosopis cenereria*	Entire plant is useful and directly collected from wild
220	*Prosopis julifera*	Entire plant is useful and directly collected from wild and kept dry
221	*Psoralea corylifolia*	Entire plant is useful and directly collected from wild
222	*Pteris* sp.	Entire plant is useful and directly collected from wild and kept dry
223	*Pterocarpus marsupium*	Stem bark is useful. Directly taken from stem and used
224	*Pterospermum* sp.	Stem bark is useful. Directly taken from stem and used.
225	*Pterospermum acerifolium*	Stem bark is useful. Directly taken from stem and used.
226	*Pueraria tuberosa*	Fresh tubers are collected by up-rooting the entire plant and kept dry
227	*Randia nilotica*	Bitter barks are used for treatment of fever. Directly collected , dried and powdered
228	*Rauvolfia serpentina*	Roots are medicinally useful and collected by up-rooting the plant and kept dry
229	*Rauvolfia tetraphylla*	Roots are medicinally useful and collected by up-rooting the plant and kept dry

230	*Saccharum bengalense*	Roots are medicinally useful and collected by up-rooting the plant and kept dry
231	*Saccharum officinarum*	Roots are medicinally useful and collected by up-rooting the plant
232	*Saccharum spontaneum*	Roots are medicinally useful and collected by up-rooting the plant
233	*Salix tetrasperma*	Stem is useful and directly collected from wild
234	*Sapindus mukorossi*	Fruits are useful, collected, dried and used when required
235	*Schleichera oleosa*	Gum is collected from the stems and used
236	*Schrebera swietenioides*	Gum is collected from the stems and used
237	*Semicarpus anacaredium*	Gum is collected from the stems and used
238	*Sesbania grandiflora*	Entire plant is useful and directly collected from wild and kept dry
239	*Shorea robusta*	Gum is collected from the stems and used
240	*Sida acuta*	Entire plant is useful and directly collected from wild and kept dry
241	*Sida cordifolia*	Entire plant is useful and directly collected from wild and kept dry
242	*Sida cordata*	Entire plant is useful and directly collected from wild and kept dry
243	*Solanum indicum*	Entire plant is useful and directly collected from wild and kept dry
244	*Solanum nigrum*	Medicinally important fruits are directly collected from wild and kept dry
245	*Soymida febrifuga*	Entire plant is useful and directly collected from wild
246	*Spheranthus indicus L.*	Entire plant is useful and directly collected from wild and kept dry
247	*Sterculia urens*	Gum is collected from the stems and used
248	*Steriospermum suaveolens*	Gum is collected from the stems and used
249	*Streiospermum chelonoides*	Gum is collected from the stems and used
250	*Tephrosia purpurea*	Entire plant is useful and directly collected from wild and kept dry
251	*Terminalia bellirica*	Medicinally important fruits are directly collected from wild
252	*Terminalia chebula*	Medicinally important fruits are directly collected from wild and kept dry
253	*Thespesia lampas*	Medicinally important fruits are directly collected from wild and kept dry
254	*Thevetia nerrifolia*	Stem and root barks are collected and used.
255	*Tinospora cordifolia*	Stem is collected and powdered
256	*Tribulus terrestris*	Entire plant is useful and directly collected from wild and kept dry
257	*Trichosanthes bracteata*	Stem and roots are collected and used.

258	*Tridax procumbens*	Entire plant is useful and directly collected from wild and kept dry
259	*Tylophora indica*	Entire plant is useful and directly collected from wild and kept dry
260	*Uraria picta*	Entire plant is useful and directly collected from wild
261	*Urgenia indica*	Fresh bulbs are up-rooted and directly used
262	*Vanda roxburghii*	Entire plant is useful and directly collected from wild and kept dry
263	*Vigna trilobata*	Entire plant is useful and directly collected from wild and kept dry
264	*Vioca indica*	Entire plant is useful and directly collected from wild and kept dry
265	*Vitex nigundo*	Fresh leaves are collected from wild and used.
266	*Woodfordia fruticosa*	Medicinally important fruits are directly collected from wild and kept dry
267	*Wrightia tinctoria*	Medicinally important fruits are directly collected from wild and kept dry
268	*Zingiber officinale*	Tubers are medicinally useful and directly collected from wild and kept dry
269	*Zingiber purpurem*	Tubers are medicinally useful and directly collected from wild and kept dry
270	*Ziziphus jujube*	Medicinally important fruits are directly collected from wild and kept dry
271	*Ziziphus oenoplia*	Medicinally important fruits are directly collected from wild and kept dry
272	*Ziziphus xylopyrus*	Medicinally important fruits are directly collected from wild and kept dry

(x). Local diseases treated with ayurvedic medicines.

S.no.	Name of disease	Name of medicinal plants
1	Asthama	*Datura metal, Zingiber officinale,*
2	Dibeties	*Syzigium cumini, Gymnema sylvestris*
3	Diarrhaea and discentary	*Holarrhena antidysenterica,Cannabis sativa*
4	Scorpion bite	*Cleome viscose*
5	Genetic diseases	*Butea monosperma,Canabis sativa*
6	Backache	*Allium cepa*
7	Cough	*Acasia catechu, Datura metal*
8	Fever	*Glycyrrhiza glabra, Cassia sophera*
9	Mouth diseases	*Azadiracta indica, Jasminum grandiflor*um
10	Uterine diseases	*Curcuma domestica, Phyllanthus niruri*
11	Sciatica	*Aloe vera, Nyctanthes arbortristis*
12	Skin diseases	*Calotropis procera, Mangifera indica*
13	Stomach diseases	*Nardostachys jatamansi, Punica granatum*
14	Eye inflamation	Argimon maxicana
15	Hair problems	Eclipta alba

(xi). Common ayurvedic medicines prepared in the region.

S.no.	Name of medicine	Uses
1	Ashwagandha churan	Used as tonic
2	Chyavanprash	Used as tonic
3	Chirayta quath	Treatement of feaver
4	Maha narayan tail	Arthritis, body pain
5	Narayan tail	Arthritis, body pain
6	Safed moosali churan	Used as tonic
7	Trifala churan	Digestive
8	Harrye churan	Constipation
9	Amiliki rasayan	Used as tonic
10	Dashmool quath	Cough and cold
11	Shatavari churan	Used as tonic
12	Prasarani tail	Arthritis, body pain
13	Semara mool	Used as tonic
14	Kamar kas	Labour pain
15	Arandi oil	Constipation

(xii). Medicinal plant biodiversity of Vindhyan eco-region

Medicinal plants occupy an important place not only in medical arena but also in socio-cultural and spiritual areas. These plants constitute the main health care resource for a majority of our population.It is estimated that over 45,000 plant species constitute the flora of India, out of which 19,325 species of flowering plants, 5,500 species of algae, 2,021 species of lichens, 14,500 species of fungi, 2,700 species of bryophytes and 11,000 species of pteridophytes are found. This immense diversity is because of variety of the climate, altitudinal variations, rainfall pattern, water reserviours patchy and canopy forests and edaphic factors compiled with varied ecological habitats.

Vindhyan eco-region is well known for their historical diversified forests. Occurrence of all groups of plants from Pre-cambrian up to the Coenozoic geological periods in fossil forms as also the record of the first white tiger of the world from this region is very interesting. Plant biodiversity of the Vindhyan eco-region is still rich because of the diversified geology of the area, the rivers like Son, Narmda, Tons; mountain ranges like Vindhyan, Satpura, Maikal and Kaimur, and the soil and climate variations. Besides, the socio-economic and cultural diversity of the region is as rich.

In the present study survey teams made contacts with the local peoples for the qualitative and quantitative measurements of the medicinal plants. Among the thousands of plant species initially listed in survey, 286 of them were identified in traditional use by the vaidya, traders, pansaries, and local manufacturers. Experts from different fields, like ethenobotany, ayurveda, taxonomy and local vaidya were interacted for the data compilation. Workshops, sammelans, expert consultation and media views were the other sources helpful in the compilation of the report.

(xiii). Major causes of threat

The floristic biodiversity of Vindhyan eco-region is said to be very rich. However, for many decades, like-wise world's biological threat, this region has also many causes responsible for the loss of medicinal plant biodiversity. Human population growth is the sole factor for the loss of any natural resource. Reckless hacking and cutting of forests, forest fire, expansion of agricultural lands, industrialization, development of cities,

construction of dams, roads, railway lines; over exploration of natural habitats and over-grazing of grass lands and forest areas have been defined as the main causes for the rapid loss of medicinal plant biodiversity in the region.

Besides, many complex factors like climate, soil, available moisture, topography, biota, soil micro-organisms, rainfall, exotic species, wild life and interactions between the factors have been identified as the minor causes for the loss of medicinal plant biodiversity and decline in population of many important species. Timber oriented forest management, lack of awareness about the importance of plant biodiversity, unsustainable and destructive harvesting practices, over dependence of local people on forests due to their extreme poverty, easy accessibility to natural resources, inbalance in the population of carnivores and herbivores and excessive use of chemical fertilizers, pesticides are other factors for the loss of medicinal plant biodiversity in Vindhyan eco-region.

(ivx). Conservation strategies

1. Conservation measures taken so far

The conservation of plant genetic resources includes their preservation or protection in a particular state, including sustainable utilization of germplasm. It is very important to create awareness among common people to protect genetic variability for sustainable development and future plan.

The conservation of wild resources/natural habitats of medicinal plants has been generated widely at global level. However, it is still awaited in the state of Madhya Pradesh, particularly at district level. Basically this movementum is required at Panchayat level in rural areas for the common people.

For the conservation of plant genetic variation including medicinal plants, two basic approaches, namey the *in-situ* and the *ex-situ* have been advocated. Different strategies adopted for the conservation of medicinal plant genetic resources are as follows:

a. *in-situ* conservation- Maintinance of populations of plant species in their natural and agricultural habitat is known as *in-situ* conservation. This principle allows conserving large range of potentially interesting alleles, provide breeders a dynamic source of

resistant and other traits, gene pools of different species can be maintained in the same area and protects associated species. The process that creates new genotype is also conserved in this method.

Saving biodiversity means taking steps to protect genes, species habitats and ecosystem. The best way to maintain species is to maintain their habitats. There are several attempts made by the Madhya Pradesh forest department and private sectors for the conservation of the wealth of medicinal plants in Vindhya eco-region. Sanjay National Park, Sidhi; Bandhav garh National Tiger Project are two of the major efforts wherein thousands of very important medicinal plants survive in the natural habitat. However, the state of forests, the Madhya Pradsh, lacks a well established National garden like other states of the country. Vindhya eco-region may be proved the best natural habitat for such an effort.

***b. ex-situ* conservation-** Conservation of germplasm outside the natural habitat is known as *ex-situ* conservation. This method is applied in genetic resource centres, gene banks, botanical gardens, tissue culture repositories, DNA library and cryo bank.

Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow; Tropical Botanic Garden & Research Institute (TBGRI), Thiruvananthapuram and Ntional Bureau of Plant Genetic Resources (NBPGR), New Delhi are the three major network of gene banks for the medicinal and aromatic plants in the nation. However, Madhya pradesh in general and Vindhya eco-region in particular is still legging behind in the conservation of traditionally used medicinal plant germplasm .

2. Suggestions

1. To promote national interest on biodiversity conservation through radio**,** television, web sites, and passing all necessarylegislations for the protection of species.

2. Biosafety should be kept in mind in developing scientific programmes.

3. NGOs should be encouraged and supported to work on researches on biodiversity conservation.

4. ex-situ conservation of rare, threatened and endangered plant species should be attemptted in the established gardens, plantations and other specific areas.

5. Department of biological productions should be established in universities, colleges and other higher educational institutions for producing quality herbal products and generating productive employment for the skilled persons in herbal production, collection and utilization.

6. Bioindustrial revolution should be dependent on the development and sustainable utilization of biological resources through new tools of science.

7. Conservation of germplasm would be in seed gene banks.

CHAPTER-4. STUDY TEAM

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