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\* A Review of \*  
\* FOREST WEALTH OF CHANDRAPUR \*  
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\* PART II \*  
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▲ Review of  
FOREST WEALTH OF CHANDRAPUR  
(Maharashtra State)

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By

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T A B L E II

Some Economically and Medicinally Useful Plants of Chandrapur

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
<u>Acanthaceae</u>		
1	Adhatoda Vasica (Linn) Nees  <u>Local Name</u> : Adulsa	Used for chronic bronchitis and asthma.  <u>Chemistry</u> : Source of Quinazoline alkaloids, e.g. a) Vasicine (Peganine) (d) Adhatodine b) Vasicinone (e) Vasicoline c) Anisotine (f) Vasicinol  <u>References</u> : 1) Helv. chim. Acta, 54 (1971), 826. 2) J. Org. chem., 28 (1963), 445 3) Ind. J. Pharm., 28 (1966), 105.
2	Andrographis paniculata (Burm) Wall ex Nees  <u>Local Name</u> : Kiryata <u>Allied species</u> : <u>A.echioides Nees</u>  <u>Local Name</u> : Ranchimani <u>Chemistry</u> : Flavonoids a) Echioidinin b) Echioidin  <u>References</u> : Tetrahedron, 21 (1965), 2633, 3715 23 (1967), 741.	Substitute for Chirata (Swertia chirata) Used for stomach ailments. Antimalarial  <u>Chemistry</u> : Source of Diterpenoids, e.g. a) Andrographolide and its corresponding neo-analogue. b) 14-deoxy-11-oxoandrographolide c) 14-deoxy-11,12-dehydro derivative d) 14-deoxy-andrographolide e) Apigenin 7,4'-di-o-methyl ether f) Andrographin (g) Panicolin (h) $\alpha$ -sitosterol.  <u>References</u> : 1) Biochem. J. 144 (1974), 585 2) J.C.S. 378 (1973); 385 (1974); 1493 (1958). 3) Tetrahedron, 27 (1971) 57081; 21 (1965), 2633 3715 4) Tetrahedron Letters 46 (1968), 4803.

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
3	<p><i>Barleria cristata</i> Linn  <u>Sanskrit</u> : Jhinti  <u>Allied species</u> : <i>B. prionitis</i> Linn  <u>Local Name</u> : Pivalakoranta  <u>Chemistry</u> : Scutellarein-7-Rhamnosyl glucoside  <u>Reference</u> : Phytochemistry, 10 (1971), 2822.</p>	<p>Roots and leaves used to reduce swelling.  <u>Chemistry</u> : a) Apigenin (b) Naringenin  c) Malvidin-3,5-diglucoside  d) Apigenin-7-glucuronide</p>
4	<p><i>Dipterocanthus prostratus</i> (Poir) Nees  <u>Local Name</u> : Kalighavani</p>	<p>It is used in the tribal system of medicine as a remedy for gonorrhea and ear diseases.</p>
5	<p><i>Haplanthus verticillatus</i> (Roxb) Nees  <u>Local Name</u> : Jhankara</p>	<p>It is an antipyretic.</p>
6	<p><i>Lipidagathis cristata</i> Willd  <u>Local Name</u> : Bhuitarada</p>	<p><u>Tribal uses</u> : It is used as a bitter tonic in fevers. It is also applied to itchy affections of the skin. Ash is used for sores.</p>
7	<p><i>Peristrophe bicalyculata</i> (Retz) Nees  <u>Local Name</u> : Ghatipitta : papada</p>	<p>It possesses antibacterial properties. Useful as a remedy in poisonous Snakes bites.  <u>References</u> : C.A. 63:13701<sup>d</sup></p>
8	<p><i>Rungia repens</i> (Linn)  <u>Gujarati Name</u> : Khatsalio  <u>Allied species</u> : <i>R. pectinata</i> (Linn) Nees.</p>	<p>Plant given in fevers and applied to scalp in cases of tinea capitis.  <u>Chemistry</u> : Luteolin-7-glucoside; Apigenin-7-glucoside; Luteolin; Lutein; Isosalipurposide; and Kaemferol 3-O-β-L-rhamnopyranosyl-β-D-glucopyranoside.  <u>References</u> : Phytochemistry, 8(1969), 319; Ind.J.chem., 2(1964)</p>

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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Less common species of 'Acanthaceae' available in Chandrapur

- 1) *Blepharis maderaspatensis* (Linn) Heyne ex Roth (C)
- 2) *B. repens* (Vahl) Roth (Less common)
- 3) *Crossandra infundibuliformis* (Linn) Nees (Cul.)
- 4) *Dicliptera micranthus* Nees (L.C.)
- 5) *Elytraria acaulis* (Linn f.) Lindau (L.C.)
- 6) *Eranthemum purpurascens* Nees (L.C.)
- 7) *Gantelbua urens* (Heyne ex Roth) L.C.
- 8) *Haplanthus verticillatus* Roxb Nees (R)
- 9) *Hygrophila auriculata* (Sch) Hein (C)
- 10) *H. Serphyllum* (Nees) Anders (N.C.)
- 11) *Justica betonica* Linn (L.C.)
- 12) *J. glauca* Roth (N.C.)
- 13) *J. Simplex* (N.C.)
- 14) *Lipidagathis cristata* Willd (L.C.)
- 15) *L. Trinervis* (L.C.) etc. etc. etc.

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Alangiaceae

- 1 *Alangium Salvifolium* (Linn) Wang.  
Local Name : Ankal  
(Syn : *A. Lamarckii* Thwaites)
- Tribal use : The powder of the root bark is used in poisonous bites. It is also used in skin diseases, in fevers, as poultice in rheumatic pain. The fruit is edible.
- Chemistry : Alangine, Ankorine; Emetine; Cephaeline; Psychotrine; Alangicine; Desmethylpsychotrine; Isotubulosine; Demethyltubulosine; Deoxytubulosine; Alangimarckine, and Dihydroprotoemetine; etc.
- References : Ind.J.chem. 2(1964), 379 (2) Tetrahedron, 20 (1964), 399; (3) Tetrahedron Letters 2143 (1967); *ibid* 1081, 5077 (1966); *ibid* 4965 (1966); (4) Ind. J. chem. 7 (1969), 635; (5) *Experientia*, 26(1970), 933.

Sl. Botanical Name/Local Name  
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Medicinal and/or Economic uses and Chemistry/  
Selected References

Amaryllidaceae

1 *Corinum defixum* ker-Gawl

Local Name :

Sanskrit : Vishamandala

Marathi : Gadani-kanda

Parts used : Bulbs and leaves. The bulbs are toxic to cattle. They are generally used for the treatment of burns.

Chemistry : An alkaloid Lycorine from bulbs.

References : 1) Tetrahedron Letters 2009 (1966)  
2) Curr. Sci. 23 (1954), 265  
3) Ind. J. Pharm. 17 (1955), 67, 140  
4) Chem. Ber. 90 (1957), 2203.

2 *Polianthes tuberosa* Linn

Local Name : a) Rajnigandha  
b) Gulcheri

Cultivated. The flowers of this plant are much prized for their fragrance. Bulbs are used in medicine.

References : 1) Ind. Perf. 16 (1972), 39.

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Amaranthaceae

1 *Achyranthes aspera* Linn

Local Name : Aghada.

NOTE : Widespread interest in compounds possessing moulting hormone activity was created by Nakanishi's Report of the isolation of plant ecdysones (Ponasterones). The genus 'achyranthes' is rich in such compounds.

Troublesome weed. Very useful as medicine in Ayurveda. The ash of the roots is a recognised remedy for bronchial affections amongst children. Very rich in potash.

Chemistry : Ecdysone (C<sub>27</sub> steroid); Ecdysterone, Achyranthes Saponin A, Achyranthes Saponin B, Cleanolic acid, Maslinic acid, Achyranthin, etc.

References: 1) Chem. Ber. 98 (1965), 2403; 2361; 2394.  
2) Phytochemistry 10 (1971), 2225;  
12 (1973), 214;  
9 (1970), 409, 1671.  
3) Science, 161 (1968), 1158.  
4) Ind. J. Med. Res. 60 (1972), 462.  
5) Chem. Pharm. Bull (Japan) 19 (1971), 438.

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
2	<i>Aerva lanata</i> (Linn) Juss <u>Local Name</u> : Pashanabheda	The name of the plant suggests that it must have been used for diuresis. Reference : 1) J. Res. Ind. Med. 1 (1967), 242.
3	<i>Amaranthus spinosus</i> Linn <u>Local Name</u> : Kante math Allied species of amaranthaceae: 1) <i>A. Sanguinolenta</i> (Linn) Blume (LC) 2) <i>Allmania nodiflora</i> (N.C.) 3) <i>Alternanthera sessilis</i> (N.C.) 4) <i>Amaranthus polygonoides</i> Linn (L.C.)	The plant has considerable food value. <u>Analysis</u> : Proteins 3%; Fat 0.3%; Carbohydrates 8.1% and Mineral matters 3.6% of which Fe is 22.9 mg/100 g. References: 1) J. Inst. Chem. 45 (1973), 205. 2) Ind. J. Biochem and Biophysics, 11 (1974), 71.
4	<i>A. tricolor</i> Linn <u>Local Name</u> : Kirai	This plant is useful for haemorage from the bowels. It is used in ulcerated conditions of throat and mouth. References : 1) Curr. Sci. 42 (1973), 317. 2) C.A. 79:135506 W.
5	<i>A. Viridis</i> Linn <u>Local Name</u> : Lhanamat	The leaves are useful in scorpion and snake bite. <u>References</u> : C.A. 80:80153 <sup>S</sup>
6	<i>Celosia argentea</i> Linn (Quail grass) <u>Local Name</u> : Kurdu	The seeds are useful in diarrhoea, blood diseases, mouth sores, for clearing vision and some minor ailments of the eye. Leaves used as spinach. References : 1) Nature (New Biol) 243 (1973), 224. 2) Phytochemistry 12 (1973), 2163.

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| 7 | <p><i>C. Cristata</i> Linn</p> <p><u>Local Name</u> : Mayurshika</p> <p><u>Allied species</u> :</p> <p>1) <i>Gomphrena celosioides</i> Mart (C)</p> <p>2) <i>G. globosa</i> Linn (Cul.)</p> <p>3) <i>Nothosaelva brachiata</i> (Linn)<br/>wt. (N.C.)</p> <p>4) <i>Pupalia lappacea</i> (Linn)<br/>Juss (L.C.)</p> | <p>It yields a strong flexible fibre, superior to Jute fibre. The flowers are useful in excessive menstrual discharges.</p> <p><u>Chemistry</u> : The seeds yield celosia oil (8.0%).</p> <p><u>References</u>: 1) <i>Phytochemistry</i>, 3 (1964), 547.<br/>2) <i>J. Am. Soc. Hort. Sci.</i> 97 (1972), 341.<br/>3) <i>Phytochemistry</i>, 13 (1974), 947;<br/>12 (1973), 2163.<br/>4) <i>Nature (New Biol)</i> 243 (1973), 224.</p> |
| 8 | <p><i>Digera muricata</i> Linn</p> <p><u>Local Name</u> : Gitana</p>  | <p>The flowers and seeds are reported to be given in urinary discharges.</p>  |

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Annonaceae

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| 1 | <p><i>Annona squamosa</i></p> <p><u>Local Name</u> : Sitaphal</p> | <p>Cultivated. All parts of the plant have medicinal value.</p> <p><u>Chemistry</u> : The aporphine alkaloids : (1) (-) Anonaine (2) Michelalbine (3) Liriodenine (4) L (+) Reticuline (5) Anolobine (6) Squamolone. These compounds have been isolated from roots. The edible portion of fruit consists of :<br/>Total solids : 26.54%<br/>Protein : 2.35<br/>Total sugars : 17.08</p> <p><u>References</u>: 1) <i>J. Chinese Chem. Soc.</i> 19 (1972), 149.<br/>2) <i>J.C.S.</i> 2423 (1965).<br/>3) <i>J. Pharm. Soc. (Japan)</i>, 85 (1965), 77<br/>4) <i>C.A.</i> 78:16151 W (1973)<br/>5) <i>C.A.</i> 74:121337 b (1971)<br/>6) <i>Chem. Ber.</i> 106 (1973), 841.<br/>7) <i>Phytochemistry</i>, 11 (1972), 1819.</p> |
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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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2	<i>Polyalthia longifolia</i> <u>Local Name</u> : Ashopalo	Cultivated. It is a garden plant. Reference : Ind. J. Pharm. 35 (1973), 118.
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Apocynaceae

1	<i>Holarrhena antidysenterica</i> (Linn) Wall <u>Local Name</u> : Kura, kurchi	The bark of the shrub is used in the treatment of amoebic dysentery. <u>Chemistry</u> : The principle alkaloid of kurchi is conessine. Conessine and related alkaloids possess amoebicidal properties related to emetine. These alkaloids are divided into three groups: 1) Oxygen free kurchi alkaloids. 2) Oxygen containing alkamines and alkamine esters. 3) Amino-glyco-steroids. <u>References</u> : 1) Prelog, V. et al The Alkaloids, 3 (1953), 247; 7 (1960), 343. (Academic Press) 2) Bentley, K.D., The Alkaloids, 7 (1965), 98. (Interscience) 3) Gautarel, R. (Ed. Saxton) The Alkaloids I (1969), 382; Chem.Soc. (London) 4) Gautarel, R. et al (Ed. Saxton) The Alkaloids, 3 (1971), 259; Chem. Soc. (London) 4 (1972), 346.
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2	<i>Ichnocarpus frutescens</i> R. Br. (Indian Sarsaparilla) <u>Local Name</u> : Dudhbel	The decoction of the bark is useful in piles. The roots of the plant have properties similar to <i>Hemidiscus indicus</i> and used as a substitute for sarsaparilla. <u>Chemistry</u> : Only $\beta$ -sitosterol reported so far. <u>Reference</u> : Ind. J. Applied Chem. 23 (1960), 111-2.
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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
3	<p>Nerium indicum Mill (Syn. N. Odorum Soland)</p> <p><u>Local Name</u> : Kanhera</p>	<p>It is used medicinally. It is a garden plant. There are two varieties (white and Pink flowered). Properties identical. All parts are poisonous. Root and its bark are powerful diuretic and cardiac stimulant like stroshanthus and digitabine.</p> <p><u>Chemistry</u> : The leaves of the plant are known to contain many cardio active glycosides.</p> <ol style="list-style-type: none"> <li>1) Neridienone A</li> <li>2) Pregnenolone glycosides.</li> <li>3) 16-dehydroadynenerigenin glycosides, viz. <math>\alpha</math>-D-Diginoside and <math>\beta</math>-D-digitaloside.</li> <li>4) Plumericin</li> <li>5) 16-Acetylgitoxigenin (Toxic Principle)</li> <li>6) Oleandrigenin (7) Adynerin</li> <li>8) Odoroside (9) Scopoletin (10) Scopolin</li> <li>11) Neriodrin (12) Crystallizate</li> <li>13) Foliandrine, etc.</li> </ol> <p><u>References</u>: 1) Ind. J. chem. 11 (1973), 296.  2) J. Ind. Acad. Forensic Sci. 11 (1972), 48-9.  3) Phytochemistry 11 (1972), 1852.  4) Helv. Chim. Acta, 46 (1963), 374.  5) J. Pharm. Sci. (U.S.A.) 11 (1970), 193.  6) Naturwissenschaften 51 (1964), 139.</p>
4	<p>Rauwolfia serpentina (Linn) Benth ex Kurz</p> <p><u>Local Name</u> : Harkai/Chandra</p>	<p>It is a hypotensive drug. Its reserpine content (0.1%) is much less than that of R. Vomitoria which is the most useful species at present.</p> <p><u>Chemistry</u> : 1) Ajmalicine (2) Ajmaline (3) Reserpine  4) Serpentine, etc.</p> <p><u>References</u>: 1) Rauwolfia Alkaloids, Ed.: R.A. Lucas "Progress in medicinal Chemistry, p.146 (1963) (Butterworths).  2) Indol Alkaloide; Ed.: M. Hesse (Springer-Verlag, Berlin.)</p>

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5	<p><i>Catharanthus roseus</i> G. Don</p> <p><u>Local Name</u> : Sadaphuli (Barmasi)</p> <p><u>Allied species</u> :</p> <p><i>C. pusillus</i> (Murr) N.C.</p>	<p><i>Vinca rosea</i> has gained considerable importance due to the discovery of its anticancer property. There are about 60 indole alkaloids present in this plant, of which Vincristine and Vinblastine are most active. This Plant is exported.</p> <p>References: 1) <i>Ind. J. Pharm.</i> 33 (1971), 126. 2) <i>Indol Alkaloide</i>; Ed. : M. Hesse (Springer-Verlag, Berlin).</p>
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Less common species of 'Apocynaceae' available in Chandrapur.

1) <i>Plumeria acuminata</i> Lit (N.C.)	<p>Ref. : 1) <i>J. Pharm. &amp; Pharma.</i>, 14 (1962), 41. 2) <i>Proc. Acad. Sci. India</i>, 57 (1963), 115 3) <i>Curr. Sci.</i>, 37 (1968), 345. 4) <i>Ind. J. Appld. Chem.</i>, 34 (1971), 157.</p>
2) <i>Tabernaemontana divaricata</i> (Linn) N.C.	
3) <i>Thivetia peruviana</i> (Pers) K. Schum	
4) <i>T. Nerifolia</i> Juss	
5) <i>Wrightia tinctoria</i> R. Br. (Kalakuda)	
6) <i>W. tomentosa</i> Roem and Schult	

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Aristolochiaceae

1	<p><i>Aristolochia indica</i> Linn</p> <p><u>Local Name</u> : Sapasan</p>	<p>It has got reproducible tumor inhibiting property against the adenocarcinoma 755 test system. Aristolochic acid is characterised as the principle tumor inhibitory principle. The other derivatives are; 1) Aristolochic acid-D; (2) Aristolochic acid-D-methyl ether lactam; 3) Aristololactam-<math>\beta</math>-D-glucoside (Kupchan, Govindachari and others).</p> <p>References: 1) <i>J. Org. chem.</i> 33 (1968), 3735. 2) <i>Tetrahedron</i>, 26 (1970) 615, 2371. 3) <i>Ind. J. chem.</i> 8 (1970), 851; 9 (1971), 1310; 5 (1967), 655.</p>
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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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Braceae

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| <p>1 Pistia stratiotes Linn<br/><u>Local Name</u> : Prashni</p> | <p>The decoction or infusion of the plant is given in dysuria. It is toxic to bugs. It is reported to be useful in chronic skin diseases.</p> <p><u>References</u> : 1) J. Pharm. Soc. Japan, 64, No.11<sup>A</sup> 55 (1944)<br/>2) Proc. Ind. Acad. Sci., Sec. B, 75 (1), 15 (1972).</p> |
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Asclepiadaceae

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| <p>1 Calotropis procera (Ait) R.Br.<br/><u>Local Name</u> : Mandar<br/><u>Allied species</u> :<br/>Calotropis gigantea R. Br.<br/>(Local Name : Rui)</p> | <p>Warm leaves are bandaged to painful, rheumatic joints swellings, etc. The root bark is a valuable remedy in skin diseases. The fibre of the species are used for fishing nets, bow string and their floss for stuffing mattresses and pillows. The root bark is a valuable remedy in skin diseases.</p> <p><u>Chemistry</u> : 1) Uscharidin (C<sub>29</sub>H<sub>38</sub>O<sub>9</sub>); 2) Uscharin<br/>3) Voruscharin (C<sub>31</sub>H<sub>43</sub>O<sub>8</sub>NS); (C<sub>31</sub>H<sub>41</sub>O<sub>8</sub>NS)<br/>4) Calotoxin (C<sub>29</sub>H<sub>40</sub>O<sub>10</sub>); (5) Proceroside<br/>6) Calactin (C<sub>29</sub>H<sub>40</sub>O<sub>9</sub>); (C<sub>29</sub>H<sub>40</sub>O<sub>10</sub>)<br/>7) Calotropin (isomer), etc. These 1 to 7 - Cardiac glycosides from leaves.<br/>8) Digitanols : Ia, Ib, Ic &amp; Id (These are C<sub>21</sub>-steroid glycosides isolated from root bark).<br/>9) Mudarine (Active principle).</p> |
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References: 1) Helv. chim. Acta, 52 (1969), 2276;  
46 (1963), 694.  
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**Sl. No. Botanical Name/Local Name Medicinal and/or Economic uses and Chemistry/ Selected References**  
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1	<p><i>Calotropis</i> .....</p> <p>(S. I) Y. ...</p> <p>(S. I) Y. ...</p> <p>(S. I) Y. ...</p> <p>(S. I) Y. ...</p> <p>(S. I) Y. ...</p> <p>(S. I) Y. ...</p> <p>(S. I) Y. ...</p>	<p>2) Tetrahedron Letters, (1963), 63-7.          3) Aust. J. chem. 21 (1968), 1625          4) Naturwissenschaften, 51 (1964), 109;              50 (1963), 734.          5) Liebigs Ann., 59 (1957), 603.          6) Curr. Sci. 41 (1972), 302.          7) Ind. J. Expt. Biol., 11 (1973), 258, 591.          8) Experientia, 30 (1974), 495.</p>
2	<p><i>Cryptolepis buchanani</i> Roem &amp; Schult</p> <p><u>Local Name</u> : Karanta</p>	<p>The leaves are tonic. The plant yields latex and a fibre useful for cordage and some kind of cloth. Some preparation of the plant is given to children suffering from rickets.</p> <p><u>References</u>: 1) C.A. 46:11674<sup>B</sup>          2) J. Res. Ind. Med. 9, 159 (1971).</p>
3	<p><i>Dregea Volubilis</i> (Linn) Benth</p> <p><u>Local Name</u> : Dodhi</p>	<p>The Asclepiadacea species are known for their active cardiac glycosides. The leaves of this plant are used in boils, and abscesses. The plant promotes sneezing. It is useful in snake bite. D.Volubilis is a good source of interesting plant glycosides. Total of fifteen compounds have been identified.</p> <p><u>Chemistry</u> : 1) Drevogenin A (C<sub>28</sub>H<sub>42</sub>O<sub>7</sub>); (2) Drevogenin B (C<sub>23</sub>H<sub>34</sub>O<sub>6</sub>)          3) Drevogenin P (C<sub>21</sub>H<sub>32</sub>O<sub>5</sub>);          4) Drevogenin D (C<sub>21</sub>H<sub>34</sub>O<sub>5</sub>)          5) Isodrevogenin P          6) D-cymarose          7) Oleandrose, pachybirose, digitoxose, etc.</p> <p><u>References</u>: 1) Helv. chim. Acta. 49 (1966), 1625;              48 (1965), 857.          2) Chem. Pharm. Bull., 17 (1969), 2629.</p>

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemical Selected References
4	Hemidesmus indicus R. Br. (Indian sarsaparilla) <u>Local Name</u> : Anentmula Upalsari	The roots are medicinal chemical constituent i) Rutin (ii) Lupeol (iii) $\alpha$ -amyrin acet iv) $\beta$ -amyrin, and (v) Sitosterol. <u>References</u> : 1) Phytochemistry, 7 (1968), 170 12 (1973), 217 2) J. Ind. Chem. Soc. 32 (1955); 3) Ind. J. Pharm. 27 (1965), 35; 26 (1964), 81. 4) Ind. J. Physiol & Pharm. 6 (1
5	Holostemma annularis K. Schum (The roots contain reducing sugars (24%) ). <u>Local Name</u> : Dudurli	The roots are reported to have medicinal pro diabetes, gonorr, cough and for some stomach ch The plant exudes latex. The bark fibre is cordage and fibre. <u>Reference</u> : 1) Bull. CRI. Uni. Travancore, 2 (1951), 27-32.
6	Oxystelma esculentum R. Br. <u>Local Name</u> : Dudhika	Considered to be specific for Jaundice.
7	Pergularia daemia (Forsk) <u>Local Name</u> : Utarni	The plant extract is used for uterine and r troubles. It has a stimulating action on r other involuntary muscles. <u>Reference</u> : 1) C.A. 83:202574 <sup>g</sup>
8	Sarcostemma acidum (Roxb) Voigt (Well known in ancient literature) <u>Local Name</u> : Somlata Somawalli	The plant gives bitter taste. It is used white ants from the sugar cane fields. It milky-sap. <u>Chemistry</u> : The stalks contain malic acid, sugar, traces of tannin and ar <u>References</u> : 1) Ind. J. chem. 1 (1963), 501 2) C.A. 31:1459 <sup>b</sup>

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 Sl. No. Botanical Name/Local Name Medicinal and/or Economic uses and Chemistry/  
 Selected References  
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9 Tylophora fasciculata Ham  
Local Name : Bhuidari  
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The juice of its roots given with milk as tonic. Leaves used for unhealthy ulcers, and wounds. It is used to destroy rats and vermin. It is said to contain very active alkaloids.

Reference : C.A. 83:152249<sup>5</sup>

10 Gymnema sylvestre R Br  
Local Name : Kavali

The leaves cause hypoglycaemia and stimulate heart and circulatory system, activate uterus and increase urination. The leaves cause tastelessness for sugars.

Chemistry : 1) Gumnemic acid  
 2) (+) quercitol, Lupeol, *R*-amyrin  
 3) Stigmasterol, etc.  
 4) Saponins.

References: 1) Bull. Calcutta Sch. Tros. Med. 14, 126 (1966).  
 2) J. Ind. chem. Soc. 35 (1958), 650.

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Asteraceae

Family : "Compositae"

1 Ageratum conyzoides Linn  
Local Name : Osari

The leaves are applied as an antiseptic on wounds. They smell of eugenol. This is the weed from which Bower's chromones have been isolated.

Chemistry : 1) 7-Meo-2,2-dimethylchromene  
 2) Triterpenoid (3) Steroids (Stigma & Sitosterols)  
 4) Friedelin (5) KCl.

References: 1) Phytochemistry 10 (1971), 899  
 2) Ind. J. Chem. 12 (1974), 1123.  
 3) Ind. For. 99 (1973), 786.  
 4) Flavour Ind. 4 (1973), 77.  
 5) Ind. J. chem. 11 (1973), 91; 12(1974), 1123.

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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|---|--|--|
| 2 | <p>Blumea lacera DC<br/>(Camphor tree)</p> <p><u>Local Name</u> : Nimrudi</p>                      | <p>The herb gives essential oil (0.085%) containing Blumea camphor. The roots are used in cholera.</p> <p><u>Chemistry</u> : 1) Coniferyl alcholdiester<br/>2) Campesterol and small amounts of acetylene compounds.</p> <p><u>References</u>: 1) Tetrahedron Letters, 2 (1969), 69.<br/>2) J. Ind. chem. Soc. 24 (1947), 358;<br/>27 (1950), 25<br/>3) Phytochemistry, 11 (1972), 1855.<br/>4) Ind. J. Pharm. 37 (1975), 175.</p> |
| 3 | <p>Eclipta prostrata Linn<br/>(Syn. E. Alba Hassk)</p> <p><u>Local Name</u> : Bhangra<br/>Maka</p> | <p>Whole plant is tonic. It is good for liver and useful for spleen enlargements and Jaundice.</p> <p><u>References</u>: 1) Tetrahedron Letters, 35 (1966), 4227<br/>2) Ind. J. chem. 10 (1972), 810.</p>  |
| 4 | <p>Echinops echinatus Roxb</p> <p><u>Local Name</u> : Utanti<br/>Bramadandi</p>                    | <p>The plant, bitter in taste possesses medicinal properties and its root powder is applied on wounds of cattle to destroy maggots.</p> <p><u>Chemistry</u> : 1) Echinopsine (from the seeds)<br/>2) <del>Z</del>-Amyrin</p> <p><u>References</u> : 1) J. Ind. chem. Soc. 45 (1968), 697.</p>  |
| 5 | <p>Elephantopus scaber Linn</p> <p><u>Local Name</u> : Hastipata</p>                               | <p>It is a cardiac tonic and well-known in Ayurveda. Kupchan has studied this plant in detail. He has established that elephantin, elephantopin and their derivatives are tumour inhibitory sesquiterpene dilactones. Govindachari, et.al. have isolated a few germacranodioides from this source.</p>   |

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 Sl. Botanical Name/Local Name Medicinal and/or Economic uses and Chemistry/  
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- 5 *Elephantopus* ..... **Chemistry** : 1) Elephantopin 2) Deoxyelephantopin  
 3) Isodeoxyelephantopin 4) Lupeol & its acetate  
 5) Luteolin-7-glucoside 6) Epifriedelinol  
 7) Stigmasterol 8) KCl  
 9) Triacontan-1-ol, etc.  
**References** : 1) Tetrahedron Letters 33 (1970), 2863  
 2) Ind. J. chem. 10 (1972), 272;  
 7 (1969), 308;  
 9 (1971), 611;  
 1 (1963), 320;  
 8 (1970), 762.  
 3) Phytochemistry, 8 (1969), 933.
- 6 *Emilia Sonchifolia* DC. The juice of the plant is useful in night  
 blindness.  
Local Name : Sadamandi
- 7 *Vermonia anthelmintica* Willd. The achenes (traits) are credited with anthelmintic  
 properties and it is effective against thread worms,  
 but not against hook worms.  
Local Name : Kalenjiri  
 Sahadevi  
**Chemistry** : The seed oil of this plant is noteworthy for  
 the large amount of the main sterol 7,(Z)-  
 -24(28)-stigmadienol. In view of the current  
 biochemical interest in the introduction of  
 double bonds into the side chain of phyto-  
 sterols, the high percentage (70%) and ready  
 isolation of this sterol from this source  
 deserves emphasis.  
**References**: 1) Tetrahedron Letters (1968), 3779-82.  
 2) Ind. J. Pharm. 5 (1943), 61.  
 3) J.A. Oil C.S., 39 (1962), 334.  
 4) *ibid*, 41(1964), 134. (5) *ibid*, 42(1965), 165.  
 6) *ibid*, 46(1969), 108. (7) Lipids, 4(1969), 50.  
 8) Chem. & Ind. (1962), 2038.



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Anacardiaceae

- |   |   |  |
|---|---|--|
| 1 | <p><i>Anacardium occidentale</i> Linn<br/> <u>Local Name</u> : Kaju</p>               | <p>C.N.S.L. is commercially very useful. It is exported. The structure of its gum has been investigated.</p> <p><u>Chemical constituents</u> of CNSL - 1) Anacardic acid<br/> 2) Anacardol, etc.</p> <p><u>References:</u> 1) Sci. &amp; Cult. 32 (1966), 134.<br/> 2) Phytochemistry, 8 (1969), 673.<br/> 3) Curr. Sci. 38 (1969), 494.<br/> 4) Indian J. Biochem. 7 (1970), 68-72.<br/> 5) J. Indian Chem. Soc. 48 (1971), 977.<br/> 6) Ind. J. chem. 11 (1973), 996.<br/> 7) Paint india, 25 (1975), 12-14.</p> |
| 2 | <p><i>Buchanania lanzan</i> Spreng<br/> <u>Local Name</u> : Charoli<br/> Chironji</p> | <p>The oil is used as a substitute for almond oil. The stems yield a pellucid gum, resembling Bassora gum.</p> <p><u>References:</u> 1) Ind. J. Pharm. 36 (1974), 164;<br/> 37 (1975), 171.<br/> 2) J. Ind. chem. Soc. (1941), 557.</p>  |
| 3 | <p><i>Lannea coromandelica</i> (Houtt)<br/> <u>Local Name</u> : Moi</p>               | <p>The gum is given in asthma and as a cordial to women during lactation. The bark is reported to be used in gaut.</p> <p><u>Chemistry</u> : 1) Quercetin-3-arabinoside (2) Ellagic acid<br/> 3) Sitosterol; Phycion (4) Leucocyanidin<br/> 5) Water soluble gum (Polysaccharide)</p> <p><u>References:</u> 1) Phytochemistry, 11 (1972), 733<br/> 7 (1968), 2057<br/> 2) Carbohyd. Res. 26 (1973), 105<br/> 3) Curr. Sci. (India) 32 (1963), 115.<br/> 4) Phytochemistry 10 (1971), 1939.</p>                     |

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry	Selected References
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4 *Semecarpus anacardium* Linn  
Local Name : Biba

The oil of biba has got many medicinal uses, for example, in cuts, for removing thorns, in rheumatism, leprosy, leprous nodules, etc. The gum from bark is used in Venereal diseases. Recently, it is proved that bhilawan oil has got anti-cancer property. It is used for centuries to cure rheumatism and skin orders.

Chemistry : 1) Anacardic acid (2) Catechol  
 3) Anacardol (4) Bhilawanol; etc.  
 All these isolated from bhilawan-nut shell liquid.

References: 1) *Phytochemistry*, 12 (1973), 671;  
 13 (1974), 513.  
 2) *Ind. J. chem.* 9 (1971), 1044.  
 3) *Ind. J. Pharm.* 31 (1969), 104.  
 4) *Ind. J. Appld. chem.* 27 (1964), 93.  
 5) *J. Oil Tech. Asso. India*, 18 (1963), 374.  
 6) *Curr. Sci.*, 39 (1970), 207.  
 7) *J. Res. Ind. Med.*, 2 (1968), 239;  
 5 (1970), 1-8.  
 8) *Chemical Weekly*, 19 (1977), 85.

The following species are also available in Chandrapur

N.O. Adiantaceae

- a) *Adiantum incisum* Forks
- b) *A. philippense*
- c) *Alenritopteris albo-marginata* (Clarke)
- d) *Cerotropteris Thalictroides*

N.O. Agavaceae : *Agave cantula* Roxb

N.O. Alismataceae : *Limnophyton obtusifolium* (Linn)

N.O. Aponogetonaceae

- a) *Aponogeton natans* (Linn)

N.O. Apiaceae

- a) *Seseli diffusum* (Roxb ex. Sm.)

N.O. Araceae

- a) *Pistia stratiotes* Linn

N.O. Vitaceae : *Ampelocissus latifolia* (Roxb) Plench; L/Name : Golinda.

N.O. Aizoaceae : *Glinus lotoides* (Linn); Kuntze

N.O. Moraceae

- a) *Ficus racemosa* (Umbar)
- b) *F. religiosa* (Pipal)

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Bombaceae

1 Bombax ceiba Linn  
(Syn.: Salmalia malabarica)  
Local Name : Sembal

The tree exudes a gum like substance called "Mochrus" frequently seen in market. It contains large proportion of tannic acid. The bark yields good fibre suitable for cordage. The seeds yield silk-cotton called simal-cotton. The bark of the root is supposed to increase vitality and check blood dysentery.

Chemistry : Roots show the presence of glycosides and tannins plus proteins. The stem give positive test for alkaloids. Lupeol and  $\xi$ -sitosterol have been isolated from root bark including three naphthalene derivatives related to gossypol. Components of flowers also have been studied.

- References: 1) J. Ind. chem. Soc. 48 (1971), 769.  
2) Curr. Sci. 40 (1971), 630.  
3) Ind. J. chem. 11 (1973), 825.  
4) J. Pharm. Sci. 61 (1972), 807.  
5) J. Ind. chem. Soc. 40 (1963), 257.  
6) Sci. & Cult. 31 (1965), 189.

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Balsaminaceae

1 Impatiens balsamina Linn  
Local Name : Terada

The seeds of garden balsam are edible. They contain green viscous edible oil (27%). The flowers possess marked antibiotic activity against Sclerotinia, fructicola, and other pathogenic fungi and bacteria. Active principle is identified as 2-methoxy-1-4-naphthoquinone.

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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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1 Impatiens .....

Chemistry : of non-sap. matter of the oil -

- 1)  $\beta$ -amyrin (2)  $\gamma$ -spinasterol  
 3) Balsaminasterol

References: 1) Phytochemistry, 8 (1969), 2311  
 9 (1970), 1751

2) Can. J. Bio. chem. 44 (1966), 1339  
 43 (1965), 293.

3) Sci. & Cult. 21 (1956), 616.

4) C.A. 80: 92362<sup>x</sup>  
 81: 148541<sup>v</sup>  
 82: 28638<sup>i</sup>  
 77: 74177<sup>z</sup>  
 77: 2911<sup>m</sup>

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Burseraceae

1 Boswellia serrata Roxb

Note : The cellulose content of salai wood is 51.93%.

Local Name : Salai

The tree exudes an oleoresin known as Indian Olibanum. This is sometimes called gugul, a term which is commonly used for resin from commiphora mukul (Family : Burseraceae). It is very common in Chandrapur. It is used externally as an ointment. The alcohol extract of the root has been proved to have anti-cancer activity and CNS depressant activity. The gum resin exhibits marked sedative and analgic effects.

References: 1) Ind. J. Exptl. Biol. 6 (1968), 232.  
 2) Planta Medica, 19 (1971), 333.  
 3) Perfum. Essen. Oil Recd., 54 (1963), 740.  
 4) Ind. Pulp. 10 (1955), 57; 9 (1954), 133,  
 11 (1956), 196; 14 (1960), 545,  
 21 (1967), 557.  
 5) Ind. J. Pharm., 36 (1974), 46.  
 6) Ind. Forest Records, Entomol, 9 (1960), 215.

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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
1	Boswellia .....	<u>References:</u> 7) Ind. J. Pharm. 32 (1970), 48. 8) Life Sci., 8 (1969), 1023-8. 9) Curr. Sci. 36 (1967), 668.
2	Garuga pinnata Roxb <u>Local Name:</u> Kharpat Kakad	The drupes possess digestive property. Its juice is used in conjunctivitis. It yields greenish yellow gum of no economic value.  <u>References:</u> 1) Indian Forests, 77 (1951), 568. 2) C.A. 47: 8365 <sup>g</sup>

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Boraginaceae

1	Cordia dichotoma Forst (Syn. C. myxa Linn) <u>Local Name:</u> Shelvant	Fruits are called 'Sebastian'. They have medicinal value. Glue can be prepared from mucilaginous pulp. Bark yields fibre.  <u>Chemistry:</u> The fatty acid composition of the fixed oil from the seeds has been analysed.  <u>Reference:</u> 1) Planta Med., 15 (1967), 240.
2	Heliotropium indicum Linn ) <u>Allied species:</u> ) a) H. ovalifolium Frosk ) b) H. strigosum Willd ) (Sitachekes) ) <u>Local Name:</u> Bhurundi	These plants have medicinal property to cure syphilitic ulcers. Some of these species contain pyrrolizidine alkaloids.  <u>References:</u> 1) Curr. Sci. 35 (1966), 121 2) Ind. J. Pharm. 36 (1974), 163. 3) Ind. J. chem., 13 (1975), 505.

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3 *Rotula aquatica* Lour  
Local Name : Pashanabheda  
 There are a few more species designated as 'Pashanabheda' in Sanskrit :  
 a) *Bergenia ligulata*  
 b) *B. ciliata*  
 c) *B. stracheyi*  
 d) *Coleus aromaticus*  
 e) *Nothosaera brachiata*  
 f) *Vergenia legulata*.

It is used in piles, for diluting bladder stone and in vinereal diseases. These medicines are used for the purpose of diuresis. In some cases, significant results are obtained.

References: 1) *Quart. J. Crude Drug Res.*, 12 (1972), 182.  
 2) *Ind. J. chem.* 12 (1974), 1038-9.  
 3) *Ind. J. Pharm.* 37 (1975), 172.  
 4) *J. Res. Ind. Med.*, 9 (1974), 1-3.  
 5) *Ind. J. Physiol. & Pharm.* 15 (1971), 63.  
 6) *Ind. J. Pharm.* 33 (1971), 126.

4 *Trichodesma indicum* R. Br.  
Local Name : Lahana-Kalpa

There is no definite evidence of its utility.

References: 1) *Ind. J. Pharm.* 33 (1971), 96.  
 2) *Curr. Sci.* 37 (1968), 465.

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Bignoniaceae

1 *Dolichandrone falcata* Seem  
Local Name : Medasingi  
 Mersingi

It is said to be medicinal. The bark is used as a fish poison. Dried leaves give Luteolin, chrysin, and its derivatives.

References: 1) *Phytochemistry*, 11 (1972), 96.  
 2) *C.A.* 51: 382f  
 52: 3332e

2 *Kigelia pinnata* DC

Chemical constituents : 1) Ferulic acid from bark  
 2) Stigmasterol  
 3)  $\beta$ -sitosterol  
 4) Lapachol  
 5) 6-Methoxy mellein and a few more phenolic compounds. .../contd.

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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
2	Kigelia .....	<p><u>References:</u> 1) Ind. J. chem., 9 (1971), 611  2) Phytochemistry, 10 (1971), 1603.  3) Ind. J. chem., 7 (1969), 308.  4) C.A. 82: 90065<sup>v</sup></p>
3	<p>Stereospermum Suaveolens (Roxb)DC  <u>Local Name</u> : Pandri</p>	<p>Root is used in asthma. The bark yields gum. The flowers are used to check hiccup. The root bark is one of the ingredients in Dasamula quath.</p> <p><u>Chemistry</u> : The leaves are rich in Flavonoides (Squaveolens)</p> <p><u>References:</u> 1) Curr. Sci. 41 (1972), 102.  2) Cancer Res., 28 (1968), 1952.  3) C.A. 70:10205<sup>e</sup>  4) Indian Pulp, 21 (1967), 567;  C.A. 67:55240<sup>s</sup>  5) Ind. Oil Soap, 34 (1968), 103-6.  6) Proc. Natn. Acad. Sci., 39 (1969), 1-2.</p>

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Barringtoniaceae

1	<p>Barringtonia acutangula Gaertn  <u>Local Name</u> : Piwar</p>	<p>The tender leaves are edible. Root, bark and seeds are fish poison. The powdered seeds are given to children as an expectorant and emetic. It has got some properties similar to Cinchona. It has got CNS depressant activity.</p> <p><u>Chemistry</u> : 1) Barringtonic acid  2) Barringtogenol-C (Saponin)  3) Barringtogenol-E (Saponin)  Sugar moiety : Arabinose  4) Barringtogenol-D  5) Tanginol</p>
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 Sl. Botanical Name/Local Name Medicinal and/or Economic uses and Chemistry/  
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1 Barringtonia .....  
References: 1) Sci. & Cult., 22 (1957), 516  
 2) J. Pharm. Sci., 50 (1961), 937.  
 3) Experientia 18 (1962), 66.  
 4) Ind. J. chem., 1 (1963), 322.  
 5) J. Ind. chem. Soc., 40 (1963), 483.  
 6) Tetrahedron 19 (1963), 1727.  
 7) Trans. Bose. Res. Inst., 3 (1967), 45.  
 8) Sci. & Cult., 34 (1968), 259-60.

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Capparidaceae

1 Capperis zeylanica Linn  
Local Name : Govindi  
 The root bark is bitter; sedative, stomachic, cholagogue,  
 and used in cholera. Pharmacognostical studies have  
 been carried out on this species.

Allied species :

- a) C.Decidua Edgew - Nepati
- b) C.mooni Wight - Rudanti
- c) C.Sepiaria Linn - Kanthar
- d) C.Grandis Linn -

Reference : 1) Ind. J. Pharm. 21 (1959), 305;  
 24 (1961), 116.

2 Crataeva religiosa Hook.  
Local Name : Vayavarua  
 Haravarua  
 The bark contains tannins and saponins. It is bitter,  
 anti-periodic, tonic for liver. It is useful for  
 infections of the urinary passage.

Chemistry : Lupeol

References: 1) J. Sci. Ind. Res. 13B (1954), 773-5  
 2) Plant Physiol. 54 (1974), 569.  
 3) C.A. 79:123627Y  
 4) Bull. Cal. Sch. Trop. Med., 7 (1959), 105.  
 5) Bull. Ind. Med., 1973, p.72.

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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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Caryophyllaceae

- |   |  |   |
|---|--|---|
| 1 | Polycarpea corymbosa Lam<br><u>Local Name</u> : Bhiska | The paste of the leaves is applied externally to cure the boils. It is administered both internally and externally as a remedy for venomous bite of reptiles. |
|---|--|---|

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Caesalpiniaceae (a sub-family of Leguminosae)

An important source of Drugs (Ref : Ind. Drugs, 14 (1976), 53)

- |   |   |  |              |
|---|---|--|--------------|
| 1 | Bauhinia purpurea Linn<br><u>Local Name</u> : Deva<br><u>Allied species</u> :<br>a) B. recemosa Lam (Svetakanchan)<br>Ref : Curr. Sci. 45 (1976), 705.<br>b) B. Variegata Linn - (Thaur)<br>Ref : J. Oil Tech. Asso. India,<br>5 (1973), 71.<br>Ind. J. Pharm.<br>34 (1972), 170. | This plant yields gum (Sem-ki-gond). The bark is used for dyeing and tanning. Bark gives fibre. The plant has some medicinal property.<br><u>Chemistry</u> : The plant contains a trypsin and chromotrypsin inhibitor. Legumes in general form good sources of proteins in Indian dietary. These can be-come feed for animal nutrition. Isoquercitrin and astragalin (Kaemferol-3-glucoside) have been isolated from flowers.<br><u>References</u> : 1) Curr. Sci. 36 (1967), 574.<br>2) J. Sci. F.D. Agri. 20 (1969), 99. | 1<br>25<br>1 |
| 2 | Caesalpinia pulcherrima Swartz<br><u>Local Name</u> : Gulutora  | The bark is used an abortifacient. The leaves and bark are prescribed as tonic. A large number of gums of varying composition and varying degrees of structural complexity have been isolated from seeds of legumes.   |              |

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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry Selected References
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2 Caesalpinia .....

Chemistry : 1) Gallic acid from flowers.  
2) Tannins from fruits  
3) Gum from seeds (Galactomannan linkages)  
4) Red dye from flowers.

References: 1) Carboh. Res., 14 (1970), 151  
2) Qrt. J. Crude Drug. Res. 7 (1967), 964.  
3) J. Agr. Food. Chem. 10 (1962), 134.

3 Cassia absus Linn  
Local Name : Chaksie

The leaves are bitter and find use in cough symptoms.  
The seeds contain kernels used in skin affections. Gum is recovered from seeds.

Chemistry : 1) Chaksine (2) Isochaksine  
3)  $\beta$ -sitosterol 2% from 8.0% non-sap. matter.

References: 1) Chem. & Ind. 95 (1962)  
2) Sci. Res. 7 (1970), 63.  
3) Planta. Med. 21 (1972), 150.  
4) Proc. Nat. Acad. Sci. Sect. A  
40 (1970?) 338.  
5) Ind. J. chem. 9 (1971), 1085.  
11 (1973), 13.

4 C. auriculata Linn  
Local Name : Tarwad

The plant cures dysentary. The roots used in skin affections. The seeds have beneficial effect in ophthalmia and conjunctivitis, in diabetes, urinary affections.

Chemistry : 1) Kaemferol (2) Auricassidin  
3) Anthraquinone glycosides  
4) Diathrone glycosides

References: 1) J. Res. Ind. Med. 6 (1971), 216.  
2) Vij. Pari. Annun. Patrika, 15 (1972), 85.  
3) Ind. J. chem. 10 (1972), 956.  
4) Planta. Med. 23 (1973), 363.  
5) J. Chromt. 35 (1968), 562.  
6) Leather Sci. 13 (1966), 317.

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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- 5 *C. fistula* Linn  
Local Name : Amaltus  
(Garmala)
- Root, bark, seeds and leaves are laxative. Fruits are useful for rheumatism and snake-bite. Cassia pulp is laxative and useful for infants. Leucoanthocyanidins appear to be the main components present in the flowers of this species.
- Chemistry : 1) Kaemferol and Rhein glycosides in flowers.\*  
2) Fistuccacidin in bark  
3) Sennoside A. & B. from pods.  
4) Galacto mannan from seeds.  
\* - besides fistulin glycoside.
- References : 1) Ind. J. chem. 4 (1966), 460;  
10 (1972), 379.  
2) Ind. J. Pharm. 30 (1968), 8;  
31 (1969), 27.  
3) Lloydia, 25 (1962), 29.  
4) Planta. Med. 22 (1972), 71.  
5) Phytochemistry 9 (1970), 721.  
6) Leather Sci., 15 (1968), 171.  
7) J. Eco. Entomologist, 61 (1968), 986.
- 6 *C. Occidentalis* Linn  
Local Name : Kasoda
- The powdered leaves used externally to cure skin diseases. The leaves, roots and seeds are purgative. This plant can find use as green manure (very rich in potash).
- Chemistry : 1) Galactomannan from seeds.  
2) Sennosides from leaves.  
3) Physcion, emodin, physcion- $\beta$ -D-glucopyranoside from flowers; etc.
- References: 1) Ind. J. chem. 12 (1974), 1042; 11 (1973), 1134.  
2) Phytochemistry 10(1971), 670; 12(1973), 1186.  
3) J. chem. Soc. 9 (1970), 1285.  
4) Ind. J. Pharm. 28 (1966), 248.  
5) Tappi. 48 (1965), Pt.I, 625.  
6) Plant. Med. 23 (1973), 298, 78.

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
7	C. Siamea Lam <u>Local Name</u> : Kassod	<p>It is fatal to pigs. The plant can be used as a green manure. It is a potential source of tannins. This species is known for its various types of flavonoids and pigments.</p> <p><u>Chemistry</u> : 1) 5-Acetylmethyl-7(OH)-2(Me) chromone. 2) Barakol 3) Cassiamin A, B and C.</p> <p><u>References</u> : 1) Tetrahedron 27 (5), 1971. 2) Ind. J. chem. 9 (1971), 611. 3) J. chem. Soc. 12 (1970), 1686. 4) Ind. J. Appld. Chem. 31 (1968), 239. 5) J. Ind. chem. Soc. 43 (1966), 63. 6) Tetrahedron Letters 39 (1964), 3023. 7) J. Ind. chem. Soc. 41 (1964), 415.</p>
8	C. Tora Linn (Sicklepod) <u>Local Name</u> : Takla	<p>Powdered leaves are applied externally to cuts for healing. The seeds are used in ring worms and itch.</p> <p><u>Chemistry</u> : 1) Toralactone from seeds. 2) Polysaccharide from seeds. 3) 1,3,5-(Tri-OH)-6,7 (Di-MeO)-2-Me anthraquinone from roots. 4) Kubrofuserin-6-<math>\beta</math>-gentiobioside, and 5) Tetrachryson from seeds.</p> <p><u>References</u>: 1) J. Agri. Food. chem. 21 (1973), 222. 2) Planta Med. 21 (1972), 393. 3) J. Am. Oil Chem. Soc. 46 (1969), 47 4) Chem. Pharm. Bull (Tokyo), 17 (1969), 454. 5) Ind. J. Pharm. 31 (1969), 27 6) Ind. J. Chem. 12 (1974), 1251. 7) Curr. Sci. 44 (1975), 67.</p>

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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9 Delonix regia (Boj) Raf  
Local Name : Gulmohar

Cultivated. Flowers are used as anthelmintic. The seeds contain gum which may find use in food and textile industries.

Chemistry : 1) Cyanidin diglycoside in flowers  
 2) Lupeol and  $\beta$ -sitosterol, hentriacontanol in petroleum ether of flowers.  $\beta$ -D-glucoside, protocatechuic acid and quercetin in ether extract.  
 3)  $\Delta$  galactomannan from the seeds.

References: 1) Curr. Sci. 36 (1967), 365.  
 43 (1974), 213.  
 2) Phytochemistry, 7 (1968), 2061;  
 10 (1971), 1523  
 11 (1972), 1129  
 12 (1973), 617  
 3) Sci. & Cult. 35 (1969), 581.  
 4) J. Ind. chem. Soc. 45 (1968), 464.  
 5) Ind. J. Pharm. 33 (1971), 74.  
 6) C.A. 81:35562j; 78:121351j and 13768s

10 Tamarindus indicum Linn  
Local Name : Chinch

The juice extracted from the fruits is used for increasing digestion. They contain trace of oxalic acid.

References: 1) Sci. & Ind. (Karachi) 9 (1972), 131 ) Reviews  
 2) Ind. Gums 2nd Ed. (1973), 369 )  
 3) J. Res. Ind. Med. 6 (1971), 216.  
 4) Ind. P-ulp. Paper 25 (1970), 414  
 5) Sci. & Cult. 35 (1969), 581.  
 6) Ind. J. chem. 7 (1969), 123.  
 7) Carbohyd. Res. 4 (1967), 326.  
 8) Phytochemistry 5 (1966), 177.

Sl. Botanical Name/Local Name  
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Medicinal and/or Economic uses and chemistry  
Selected References

Casuarinaceae

1 Casuarina equisetifolia Linn  
Local Name : Suru

The bark contains 6-18% catechol. Useful for tannin industry. The tree yields resin. The needles have been employed for preparing active carbon.

Chemistry : 1) Kaemferol, quercetin, and (+) catechin have been identified in all the seven species of t this genus. Cupressuflavone hinokiflavone and ellagic acid also sometimes observed.

References: 1) J. Ind. chem. Soc. 47 (1970), 179-80.  
2) Ind. J. exptl. Biol. 5 (1967), 192.  
3) Indian Pulp Paper 20 (1965), 191, 93, 95 & 97.  
4) Leather Sci. 10 (1964), 555.  
5) Nature 179, 158 (1957).  
6) Phytochemistry, 10 (1971), 1083.

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Celastraceae

1 Celastrus paniculatus Willd  
Local Name : Malakangini  
Jyotishmati

Medicinal. The oil is rubefacient, seeds are stimulant and nervine tonic. It is claimed in Ayurveda that the oil stimulates intellect and sharpens memory.

Chemistry : Polyester from seed oil has been studied. It is a mixture of several esters of polyalcohols.

Polyalcohols : 1) Malkanguniol  
2) Polyalcohols - A, B, C & D  
Polyesters : 1) Malkangunin (2) Celapanin  
3) Celapanigin, etc.  
Acid moities : 1) Benzoic (2) Acetic  
3) ~~β~~-furanic (4) ~~β~~-Nicotinic  
Non-sap. matter : 1) Hydrocarbons (2) Sitosterols  
3) Myrins (4) Paniculatadiol.





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Sl. Botanical Name/Local Name  
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Cannabaceae

1 *Cannabis sativa* Linn  
Local Name : Bhang

All parts of the plant are intoxicating, stomachic, analgesic, stimulant, and sedative. It causes loss of memory.

Chemical constituents : 1) Cannabinol  
2) Tetrahydrocannabinol  
3) Cannabidiol  
4) Cannabidiolic acid  
5) Cannabigerol, etc.

References: 1) *Phytochemistry* 16 (1977), 719-21.  
2) *Ind. J. Pharm.* 36 (1974), 152-4  
30 (1968), 282  
31 (1969), 101.

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Cleomaceae

1 *Cleome viscosia* Linn  
Local Name : Kanfodi

The juice of the leaves is put in ears to relieve pain. It is useful in deafness. The seeds are used in expelling round-worms. The seeds are used internally in fever and diarrhoea.

Chemistry : The leaves give positive test for sterols, alkaloids and tannins. The seeds contain saponins.

References: 1) *Curr. Sci.* 34 (1965), 246.  
2) *J. Ind. Chem. Soc.* 15 (1938), 532.  
3) *C.A.* 33:2558g

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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
3	<p>Cleistanthus collinus Roxb  <u>Local Name</u> : Garari            Family : Euphorbiaceae</p>	<p>Bears green fruit. Bark and roots used as fish poison. Heart wood is extremely resistant to termites. Extract to leaves is reportedly used as an insecticide on rice crop.</p> <p><u>Chemistry</u> : Fruits : a) Sterol and Triterpenoids, tannins, etc.            b) Ellagic acid, some lactone (collinusin, C<sub>21</sub>H<sub>18</sub>O<sub>6</sub>).            Leaves : a) Diphyllin, C<sub>21</sub>H<sub>16</sub>O<sub>7</sub>            b) Cleistanthin (Toxic glycoside)</p> <p><u>References</u>: 1) Tetrahedron 25 (1969), 2815.            2) Curr. Sci., 34 (1965), 179.            3) Leather Sci. 12 (1965), 438.            4) Madras Clinical J., 32 (1965), 288.            5) Tetrahedron Letters 36 (1967 b), 3517            42 (1967 a), 4183.</p>
4	<p>Combretum decandrum, Roxb  <u>Local Name</u> : Punk</p>	<p>The leaves of the plant are used in West African countries in the treatment of bilious hematuric malarial fevers.</p>
5	<p>Delbergia paniculata  <u>Local Name</u> : Dhobin  <u>Allied species</u> :            D. latifolia (Shisham)</p>	<p>This species may be possessing similar pharmacological properties as other Dalbergia species.</p> <p><u>Chemistry</u> : Bark : Paniculatin, sissotrin, ononin, some minor isoflavonoid glycosides, Dalpanol, etc.</p> <p><u>References</u>: 1) Ind. J. Chem. 9 (1971), 14            11 (1973), 89.            2) Tetrahedron 28 (1972), 5377            3) Chem. Commun. 22 (1968), 1390.            4) Phytochemistry 10 (1971), 1863.            5) J. Chem. C (1971), 1, 29.</p>

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
6	Terminalia Arjuna W & A <u>Local Name</u> : Arjun	<p>It is one of the constituents of Dasamulaquath. It is a well known Ayurvedic tonic.</p> <p><u>Chemistry</u> : 1) Arjunine (2) Arjunetin 3) Arjunolic acid - Saponin Leucodelphinidin. 4) Friedelin.</p> <p><u>References</u>: 1) Proc. Natt. Acad. Sci. (India), 6(1936), 305. 2) J. Chem. Soc. 1954, 3995. 3) J. Ind. chem. Soc. 39 (1962), 89. 4) Ind. J. chem. 3 (1965), 237. 5) Sci. &amp; Res. (Dacca) 3 (1966), 157; 5 (1968), 188</p>
7	T. bellirica Roxb... <u>Local Name</u> : Behda  The fruit of this species is one of the ingredients of 'Triphala'.	<p>Fruit are used in Ayurveda as medicine for stomach and intestinal ailments. They are bitter, astrin, tonic and antipyretic. They contain tannins. The tree exudes gum which resembles gum arabic. The seed yields oil (30.44%).</p> <p><u>References</u>: 1) J. Am. Pharm. Assoc. 40 (1951), 475. 2) Nature 177 (1956), 747. 3) J. Sci. Ind. Res. (India), 21 C (1962), 103. 4) Ind. J. Pharm. 30 (1968), 232. 25 (1963), 297 27 (1965), 145. 5) J. Ind. Chem. Soc. 45 (1968), 913. 6) Ind. J. chem. 8 (1970), 1047. 7) Sci. &amp; Cult. 31 (1965), 425.</p>
8	T. Catappa Linn <u>Local Name</u> : Jangli badam	<p>The tree yields a gum (Indian almond gum). The kernels yield a valuable oil. The astrigent bark may be useful as medicine.</p> <p><u>References</u>: 1) Indian Chem. Soc., Ind. &amp; News Ed. 16(1953), 127 2) Leather Sci. (Madras), 13 (1966), 298. 3) Indian Oil soap J. 33 (1968), 271.</p>

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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9 *T. chebula* Retz  
Local Name : Hirda

The tree yields a gum. Fruit well known in Ayurveda. It is astringent, laxative, used externally for chronic ulcers and wounds. It is useful in dentifrice, carious teeth, bleeding gums and ulcerations of the mouth. Fruits have purgative activity.

Chemistry : 1) Tannins, tannic acid, etc.  
 2) Chebulinic and gallic acids.  
 The fruit of this species is one of the ingredients of 'Triphala'.

References: 1) Bangla Desh J. Biol. Agr. Sci. 1 (1972), 59.  
 2) Ind. Oil Soap J., 32 (1970), 274.  
 3) J. chem. Soc. 9 (1967), 863.  
 4) Sci. & Cult. 31 (1965), 425.  
 5) Ind. J. Pharm. 27 (1965), 145.  
 6) J. Sci. & Ind. Res. (India), 21C (1962), 345.  
 7) Bull. Cent. Leather Res. Inst. (Madras) 8 (1961), 230.

10 *T. tomentosa*  
Local Name : Ain (Saja)

The bark is astringent and used as a black dye. It yields a gum used as an incense. The bark yields tannins and oxalic acid.

Chemistry : 1) Tomentosic acid (Triterpene acid)  
 2) Tannins  
 3) Gum - Sugars  
 Oxalic acid.

References : 1) Ind. J. Pharm. 21 (1959), 285.  
 2) Tetrahedron 18 (1962), 827.  
 3) Leath. Sci. 14 (1967), 40.  
 4) Ind. J. Appld. chem. 32 (1969), 351.

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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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Cyperaceae

1 *Cyperus rotundus* Linn  
Local Name : Bimbai

The paste of the roots is applied externally for healing the wounds, sores, etc. It contains estrogenic substances. Some of the constituents possess anti-inflammatory, anti-pyretic and analgesic activities.

Chemistry : 1) Sesquiterpenoids from essential oil.

References: 1) Ind. J. Med. Res. 58 (1970), 103.  
59 (1971), 76

2) Tetrahedron Letters 47 (1967), 4661.  
3) J. Sci. Ind. Res. 15 C (1956), 202.

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Convolvulaceae

1 *Cuscuta reflexa* Roxb  
Local Name : Akasbel  
Nirmali

It is applied externally for skin irritation. The seeds are laxative. Clavine alkaloids are present in parasitic and fodder plants. *Convolvulus*, *cuscuta* and *Ipomea* species contain these clavine alkaloids.

Chemistry : Seeds : 1) Amberbelin )  
2) Cuscutin ) Not confirmed.  
3) Cuscatalin )  
4) Kaemferol and its 3-glucoside.

References: 1) J. Ind. chem. Soc. 12 (1935), 384.  
2) Phytochemistry 13 (1974), 1727.  
3) Biochem. Physiol. Pflanz, 165 (1974), 104.  
4) Ind. J. chem. 4 (1966), 335  
2 (1964 b), 378, 81.  
1 (1963), 501, 499.  
5) Atti Soc. Ital. Sci. Vet. 25 (1971), 299.

Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
2	<p><i>Convolvulus microphyllus</i> Seib  <u>Local Name</u> : Shankhpushpi</p>	<p>The undershrub is considered to be a memory stimulant. It is a weed and grows wild.</p> <p><u>Chemistry</u> : 1) Microphylllic acid  2) Rhamnoglucosyl-penta saccharide of 11 (OH) palmitic acid.</p> <p><u>References</u>: 1) Phytochemistry, 16 (1977), 715.  2) Physiol Plant, 23 (1970), 1025  3) Pakistan J. Sci. Ind. Res. 12 (1970), 203.  4) C.A. 73:127030<sup>x</sup></p>
3	<p><i>Ipomea nil</i> (Linn) Roth  (Morning Glory)  <u>Local Name</u> : Nil-Pushpi  Nilyel</p>	<p>In Hindi this is known as Kaladana. It contains resinous matter (14-15%) divided into glycosidal and non-glycosidal parts. This plant has economic value.</p> <p><u>Chemistry</u> : 1) Gibberellin glucosides (in seeds, Total 7)  2) Indole alkaloids, etc.</p> <p><u>References</u>: 1) Tetrahedron Letters 1970 (18), 1489.  2) Agr. Biol. chem. 35 (1971), 583, 573.  3) Ind. J. Pharm. 36 (1974), 44.  4) C.A. 81:86909<sup>k</sup>; 35626<sup>h</sup>; 61141<sup>r</sup> and 47446<sup>n</sup>.</p>
4	<p><i>Evolvulus alsinoides</i> Linn  <u>Local Name</u> : Shankapushpi</p>	<p>It is a bitter tonic and used in dysentery. Three more species are also named, as 'Shankapushpi'. They are :  a) <i>Canscora decussata</i> (b) <i>Crotalaria verucosa</i>  c) <i>Clitoria ternateae</i>.</p> <p><u>Chemistry</u> : 1) Betain and other water soluble base.  2) Gives positive test for sterols and alkaloids.  3) Water extract contains proteins, amino acids, sugars, phenolic compounds and tannins.</p> <p><u>References</u>: 1) Curr. Sci. 25 (1956), 119.  2) Sci. &amp; Cult. 24 (1958), 180.  3) Ind. J. Pharm. 20 (1958), 100.  4) Ind. J. Pharm. 29 (1959), 200.  5) Ind. J. Pharm. 31 (1969), 108.</p>

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5 Ipomea operculata (Linn) Silva  
 (Syn. I. Turpethum) Manso

Local Name : Jalap  
 Turpeth  
 Nishottar

(Allied species :

I. pes-tigridis available in  
 Chandrapur)

The plant occurs in two forms : (Safed Nisbth) and  
 (Krishna Nisoth). The roots of this species are abun-  
 dantly used in Ayurvedic practise. The drug is used  
 in different forms of Ayurvedic preparations.

Chemistry : 1) Operculinic acid (2) Rhamnoconvolvulinolic  
 3) Glucorhamohexa saccharide of acid.  
 3,12 dihydroxy palmitic acid.

References: 1) Ind. J. Pharm. 22 (1960), 284  
 23 (1961), 192, 186  
 28 (1966), 82  
 34 (1972), 126  
 37 (1975), 88.  
 2) Phytochemistry, 16 (1977), 711.

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Chenopodiaceae

1 Chenopodium album Linn  
 Local Name : Bethu

The plant has been studied. It contains chenopodium  
 oil resembling cholesterol.

References: 1) Physiol Plant 31 (1974), 323.  
 2) Plant Cell Physiol. 13 (1972), 773.  
 3) J. Sci. Food Agr. 23 (1972), 777.  
 4) Chem. Phys. Lipids 4 (1970), 37  
 5) Biochem. Biophys. Acta. 149 (1967), 598.  
 6) Curr. Sci. (India), 35 (1966), 207.  
 7) Phytochemistry 3 (1964), 547.  
 8) Curr. Sci. (India) 31 (1962), 333.  
 9) Ind. J. Med. Res. 47 (1959), 963.  
 10) Nature 159 (1947), 467.

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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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Cucurbiteceae

- |   |  |   |
|---|--|---|
| 1 | <i>Luffa acutangula</i> Roxb<br><u>Local Name</u> : Ranturai   | The plant is reputed to be useful in skin diseases and asthma. Leaves are applied externally to cattles for sores.<br><br><u>References</u> : 1) J. Indian Chem. Soc. 35 (1958), 480.<br>2) J. Sci. Fd. Agric. 18 (1967), 445.<br>3) C.A. 80: 67315 <sup>b</sup> ; 81: 86674 <sup>e</sup> ; 79: 87848 <sup>k</sup> ; 135506 <sup>w</sup> ; 77: 71297 <sup>c</sup> and 76: 70279 |
| 2 | <i>Trichosanthes bracteata</i> (Lam) Voigt<br><u>Local Name</u> : Kaundal<br><u>Allied species</u> :<br><i>T. cucumerina</i><br>(Rich in conjugated acids) | Fruit-smoked as a cure for for asthma. Root is used in lung diseases of cattle.<br><br><u>Chemistry</u> : Some tetra (OH) triterpene<br><u>References</u> : 1) Curr. Sci. 43 (1974), 116<br>2) Naturwissenschaften, 43 (1956), 523.<br>C.A. 80: 118249 <sup>t</sup>   |

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Dioscoreaceae

- |   |   |  |
|---|---|--|
| 1 | <i>Dioscorea bulbifera</i> Linn<br><u>Local Name</u> : Manakund or Karaka-rinda | This is a large unarmed climber with steams twining to the left. The tubers are used mostly as famine food. It is used for washing wool and as fish bait, for ulcers, piles, dysentery and syphilis.<br><br><u>Chemistry</u> : 1) Diosbulbine, (Active principle) Needs further investigation.<br>2) Shows presence of p <sub>1</sub> rotein.<br><br><u>References</u> : 1) J. Crude Drug Res. 9 (1969), 1372.<br>10 (1970), 1607<br>11 (1971 c), 1761.<br>2) Annals Bot. 36 (1972), 605<br>3) Ind. J. chem. 7 (1969), 452-56. |
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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
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2	<p><i>Dioscorea pentaphylla</i></p> <p><u>Local Name</u> : Ulasi</p> <p><u>NOTE</u> : The plant 'Dioscorea' which is the raw material for birth control pills is rapidly disappearing from India. These species contain Diosgenine which is convertible into corticosteroids and sex hormones. Minor fraction is utilised for anabolic steroids like norethesterone, etc. Diosgenin is converted to 16-dehydro pregnalone acetate.</p>	<p>The plant consists of tubers borne close to the surface of the soil. Dr. R.N. Chakravarti and Dr. C.R. Karnick have contributed maximum to this subject of Dioscoreas of India.</p> <p><u>Allied species</u> :</p> <ol style="list-style-type: none"> <li>1) <i>D. deltoidea</i> wall</li> <li>2) <i>D. Prazeri</i></li> <li>3) <i>D. hispida</i> Dennst</li> <li>4) <i>D. glauca</i></li> <li>5) <i>D. Composita</i> Hemsl</li> <li>6) <i>D. alata</i> L and D, etc.</li> </ol>
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#### Ebenaceae

1	<p><i>Diospyros chloroxylon</i> Roxb</p> <p><u>Local Name</u> : Nensi</p>	<p>It is a fodder plant.</p> <p><u>Chemistry</u> : 1) Xylopyrin (2) Isodiospyrin</p> <p><u>References</u>: 1) Tetrahedron Letters 20 (1970), 1739. 2) C.A. 80:12516<sup>n</sup> 79:75893<sup>n</sup></p>
2	<p><i>D. melanoxylon</i> Roxb</p> <p><u>Local Name</u> : Tendu Tumri</p>	<p>The paste of the dried flowers used externally to skin diseases. Leaves are diuretic.</p> <p><u>Chemistry</u> : 1) Naphthaquinones and naphthols from the heart wood. 2) Triterpenes from leaves. 3) Tannins : Bark = 19; Fruit = 15; and half ripe fruits = 23%.</p>

.../contd.

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 Sl. Botanical Name/Local Name Medicinal and/or Economic uses and Chemistry/  
 No. Selected References  
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- 2 *D. melanoxyton* ..... contd. References: 1) Proc. Ind. Acad. Sci. 60-A (1965), 36  
 2) Ind. J. chem. 6 (1968), 681  
 7 (1969), 204  
 11 (1973), 507.  
 3) J. Ind. Acad. Wood Science 5 (1974), 55.  
 4) C.A. 80:12516<sup>n</sup>; 79:75893<sup>h</sup>
- 3 *D. montana* Roxb  
Local Name : Timru  
 Fruits are poisonous. Applied externally to boils.  
Chemistry : 1) Bauerenol  
 2) Ursolic, oleanolic and betunilic acids.  
 3) Diospyrin, m.p. 286-88° (Orange red dye), etc.  
References: 1) J. Sci. Industr. Res. 20B, 498 (1961).  
 2) C.A. 79:49489<sup>m</sup>; 78:15869<sup>z</sup>; 77:16589<sup>z</sup>;  
 162110<sup>c</sup>; 31742<sup>n</sup> and 30226<sup>s</sup>.  
 3) Tetrahedron Letters 29 (1966), 3373.  
Allied species : *D. Cordifolia* References: 1) J. Res. Ind. Med. 6 (1971), 229  
 2) Ind. J. Pharma. 4 (1972), 109.

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Euphorbiacea

- 1 *Acalypha indica* Linn  
Local Name : Kupsi  
 Khokli  
 The whole plant is anthelmintic, emetic, hypnotic, and anodyne. Leaves are used in scabies.  
Chemistry : Amino acids, sugars, sterols, etc.  
References: 1) J. Ind. chem. Soc. 44 (1967), 792.  
 2) Curr. Sci. 24 (1955), 203.  
 3) C.A. 70:56511<sup>e</sup>  
 69:33612<sup>d</sup>  
 68:43132<sup>a</sup>

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Sl. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
5	<i>Embllica officinalis</i> Gaertn ( <i>Phyllanthus emblica</i> ) <u>Local Name</u> : Aonla, Avela	<p>Aonla fruit probably is the richest source of Vit. C. It is held in high esteem in Ayurvedic practise (Jeevan is prepared from Aonla). A type bearing comparatively larger fruits than the wild plant is cultivated.</p> <p><u>Chemistry</u> : Fruits : 1) 13 separable tannins 2) Four colloidal complex 3) Phyllembin, phyllantidine and phyllantine, Phyllemblic acid. 4) Carbohydrates (14%) and Vit. C. (600 mg/100 g).</p> <p><u>References</u>: 1) J. Sci. Ind. Res. 10B (1951), 88 15C (1956), 205 34 (1975), 644 2) Ind. J. Exptl. Biol. 13 (1975), 82. 6 (1968), 232.</p>
6	<i>Euphorbia neriiifolia</i> Linn <u>Local Name</u> : Neyadunga Thohar	<p>The latex of the species is applied externally to remove warts.</p> <p><u>Chemistry</u> : Stem : 1) Friedelan-3-Alpha-ol 2) Friedelan-3-Beta-ol 3) Taraxerol</p> <p><u>References</u>: 1) Curr. Sci. 34 (1965), 608, 432. 2) Ind. J. Pharma. k (1969), 8, 9 3) C.A. 81:4092<sup>b</sup>; 78:143983<sup>u</sup></p>
7	<i>E. hirta</i> Linn <u>Local Name</u> : Nayeti, Dudanali	<p>Entire plant is useful as medicine. It is included in B.P.C. for the treatment coughs and asthma. The decoction of the plant is used to cure cough.</p> <p><u>References</u>: 1) Bull chem. Soc. Japan, 39 (1966), 2532. 2) C.A. 77:16524<sup>z</sup>; 98756<sup>p</sup>; 75:101315<sup>k</sup>.</p>

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
8	E. Thymifolia Linn <u>Local Name</u> : Dhakdidudhi	This plant has some use as a veterinary medicine. It needs thorough investigation. <u>References</u> : 1) Ind. J. Med. Res., 55 (1967), 73. 2) J. Res. Ind. Med., 7 (1972), 24. 3) C.A. 71:68036n 66:73239s 64:1013a
9	Homonoia riparia Lour <u>Local Name</u> : Sherni	Useful in piles, bladder stone, gonorr, syphilis, chest pain, and also as a mouth wash for toothache. <u>References</u> : 1) Indian Oil & Soap, 34 (1969), 179. 2) C.A. 71:126288c <u>Chemistry</u> : Roots : 1) Alpha-spinasterol 2) Alpha-spinasteryl acetate 3) Higher fatty acids, etc.
10	Jatropha curcas Linn (Wild castor) <u>Local Name</u> : Ranerandi Ratanjota	The root bark powder is used as a dressing for sores. Fatty acids of the beans of wild castor have been studied. <u>Chemistry</u> : S.S. Sankara et al have reported Flavonoids of some Euphorbiaceae plants. <u>References</u> : 1) J. Proc. Inst. chemists, 31 (1959), 213. 2) Indian Oil Soap, 34 (1969), 203. 3) Phytochem. 10 (1971), 2548. 4) J. Oil Tech. Asso. 5 (1973), 8. 5) C.A. 82:13942b 78:156602u; 55449u 76:44820r; 75:148523s

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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11	<p><i>Mallotus philippinensis</i> Muell-Arg (Hindi : Kamala) <u>Local Name</u> : Shendri Korku</p>	<p>At one time, this drug gained considerable reputation as an anthelmintic. The root is powdered and applied externally to cure skin diseases. The oil has anti-fertility effect.</p> <p><u>Chemistry</u> : Seed Oil : 1) Kamlolenic acid 2) Mamlolenic acid 3) Triterpenoids and other components.</p> <p><u>References</u>: 1) J. Sci. &amp; Ind. Res. 10B (1951), 76. 11B (1952), 463. 6B (1953), 240. 15B (1956), 551. 2) J.L.O.C.S. 31 (1954), 287. 3) J. Sci. Fd. Agri., 6 (1955), 364. 4) Ind. J. Vet. Sci. 26 (1956), 31. 5) J. Sci. Ind. Res., 17B (1958), 117. 6) Ind. J. Med. Res., 48 (1960), 52. 55 (1967), 746. 7) Phytochemistry, 11 (1972), 1511.</p>
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Note : The following three species are available in Chandrapur.

- 1) *Phyllanthus simplex* Retz     Local Name : Bhuiavali
- 2) *Sebastiana chamaelea* (Linn)  
Muell Arg     Local Name : Bhui-erendi
- 3) *Ricinus communis* Linn  
(Castor Plant)     Local Name : Erendi

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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Fabaceae (Leguminosae)

- 1 *Abrus precatorius* Linn  
Local Name : Gunja

The species is famous for its small, bright scarlet colour with black eyed peas. The shiny seeds are poisonous, although tribal people use their paste externally against skin diseases. Ratti seeds have been screened for their anti-fertility activity.

Chemistry : (Major alkaloids)

- Seeds : 1) Abrin (2) Hypaphorin  
3) Choline (4) Trigonelline  
5) Picatorine, etc.  
Leaves) 1) Some of the above bases  
Roots) 2) Trigonelline as gallic acid ester.  
Stem )

- References: 1) Ind. J. Pharm., 35 (1973), 102, 203, 209.  
31 (1969), 175  
30 (1968), 287  
29 (1967), 346  
28 (1966), 235, 340.  
27 (1965), 94.  
2) C.L. 82:82945<sup>c</sup>, 152120<sup>v</sup>, 153660<sup>h</sup>  
81:167684<sup>k</sup>, 118422<sup>g</sup>, 101858<sup>p</sup>;  
132739<sup>t</sup> and 59034<sup>d</sup>;  
80:23907<sup>s</sup> and 106739<sup>q</sup>.

- 2 *Aeschynomene aspera* Linn  
Local Name : Sola

The fibrous material of this plant is used for making sola hats. The pith is used for toys, artificial flowers, models, etc. It can be used for making corks and swimming jackets.

Chemistry : The chemistry of this species probably is not studied.

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economic uses and Chemistry/ Selected References
3	A. indica Linn <u>Local name</u> : Kath-sola	The pith of this plant is of inferior quality. <u>Chemistry</u> of this species probably is not studied.
4	Butea monosperma (Lam) Kuntze (Butea frondosakoen) <u>Local Name</u> : Palas	A red juice which hardens into a vitreous, ruby-red gum is known as 'Butea gum' or Bengal Kinno. It is a valuable Ayurvedic medicine. It is known to cause human infertility. <u>Chemistry</u> : Flowers : Flavonoids (coreopsin, isocoreopsin, sulphurein, butein, butrin, isobutrin, etc.) Roots : Free sugars, glycine, some glucosides. Monospermoside, Isomonospermoside, etc. <u>References</u> : 1) J. chem. Soc. (1955), 1589. 2) Ind. J. Pharm. 24 (1962), 63 27 (1965), 253. 3) Curr. Sci. 32 (1963), 456. 4) Ind. J. Expt. Biol. 4 (1966), 246. 5) Ind. J. Chem. 9 (1971), 1201. 6) Phytochemistry, 9 (1970), 2231. 7) Ind. J. Physiol and Pharmacol. 14 (1970), 57.
5	Canavalis ensiformis (Linn) DC <u>Local Name</u> : Pandhartabai	Fruits, if eaten, create abdominal complaints, hernia, and colic. It can be used as a green manure. The proteins of jack have been extensively investigated. <u>References</u> : 1) C.A. 82: 39752 <sup>g</sup> ; 1466 <sup>m</sup> ; 121918 <sup>g</sup> ; 134426 <sup>v</sup> ; and 108827 <sup>g</sup> 81: 12024 <sup>w</sup> ; 132755 <sup>d</sup> ; 101804 <sup>t</sup> 79: 101255 <sup>y</sup> ; 2442 <sup>a</sup> 78: 93496 <sup>g</sup> and 133365 <sup>e</sup>

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Selected References	Chemistry/
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6	Clitoria ternatea Linn <u>Local Name</u> : Gokurna.	Root powder acts as purgative. It can also be used in poultices for swollen joints. Corollas give blue dye which can be used as a substitute for litmus. <u>Chemistry</u> : Root : Taraxerol Taraxerone, etc. <u>References</u> : 1) Ind. J. chem. 11 (1973), 89. 2) Bull (Cal) Sch. Trop. Med. 12 (1964), 23.	
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7	Pongamia glabra <u>Local Name</u> : Karanja	It is a source of (1) Pesticidal and allied chemicals, (2) slow release plant nutrients, (3) Non-edible Industrial oil, cheap cattle feed. <u>Chemistry</u> : 1) Kaemferol (Flowers) 2) Kanugin (Root, stem) 3) Karangin, Kanjone, etc. (Seeds). <u>References</u> : 1) J. Sci. Ind. Res. 35 (1976), 608. 2) Curr. Sci. 42 (1973), 128. 3) Ind. J. chem. 11 (1973), 209, 1188. 4) Tetrahedron 25 (1969), 1063.	49
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NOTE : The following species of 'Leguminosae' family (Fabaceae) are commonly available in Chandrapur.

1	Mlysicarpus Vaginalis (Linn) DC		
2	Cajanus cajan var bicolor DC <u>Local Name</u> : Arhar	Tuvar waste (sticks) can be used for the production of oxalic acid. <u>Reference</u> : 1) Chem. Inds. Dev. 19 (1975), 21.	
3	C. Cajan Var flavus DC <u>Local Name</u> : Tur		

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry Selected References
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4 Cicer arietinum Linn  
Local Name : Harbara (Desi & Kabuli)

5 Crotalaria hirsuta

6 C. hirta

7 C. Juncea

8 C. linifolia

9 C. medicaginea

10 C. orixensis

11 C. prostrata

12 C. pusilla

13 C. ramossissima

14 C. retusa

15 C. Siricea

16 Cyamopsis tetragonolobus (Linn)  
 Taub

Local Name : Bavachi

Guar gum obtained from this species is well known. It is used in food, paper, and textile industry.

References: 1) C.A. 82:110406<sup>m</sup>  
 2) Sci. Reporter, No.9 (1977).

17 Dalbergia lanceolaria Linn f.

Local Name : Dandous

The seed oil is applied for rheumatic affections. Wood is useful for agricultural implements.

Sr. No.	Botanical name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
18	D. latifolia Roxb (Bombay black wood) <u>Local Name</u> : Shisham	The wood is known as Indian rose wood also. Some parts of the plant have medicinal value.
19	D. Sisso Roxb <u>Local Name</u> : Shinshapa	The heart wood yields viscous oil (5.35%) which becomes like vaseline on cooling. <u>Reference</u> : 1) C.A. 82:121682 <sup>a</sup>
20	D. paniculata <u>Local Name</u> : Dhobin.	<u>Reference</u> : Ind. J. chem. 11 (1973), 89.
21	D. Volubilies	<u>Reference</u> : Ind. J. Med. Res. 63 (1975), 93.
22	D. Scandens (Rox) Benth <u>Local Name</u> : Gonj	Roots contain scandenin and chandanin.
23	Desmodium diffusum DC <u>Local Name</u> : Chikta	<u>Reference</u> : C.A. 57:11590 <sup>c</sup> ; 61:2431 <sup>b</sup>
24	D. gangeticum <u>Local Name</u> : Sarivan	<u>References</u> : 1) C.A. 78:119200 <sup>c</sup> 77:118146 <sup>c</sup> 2) Phytochemistry 14 (1975), 1129.
25	D. motorium (Houtt) Merrill	<u>Reference</u> : C.A. 77:45519 <sup>g</sup>
26	D. pulchellum	<u>Reference</u> : C.A. 77:70236 73:110027 75:126635
27	D. Triflorum DC	<u>Reference</u> : C.A. 79:75866 <sup>b</sup> 76:56615 <sup>r</sup>

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
28	Indigofera astragalina	<u>References:</u> 1) C.A. 54: 25375 <sup>h</sup> 2) 52: 20465 <sup>g</sup>
29	I. Cordifolia	<u>Reference :</u> C.A. 73: 65266 <sup>t</sup>
30	I. tinctoria	<u>References:</u> 1) C.A. 49: 3438 <sup>g</sup> 2) 58: 9273 <sup>d</sup>
31	Mucuna prurita Local Name : Kavach	<u>References:</u> 1) C.A. 81: 101804 <sup>t</sup> 2) 74: 98057 <sup>z</sup>
32	Psoralea corylifolia Local Name : Bawachi	<u>References:</u> 1) 82: 28627 <sup>b</sup> ; 81: 74911 <sup>s</sup> ; 79: 42699 <sup>w</sup> 78: 120092 <sup>p</sup> ; 78: 40448 <sup>u</sup> ; 78: 97493 <sup>w</sup>
33	Pterocarpus marsupium Roxb Local Name : Bija	<u>References:</u> 1) C.A. 74: 75387 <sup>t</sup> ; 71: 126206 <sup>t</sup>
34	Sesbania aegyptiaca Pers Local Name : Shevari	
35	T. purpuria (Linn) Pers Local Name : Sarphunkha	<u>Chemistry :</u> 1) Purpurenin A and B 2) Maximin (Toxic) <u>References:</u> 1) C.A. 82: 69178 <sup>z</sup> 2) 78: 101552 <sup>t</sup> 3) 78: 15828 <sup>t</sup> 4) Ind. J. pharma. 34 (1972), 172. 5) Qrt. J. Crude Drug Res., 13 (1975), 65.
36	T. Vogelii Hook	<u>References:</u> - do - <u>Chemistry :</u> Seeds : Vogeloside.

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Allied species :

- 1) T. Candida DC )
- 2) T. hirta Ham )
- 3) T. Mexima Pers )
- 4) T. Villosa )
- 5) T. Wallichii Geartn )

Some of these species are known for their rotenoids content.

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Lythraceae

- 1 Wood fordia fruticosa  
Local Name : Dhauri

The decoction of the flowers is used as a tonic.

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Flacourtiaceae

- 1 Flacourtia indica Merr  
(Madagaskar Plum)  
Local Name : Bhekal  
Kakai

Bhekal fruits are rich in pectin, excellent for Jams and jellies. They are eaten in jaundice and enlarged spleen. Bark is used as a tannin of material. Wood is good for agricultural implements and posts.

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Gentianaceae

- 1 Canscora decussata schutt  
Local Name : Sankhvel

Prescribed in insanity, epilepsy and nervous debility.

Chemistry : Roots : 1) 16 Xanthones  
2) Triterpenes  
3) Alkaloids

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 Sr. Botanical name/Local Name Medicinal and/or Economical uses and Chemistry  
 No. Selected References  
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- 1 *Cassia* .....  
References: 1) *Phytochemistry*, 10 (1971), 2425  
 2) *J. Ind. chem. Soc.* 48 (1971), 589  
 3) *Ind. J. Physiol. and Pharma.* 16 (1972), 81.
- 2 *Enicostema hyssopi folium* (Willd)  
 Verd  
Local Name : Tanavadi  
 The decoction of the leaves is used as a tonic (Bitter).  
Chemistry : 1) Swertiamarin  
 2) Erythrocentaurin  
References: 1) *J. Pharm. Sci.* 63 (1974), 944  
 2) *Ind. J. chem.* 4 (1966), 201.  
 3) *C.A.* 82:156012J  
 79:123670G  
 78:92477<sup>x</sup>; 69232<sup>e</sup>

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Hypoxidaceae

- 1 *Curculigo orchioides* Gaertn  
Local Name : Kalimusali  
 Powdered rhizome is used in wounds. It is a well-known  
 Ayurvedic drug.  
 Reference : 1) *J. Sci. Ind. Res.* 19C (1960), 252.

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Lamiaceae

- 1 *Ocimum basilicum* Linn  
 (Indian Basil)  
Local Name : Saliya  
Allied species : *O. gratissimum*  
 (Dangli Tulsi)  
 This species is famous for its essential oil. The seed  
 mucilage is composed of polysaccharides.  
References: 1) *Ind. J. Pharm.* 12 (1950), 51, 132, 134.  
 2) *Indian Soap*, 19 (1950), 251.  
 3) *Curr. Sci.* 41 (1972), 214.  
 4) *Ind. J. chem.* 12 (1974), 1164-5.

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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected references
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Linaceae

1 Erythroxylon monogynum Roxb  
Local Name : Devadaru

It has got some medicinal properties. The essential oil from wood has been fractionated into diterpene hydrocarbons. The crude oil obtained from devadaru is good as a timber preservative.

Chemistry : 1) Diterpene hydrocarbons -  
a) (+)-hibaene  
b) (-)-pimaradiene  
c) (-)-astisirene  
d) (-)-isoastisirene  
e) (+)-devadarene

References: 1) J. Ind. Inst. Sci., 36-A (1964), 76 & 112.  
2) Tetrahedron Letters -  
a) 37-38 (1964), pp.2751-7  
b) 31 (1965), 2729.

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Liliaceae

1 Asparagus racemosus Willd  
Local Name : Satawarmul

Well known Ayurvedic drug. It is a tonic. The saponins have anti-oxycotic and anti-ADH activity.

Chemistry : Root : 1) Active saponins (S<sub>4</sub> is major).  
2) Diosgenin in leaves.

References: 1) Curr. Sci. 37 (1968), 287.  
38 (1969), 414.  
2) Ind. J. Pharm. 31 (1969), 175  
12 (1950), 51.

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemical Selected References
2	<p>Gloriosa Superba Linn  Local Name : - Indai  Nagakaria</p>	<p>The tubers are tonic, stomachic, etc. The toxic properties are due to presence of alkaloids.  <u>Chemistry</u> : 1) Colchicine and allied compounds.  <u>References</u>: 1) C.A. 80: 93180<sup>y</sup>  73: 117136<sup>x</sup>  72: 88450<sup>s</sup>  68: 87424<sup>s</sup></p>
3	<p>Iphigenia indica (Roxb) A Gray  <u>Local Name</u> : Nirpani</p>	<p>It is a new source of colchicine.  <u>References</u>: 1) Phytochemistry, 11 (1972), 1193.  2) C.A. 76: 15100<sup>c</sup>  61: 7357<sup>e</sup></p>
4	<p>Sida cardifolia Linn  <u>Local Name</u> : Chikna  <u>Allied species</u> :  a) Sida acuta Burm. f. (Pata)  b) S. rhombifolia Linn (Cubatada)  <u>Family</u> : Malvaceae</p>	<p>This plant is considered to be one of the most valuable drugs in Ayurvedic practise. It is known since ancient times. It is used in rheumatism.  <u>Chemistry</u> : Seeds : Alkaloids (0.32%)  <u>References</u>: 1) C.A. 82: 4527<sup>b</sup>  81: 88023<sup>r</sup>  80: 93178<sup>d</sup> and 130486<sup>a</sup>  78: 55306<sup>v</sup> and 156689<sup>c</sup>  77: 98828<sup>p</sup></p>
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<u>Loganiaceae</u>		
1	<p>Strychnos nux-Vomica  <u>Local Name</u> : Kuchla</p>	<p>Nux-vomica is one of the most important drugs used in medicine. Indian drug (seeds) contain total alkaloids (2.6 to 3.0%). It is estimated that 2000 tons of seeds are collected annually and exported.</p>

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 Sr. Botanical name/Local name Medicinal and/or Economical uses and Chemistry/  
 No. Selected References  
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1	Strychnos .....	<p><u>Chemistry</u> : Seeds :</p> <ol style="list-style-type: none"> <li>1) Brucine</li> <li>2) Strychnine</li> <li>3) Alpha and Beta Colubrines</li> <li>4) Novacine and pseudostrychnine</li> <li>5) Vomisine, etc. plus fatty oil.</li> <li>6) Mucic acid (Oxidation product of seed waste).</li> </ol> <p><u>References</u>:</p> <ol style="list-style-type: none"> <li>1) Ann. Rep. R.F. Lab. Jammu, 1070-71, p.11</li> <li>2) J. Inst. chem. 40 (1968), 42, 85. 40 (1968), 133, 162.</li> <li>3) Ind. J. Pharm. 31 (1969), 87, 170. 32 (1970), 90.</li> <li>4) Res. &amp; Ind. 17 (1972), 6.</li> <li>5) J. Inst. chem. (India), 48 (1976), 227.</li> </ol>
2	<p>Strychnos potatorum Linn</p> <p>Local Name : Nirmali Nivali</p>	<p>The seeds of the clearing nut tree grow abundantly in Chandrapur. This is a good source of polysaccharide which can be put to many uses if suitably modified. The seeds are used for clarifying Water.</p> <p><u>Chemistry</u> : Seeds :</p> <ol style="list-style-type: none"> <li>a) Polysaccharide</li> <li>b) Amyrin, lupeol, sitosterol, stigmasterol and oil.</li> <li>c) Brucine, Dialboline, etc.</li> <li>d) Triterpenes (Four)</li> </ol> <p><u>References</u>:</p> <ol style="list-style-type: none"> <li>1) Res. and Ind. 18 (1973), 83.</li> <li>2) Phytochem. 14 (1975), 587.</li> <li>3) Planta Med. 28 (1975), 392.</li> <li>4) Ind. J. Pharm. 35 (1973), 206.</li> <li>5) Lloydia, 36 (1973), 357.</li> <li>6) Ind. J. Exptl. Biol., (1975), 163.</li> <li>7) J. Ind. chem. Soc. 52 (1975), 768.</li> <li>8) Curr. Sci., 45 (1976), 657.</li> </ol>

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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3	<p>Urginea indica (Koxb) Kunth (Indian squill)</p> <p><u>Local Name</u> : Jangli Kanda</p> <p><u>Note</u> : It is reported in J. Pharm. (London) 28(1976), 81-82, that potencies of European and Indian squills are same.</p> <p>Family : Liliaceae</p>	<p>The powder of the bulb is used externally to check skin diseases. The medicinal properties are similar to European squill obtained from U. maritima.</p> <p><u>Chemistry</u> : 1) Glycosides, scillaren A and B.</p> <p><u>References</u>: 1) Ind. J. Pharm. 14 (1952), 25 2) J. Sci. Ind. Res. 13B (1954), 150. 15C (1956), 80. 3) Phytochemistry, 11 (1972), 2888. 4) C.A. 77:111560<sup>s</sup></p>
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Malvaceae

1	<p>Hibiscus cannabinus Linn (Hibiscus sabdariffa)</p> <p><u>Local name</u> : Ambedi Mesta</p>	<p>This species is known in Egypt as 'Karkade'. It has very good therapeutic importance for curing heart and nerve diseases. Mesta pulp is better than jute stick pulp.</p> <p><u>Chemistry</u> : 1) Cellulose content - 68-80% (Good for writing paper). 2) The roselle sepals contain pectin. 3) Mesta fruits contain hiviucin, gossypectin, citric, tartaric and maleic acids plus water soluble polysaccharides. Flavonoids are also reported.</p> <p><u>References</u>: 1) Phytochemistry, 11 (1972), 1518. 2) Aust. J. chem. 28 (1975), 217. 3) Ind. J. chem. 13 (1975), 198. 4) J. chem. UAR, 9 (1966), 127. 5) Ind. Oil &amp; Soap 32 (1966), 77 6) Sci. Ind. (Karachi), 1 (1968), 74. 7) Pak. J. Sci. Ind. Res., 14 (1971), 531.</p>
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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Meliaceae

- |   |  |
|---|--|
| <p>1 Chloroxylon swietenia DC<br/><u>Local Name</u> : Bhira</p>   | <p>The seeds yield non-drying oil (16%). The tree yields a gum. The wood yields an essential oil. Bark contains tannins (17%). A detailed study of the gum has been made.</p> <p><u>Chemistry</u> : a) Chloroxylonine (b) Chloroxyline<br/>c) Rutamarin (d) Xanthoxylinin<br/>e) Luvangetin (f) Skimmianine<br/>g) Nodakenetine (h) Gama-fragarine, etc.</p> <p><u>References</u>: 1) Ind. Pulp 22 (1967), 131.<br/>2) Ind. J. chem. 10 (1972), 674<br/>1 (1963), 324.<br/>3) J. Ind. chem. Soc. 41 (1964), 173.<br/>4) Phytochemistry 11 (1972), 2647.</p>  |
| <p>2 Melia azadirachta Linn<br/><u>Local Name</u> : Kadunimba<br/><u>Allied species</u> :<br/>a) Azadirachta indica L. Juss (Sedyapa)<br/>b) Soyimida febrifuga A. Dr. Juss (Rohan)</p> | <p>The decoction of the leaves is very useful in skin diseases. The leaves are useful for preserving food-grains. It is an insect deterrent. The oil is useful for soap and allied industry.</p> <p><u>Chemistry</u> : 1) Terpenoids and related compounds.<br/>a) Nimbin (b) Nimbidin (c) Nimbidol<br/>d) Vepinin (e) Melicitrin (glycoside).</p> <p><u>References</u>: 1) Tetrahedron, 10 (1960), 45<br/>11 (1960), 67<br/>2) Ind. J. chem. 5 (1967), 460.<br/>7 (1969), 187.<br/>10 (1972), 452.<br/>13 (1973), 52.<br/>3) J. Sci. Ind. Res., 15B (1956), 425.<br/>4) Phytochemistry 10 (1971), 2842<br/>11 (1972), 1520.</p> |

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Menispermaceae

- |   |   |
|---|---|
| <p>1    <i>Cissampelos pariera</i> Linn<br/> <u>Local Name</u> : Paharval<br/>                   Kuruphad</p> <p><u>Allied species</u> :</p> <p><i>Cocculus hirsutus</i> (Linn)<br/> Diels (Vasanvel).<br/> It contains pendulin,<br/> cocsulin, etc.</p> | <p>It is used for cystitis as a sedative on the mucous membrane of the genito-urinary organs. Leaf powder is applied externally for curing sores.</p> <p><u>Chemistry</u> : Roots : a) Very rich in alkaloids such as hayatin, hayatinin and d-quercitol.<br/>                   b) Protoberberine alkaloids.</p> <p><u>References</u>: 1) <i>Experientia</i> 24 (1968), 999<br/>                   2) <i>J. Org. chem.</i> 32 (1967), 819.<br/>                   3) <i>Ind. J. chem.</i> 5 (1967), 102.<br/>                   4) <i>Curr. Sci.</i> 32 (1963), 114.<br/>                   5) <i>Sci. &amp; Cult.</i> 38 (1972), 358<br/>                   6) <i>Experientia</i> 26 (1970), 12, 241.<br/>                   7) <i>Ind. J. Med. Res.</i>, 52 (1964), 300.</p> |
| <p>2    <i>Tinospora cordifolia</i> (Willd)<br/> Miers</p> <p><u>Local Name</u> : Gulanch<br/>                   Guduchi</p>  | <p>It is used in diabetes (hyperglycaemia). Gaduchi satva is well known in Ayurveda for dissolution of Urinary caculi. It has got antibacterial activity.</p> <p><u>References</u>: 1) <i>J. Ind. Med. Prof.</i> 18 (1972), 8256<br/>                   2) <i>Ind. J. Appld. chem.</i> 34 (1971), 46.<br/>                   3) <i>Ind. J. Pharm.</i> 31 (1969), 180.<br/>                   4) <i>J. Res. Ind. Med.</i> 3 (1969), 210.<br/>                                   3 (1969), 203.</p>   |

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Mimosaceae

The following species of 'mimosaceae' are common in Chandrapur.

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|---|---|---|
| 1 | Acacia arabica<br><u>Local Name</u> : Babul     | <u>Reference</u> : 1) Leather Sci. 20 (1973), 119   |
| 2 | A. catechu<br><u>Local Name</u> : Khar          | <u>References</u> : 1) Planta Med. 19 (1970), 55<br>2) Ind. J. Appld. chem. 32 (1969), 69.<br>3) Curr. Sci. 43 (1974), 773.                 |
| 3 | A. leucophloea<br><u>Local Name</u> : Hewar     | <u>Reference</u> : 1) J. Sci. Ind. Res. 11B (1952), 125   |
| 4 | A. rugata                                       | <u>Reference</u> : Ind. J. Pharm. 22 (1960), 174.   |
| 5 | A. torta  |   |
| 6 | A. nilotica Linn<br><u>Local Name</u> : Babhul  | <u>References</u> : 1) C.A. 84: 61546 <sup>D</sup> ; 19152 <sup>E</sup> ; 104268 <sup>U</sup> ;<br>6738 <sup>C</sup> and 40784 <sup>Z</sup> |
| 7 | Albizzia lebbek<br><u>Local Name</u> : Sirisha  | <u>References</u> : 1) Ind. J. Appld. chem. 26 (1963), 127<br>2) J. Ind. chem. Soc. 52 (1975), 1202.<br>3) Ind. J. Pharm. 35 (1973), 209.   |
| 8 | A. odoratissima<br><u>Local Name</u> : Chikunda | <u>References</u> : 1) C.A. 63: 13698 <sup>E</sup> ; 59: 13930 <sup>E</sup>   |

Note : Albizzia lebbek is a well known drug of Ayurveda. It is reported to be the best remedy against poison and cures vitiation of 'Dosas' oedema, erysipelas and allied diseases, cough, wounds, and ulcers.

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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Moringaceae

1 Moringa oleifera Lamk

Local Name : Shevgi

The plant is used in the treatment of rheumatism, venomous bites and as cardiac and circulatory stimulants. It is used for destroying intestinal worms also.

Chemistry : 1) Free amino acids and carotenes have been identified in leaves.

References: 1) Curr. Sci. 34 (1965), 374  
 2) C.A. 84:123777<sup>a</sup>  
 82:123551<sup>f</sup>  
 76:58032<sup>x</sup>  
 72:24525<sup>n</sup>

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Myrtaceae

1 Syzygium cumini (Linn)

Local Name : Jamun

Seeds are useful in diabetes.

References: 1) Ind. J. chem. 12 (1974), 888  
 2) Phytochemistry 11 (1972), 2116  
 3) Sci. & Cult. 36 (1970), 298.  
 4) C.A. 84:2249<sup>w</sup>; 102312<sup>e</sup>  
 83:128750<sup>a</sup>; 128746<sup>d</sup>

The following species of 'Myrtaceae' is less common in Chandrapur.

a) Careya arborea Roxb (Kumbhi). It contains cardiac glycosides. Seeds contain Alpha-spinasterol; Alpha-spinasterone; Sapogenol; caryeyagenol E, etc.

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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected references
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Nyctaginaceae

- |   |  |  |
|---|--|--|
| 1 | Boerhaavia Chinensis (Burm f)                    | There is no mention about this species in Chemical literature.   |
| 2 | B. diffusa Linn<br><u>Local Name</u> : Punarnava | There are two varieties (white and Red). It is bitter, stomachic, laxative diuretic and expectorant. Used in jaundice, ascites, etc. It is reported in literature that Punarnava is a controversial drug.<br><br><u>References:</u> 1) Quart. J. Crude Drug Res. 8, 1289.<br>2) Phytochemistry, 10 (1971), 3318.<br>3) J. Res. Indian Med. 7 (1972 a), 1.<br>7 (1972 b), 13<br>7 (1972), 34. |

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Oleaceae

- |   |  |  |
|---|--|--|
| 1 | Nyctanthes arbortristis Linn<br><u>Local Name</u> : Khursi | The decoction of the bark is used against high fever.<br><br><u>References:</u> 1) J. Ind. chem. Soc. 41 (1964), 92.<br>2) Ind. J. Pharm. 28 (1966), 340.<br>3) J. Res. Ind. Med. 6 (1971), 183. |
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Orchidaceae

- |   |   |  |
|---|---|--|
| 1 | Vanda Roxburghii<br><u>Local Name</u> : Rasna | The powdered root has anti-arthritic action.<br><br><u>References:</u> 1) J. Ind. Med. Lsson. 45 (1966), 234.<br>2) J. Res. Ind. Med. 2 (1968), 208. |
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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Papaveraceae

1 *Argemone mexicana* Linn  
Local Name : Kanta-dhotra

The seed oil is useful for skin diseases (Argemone Oil).  
 It is purgative. It is used as an adulterant with  
 mustard oil.

References:

- 1) J. Ind. chem. Soc. 52 (1975), 626
- 2) Curr. Sci. 40 (1971), 548.
- 3) J. Sci. Res. 20 (1961), 186.
- 4) C.A. 84: 147614<sup>W</sup>  
 83: 75402<sup>e</sup>  
 81: 60863<sup>r</sup>

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Plumbaginaceae

1 *Plumbago zeylanica* Linn  
Local Name : Agni-shikha  
 Chitramula

It is a strong irritant and a powerful germicide. The  
 roots are used as abortifacients. It has antibacterial  
 activity against staphylococcus albus.

Chemistry : Roots : Plumbagin  
 (It is a gastro-intestinal flora normalizer).

References:

- 1) J. Uni. Poona (1973), 4427.
- 2) J. Uni. Bombay (1974), 60.
- 3) Curr. Sci. 32 (1963), 261.
- 4) Plant. Med. 14 (1966), 337
- 5) The Pharmacist 9 (1964), 45.

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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Palmaceae

- |   |   |  |
|---|---|--|
| 1 | Caryota Urens Linn<br><u>Local Name</u> : Adhi-supari | The plant is cultivated.<br><u>Reference</u> : 1) C.A. 56:13256 <sup>d</sup> |
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Portulacaceae

- |   |   |  |
|---|---|--|
| 1 | Portulaca oleraceae Linn<br><u>Local Name</u> : Pasalei | The plant is used as an external application on burns. |
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Poaceae

- |   |   |  |
|---|---|--|
| 1 | Cymbopogon martini (Roxb)<br>(Rosha Grass)<br><u>Local Name</u> : Roshegavat  | Palmarosa oil is obtained from this grass. The leaves contain oil (1.4%). Palmarosa Oil is a good source of geraniol.<br><u>References</u> : 1) Ind. Perf. 17 (1973), 9<br>2) Ind. J. chem. 10 (1972), 1127<br>9 (1971), 188<br>3) Sci. & Cult. 37 (1971), 395.  |
| 2 | Vetiveria Zizanioides (Linn) Nash<br><u>Local Name</u> : Khus<br><u>Allied species</u> :<br>1) Coix lachryma jobi Linn<br>(Ran - Jhondhala)<br>2) Desmostachya bipinata (Linn)<br>Stapt (Dharba). | Essential oil from the roots is very valuable. It is commercially known as vetiver oil.<br><u>Chemistry</u> : 1) Sesquiterpenes (epikhiroanol, isobisabolone)<br>2) Carbohydrates.<br><u>References</u> : 1) Ind. J. chem. 9 (1971), 188<br>2) 10 (1972), 1127<br>3) Sci. & Cult. 37 (1971), 395<br>4) Chem. Ind. No.20 (1969), 656.<br>5) Tetrahedron 8 (1962), 1165. |

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical Uses and Chemistry/ Selected References
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Rubiaceae

- 1 *Gardenia gummifera*  
Local Name : Dikamali  
(Gandharaj)  
Allied species :  
a) *G. lucida* (b) *G. turgida*
- The combee oleoresin is used for killing maggots in wounds and for removing worms.  
Chemistry : Flavones (Wogonins, Gardenins, etc.)  
References: 1) Ind. J. chem. 13 (1975), 785  
14 (1975), 651  
10 (1972), 23  
9 (1970), 189.  
8 (1970), 570.  
2) Ind. Med. Gaz. 6 (1967), 56.
- 2 *Adina cordifolia* Benth Hook  
Local Name : Haldu
- It is used as an antifertility agent. It contains adifoline.  
References: 1) Ind. J. Pharm. 35 (1973), 203.  
2) Ind. J. Physiol. & Pharmac. 14 (1970), 209.

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Rutaceae

- 1 *Aegle marmelos* corr  
Local Name : Baela  
Bel
- Ripe fruit is sweet. It is considered very nutritive and useful in chronic dysentery. Essential oil is obtained from leaves, twigs and stems. Biogenic stimulators from bel leaves are not alkaloids.  
Chemistry : Leaves : a) Aegelin ( $C_{18}H_{19}O_3N$ ); (c) Coumarins, etc.  
b) Aegelenine ( $C_{14}H_{10}N_2O_2$ )  
d) Decursinol and haplopine.
- References: 1) Phytochemistry 12 (1973), 2071.  
2) Ind. J. chem. 9 (1971), 763  
3) Sci. & Cult. 33 (1967), 279.  
4) J. Org. chem. 24 (1959), 687.  
5) Phytochemistry 13 (1974), 2329.

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Solanaceae

<p>1 <i>Datura festuosa</i> (Linn) Var alba <u>Local Name</u> : Dhutura                   Kala Dhotra</p>	<p>Flowers and stems are purple. Flowers, pericarps and fruits are used. It is a source of scopolamine.</p> <p><u>Chemistry</u> : 1) Scopolamine (l-hyoscine)                   2) Fastusine                   3) Sitosterol, etc.</p> <p><u>References</u>: 1) J. Sci. Ind. Res. 9 (1974), 79.                   2) Ind. J. Pharm. 36 (1974), 136.   22 (1960), 11                   3) IDMA Bulletin 7 (1976), 251.                   4) Lloydia 28 (1965), 71.                   5) Phytochemistry, 11 (1972), 2527.</p>
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<p>2 <i>Datura innoxia</i> Mill <u>Local Name</u> : Safed Dhotra</p>	<p>This species also is a commercial source of scopolamine. The leaves are dark green, flowers white and fragrant.</p> <p><u>Chemistry</u> : 1) Scopolamine (l-hyoscine)                   2) Hyoscyamine                   3) Meteloidine, etc.</p> <p><u>References</u>: 1) J. Pharm. &amp; Pharmac., 17 (1965), 115.                   2) Planta Med. 10 (1962), 72.                   3) Curr. Sci. 32 (1963), 355.                   4) Ind. J. Pharm. 27 (1965), 91, 171.   28 (1966), 3.</p>
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<p>3 <i>Solanum indicum</i> (Dorli) ) 4 <i>S. khasianum</i> ) 5 <i>S. melongena</i> )</p>	<p><u>Note</u> : C-27 steroidal alkaloids of the solanum group are of great potential interest as starting materials in the synthesis of steroid hormone analogues, and new representatives are still being isolated from plants.</p>
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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
6	S. nigrum (Kemoni)	<u>Constituents</u> : a) Solasodine (b) Tomatidine c) Solanocapsine (d) Solanidine e) Demissidine (f) Demissidine g) Soladulcidine (h) Jurubidine
7	S. Surattense (Kateli)	<p>Sr. No.7 : This plant is used in the treatment of rheumatism, gonorrhea and asthma. It contains diosgenin.</p> <p><u>References</u>: 1) Tetrahedron Letters 11 (1977), 903.  2) J. Ind. Drugs Manf. Asso. No.5 (1977)  3) East Pharmacist, 20 (1977), 47  4) Ind. J. Pharm. 33 (1971), 54.  5) Ind. J. chem. 2 (1964), 424.  6) J. Ind. Drugs. Manf. Asso. No.15 (1976), 171.  7) J. Inst. chem. (India) 47 (1975), 249.</p>
8	Nicotiana tobacum (Tambaku)	Solenosa - (An intermediate for Pharmaceuticals from Tobacco Waste).
9	Withania somnifera Dunal <u>Local Name</u> : Ashvagandha	<p>The roots are employed as a valuable drug in both Ayurveda and Unani systems of medicine. The drug finds important place in the treatment of rheumatic pain, inflammation of joints and in some paralytic conditions.</p> <p><u>Constituents</u> : 1) Withanine (2) Hygrine  3) Cuscohygrine (4) Anahygrine  5) Anaferrine (6) Withasomnines  7) Withaferin A (8) Some steroidal compounds.</p> <p><u>References</u>: 1) Phytochem. 14 (1975), 189.  2) Sci. Rept. June, 1977, p.380  3) J. Res. Ind. Med. 5 (1971), 251.  4) Ind. J. Pharm. 32 (1970), 70, 16.</p>

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Simarouaceae

1	<p><i>Balanites roxburghii</i> Local Name : Hingam</p>	<p>This is not common in Chandrapur but it is available in some arid regions of Maharashtra. It is a rich source of steroidal saponins, which on hydrolysis give diosgenin as the major constituent.</p>
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References: 1) J. Ind. chem. Soc. 28 (1951), 588  
 2) Chem. Listy. 47 (1953), 1875.  
 3) Pharma, Acta. Helv. 29 (1954), 260.  
 4) Ind. J. Pharm. 37 (1975), 103.  
 5) J. Oil. Tech. Assn. (India), 6 (1974), 40.  
 6) Arch. Pharm. 295 (1962), 401.  
 7) C.A. 78: 108225<sup>b</sup> and 144841<sup>h</sup>;  
 77: 1720<sup>m</sup> and 45550<sup>k</sup>;  
 79: 99721<sup>b</sup>.

Smilacaceae

1	<p><i>Smilax Zeylanica</i> Linn. <u>Local Name</u> : Guti</p>	<p>The roots are used to cure rheumatism.</p>
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Sapindaceae

1	<p><i>Cardiospermum halicacabum</i> Linn. <u>Local Name</u> : Kanphuti</p>	<p>It has some medicinal property. The essential oil of the seeds shows fall in B.P.</p>
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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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1	Cardiospermum .....	<p><u>Chemistry</u> : Roots : 1) Phlobaphene 2) Phlobatannin 3) Quebrachitol 4) Apigenin and Proanthocyanidin.</p> <p><u>References</u>: 1) Bull BSI 8 (1966), 357. 2) Ind. J. Pharm. 34 (1972), 76. 35 (1973), 40. 36 (1974), 168.</p>
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Scrophulariaceae

1	<p>Bacopa monnieri (Linn) Pennell <u>Local Name</u> : Brami</p>	<p>The decoction of the leaves is used in cough. It contains hersononin as the active principle.</p> <p><u>Chemistry</u> : a) Bacoside A and B b) Bacogenin A1</p> <p><u>References</u>: 1) Phytochemistry 12 (1973), 887. 2) Ind. J. chem. 5 (1967), 86. 3 (1969), 24 1 (1963), 212. 3) J. Sci. Ind. Res. 19B (1960), 455. 4) Arch. Intern. Pharmacodynamie, 129 (1960), 290.</p>
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Sterculiaceae

1	<p>Helicteres isora Linn <u>Local Name</u> : Kevani Murudseng</p>	<p>Isora fibre is known. It is present in the inner bark of the plant, which is extracted from the stem by retting. The residual stalks and twigs are suitable for paper manufacture.</p> <p><u>Reference</u> : 1) Ind. J. Pharm. 30 (1968), 283.</p>
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 Sr. Botanical Name/Local Name Medicinal and/or Economical uses and Chemistry/  
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- 2 *Melochia corchorifolia* Linn The stem bark yields a strong silvery white fibre.  
Local Name : Bilpat
- 3 *Sterculia urens* Roxb It yields fibre. The gum is used as a substitute for  
Local Name : Gulu tragacanth in throat affections. Tender branches  
 steeped in water yield a mucilaginous matter useful  
 for pluro-pneumonia in Cattle.

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Sapotaceae

- 1 *Madhuca longifolia* The oil is useful for soap. The presence of toxic  
Local Name : Mahuda saponin renders the oil cake unfit as animal feed.  
 The toxic cake is useful as insecticide and pesticide.  
Chemistry : 1) Seed husk contains lignin (28.6%)  
 2) Corollas are rich in sugars (72.9%).  
Reference : 1) Phytochemistry 11 (1972), 465.

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- 2 *Mimusops hexandra* The bark yields gum. The seeds contain a bitter saponin  
Local Name : Khirni which does not get extracted with oil. The fruits are  
 rich in carbohydrates (27.74%), thiamine (70.33 g),  
 riboflavin (77.41 g), nicotinic acid (0.66 mg) and  
 ascorbic acid (15.67 mg). The fruits are edible.  
Reference : 1) Fette. Seifen Anstrichmittel 63 (1961), 711.

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Tiliaceae

- 1 *Grewia hirsuta* Vahl It has medicinal properties.  
Local Name : Chatarni

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Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Verbanaceae

1 *Gmelia arborea*  
Local Name : Siwan

Root is one of the ingredients of dasamule Kyath. It is given to women as a galactagogue.

Chemistry : Leaves : Luteolin, apigenin  
Heat-wood : Clutyl ferulate  
Bromine containing lignan.

References: 1) Ind. J. Pharm. 32 (1970), 40.  
2) Curr. Sci. 36 (1967), 71.  
3) Ind. J. chem. 9(1971), 1027.  
4) Tetrahedron Letters (1975), 469/.

2 *Vitex Negundo* Linn  
Local Name : Nirgudi

There are three species useful for arthritis : 1) *Commiphora mukul* (2) *Vitex negundo* and (3) *Vitex trifoliata*. Ethanolic extract of the seeds of nirgudi inhibited ovulation in 60% of the treated animals. (Dose : 200 mg/Kg). The other species belonging to this family are :

- a) *Clerodendrum serratum* (Linn) Moon.
- b) *Phyllanodiflora* (Linn) Greene (Julapimpli)
- c) *Tectona grandis* Linn (Sagvan)

Chemistry : 1) Hentriacontane  
2) Sitosterol  
3) Para (OH) benzoic acid  
4) 3-4-di (OH) benzoic acid  
5) Positive test for alkaloids.

References: 1) Ind. J. Pharm. 23 (1961), 78  
35 (1973), 100  
2) Ind. J. chem. 12 (1974), 226.  
3) Sci. & Cult. 9 (1944), 508.  
4) J. Ind. chem. Soc. 13 (1936), 634.  
5) Curr. Sci. 34 (1965), 43.  
6) Ind. Oil Soap. 27 (1961), 3.

Sr. No.	Botanical Name/Local Name	Medicinal and/or Economical uses and Chemistry/ Selected References
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Zygophyllaceae

1 Tribulus terrestris Linn  
Local Name ; Lahan Gokharu

The fruit forms one of the ten ingredients of the Dasamula Kvath. The alkaloid in the fruit produces rise in B.P.; an appreciable increase in kidney activity. Extensively used in Ayurveda since long.

Chemistry : a) Positive test for alkaloids (0.001%)  
b) Fixed oil = 3.5%  
c) Resins and nitrates.

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Zinziberaceae

1 Costus speciosus (Koenig) Smith  
Local Name : Pushkarmula

A succulent herb with rhizomes. It is a good source of steroidal drugs. This species has recently gained importance as a source for diosgenin.

Chemistry : Diosgenin - 2.6%

References: 1) Ind. J. Pharm. 35 (1973), 114.  
2) Science Reporter, Dec. 76, p. 754.  
3) Curr. Sci. 45 (1976), 688.  
4) J. Inst. Chemists (India) 48 (1976), 148, 151, 170.  
5) Experientia, 26 (1970), 475.  
6) J. Appld. chem. & Biotechnol. 26 (1976), 657.  
7) IDMA Bulletin No.46 (1976), 611.

2 Curcuma zedoaria Rosc  
Local Name : Kachora  
'Sathi'

The decoction of the fresh rhizomes is useful for clerification of blood.

Reference : 1) Ind. J. Pharm. 33 (1971), 126.

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