

**FINAL REPORT**

**OF**

**“ETHNOBOTANICAL STUDIES IN MAHUR RANGE FOREST  
OF NANDED DISTRICT, MARATHWADA, MAHARASHTRA.”**

**A MINOR RESEARCH PROJECT**

**SUBMITTED**

**TO**

**UNIVERSITY GRANTS COMMISSION  
WRO, PUNE,**

**BY**

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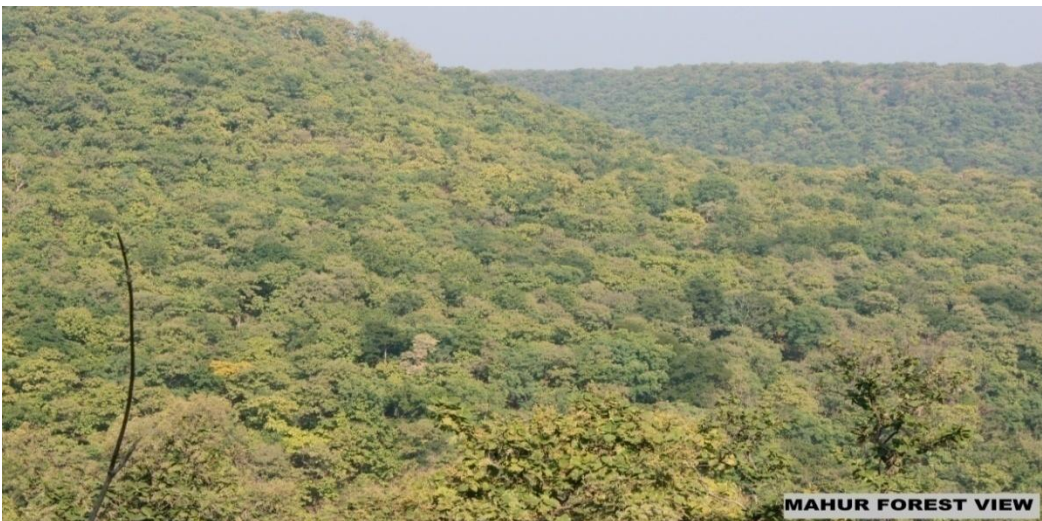
**2014**



**Dense Forest of Datta Manjiri**



**Mahur Hill**



**MAHUR FOREST VIEW**

## **CERTIFICATE**

I hereby declare that the Minor Research Project entitled **“ETHNOBOTANICAL STUDIES IN MAHUR RANGE FOREST OF NANDED DISTRICT, MARATHWADA, MAHARASHTRA”** and it is original work carried out by me in Botany Research Centre, DSM’<sup>s</sup> College of Arts, Commerce and Science, Parbahni.

(Dr. S. D. Biradar)

## **ACKNOWLEDGMENTS**

I express with great pleasure my deep sense of gratitude to University Grants Commission, WRO Pune for the financial assistance throughout the course of investigation.

I respectfully acknowledge to Dr. P. L. More, Principal, Dnyanopasak College, Parbhani for his constant encouragement and Dr. B. V. Hallale Head, Department of Botany, for providing laboratory facilities during the investigation.

I would like to express my thanks to Shri Vasant Gurme, Deputy Conservator of Forests Nanded for granting permission and providing necessary help during exploration of medicinal plants.

I am also grateful to all those informers who shared their traditional knowledge about medicinal plants during Ethno botanical survey.

I am thankful to all my research associates and friends especially Dr. P. R. Kanthale and Dr. D. P. Ghorband for their constant help in various ways.

I also thankful to Mr. Ramesh Bagal and Mr. Dilip Raut for their cooperation and laboratory assistance during my research work.

(Dr. S. D. Biradar)

## **CONTENTS**

<b>SR.NO</b>	<b>NAME OF THE CHAPTER</b>	<b>PAGE NO.</b>
<b>1</b>	<b>INTRODUCTION</b>	<b>1 - 5</b>
<b>2</b>	<b>REVIEW OF LITERATURE</b>	<b>6</b>
<b>3</b>	<b>MATERIALS AND METHODS</b>	<b>7 - 8</b>
<b>4</b>	<b>ENNUMERATIONS</b>	<b>9 - 55</b>
<b>5</b>	<b>DISCUSSION</b>	<b>56 - 69</b>
<b>6</b>	<b>PLANT PHOTO</b>	<b>70 -73</b>
<b>7</b>	<b>SCOPE OF THE RESEARCH</b>	<b>74</b>
<b>8</b>	<b>PUBLICATIONS</b>	<b>75</b>
<b>9</b>	<b>REFERENCES</b>	<b>76 - 78</b>

# **CHAPTER 1**

## **INTRODUCTION**

## INTRODUCTION

India is sitting on a gold mine of well-recorded and traditionally well-practiced knowledge of herbal medicine. This country is perhaps the largest producer of medicinal herbs and called "Botanical garden of the world". India officially recognizes over 3000 plants for their medicinal value. It is estimated that over 6000 plants in India are in traditional use. The herbal medicine representing about 75% medicinal needs of the third world countries. There are about 7000 firms manufacturing traditional medicines with or without standardization (Choudhary, *et al.* 1998).

In India, the indigenous system of medicine, namely Ayurvedic, Siddha and Unani have been in existence for several centuries. The traditional system of medicine together with homeopathy and folklore medicine continue to play a significant role in the healthcare system of the population. The demands for medical plants by the modern pharmaceutical industries have increased. Thus, medicinal plants constitute industrially important crops, which bring appreciable income to the country by way of export (Ganesan, *et al.* 2008).

Now a days medicinal herb are moving from fringe to mainstream with a greater number of people seeking remedies and health approaches free from side effects caused by synthetic chemicals. Recently, considerable attention has been paid to utilize eco-friendly and bio-friendly plant based products for the prevention and cure of different human diseases. Considering the adverse effect of synthetic drugs, the western population is looking for natural remedies, which are safe and effective. It was noticed that 80% of the world population has faith in traditional medicine, particularly plant drugs for their primary healthcare.

The new branch of science, ethnobotany acts as a bridge between traditional knowledge of tribal people and botany regarding medicinal aspect of the global population, relies on traditional medicine. A large part of the therapies consists of plant extract with their active constituents. India is very rich in medicinal plants and it is an important therapeutic aid for alleviating ailments of human kind.

There are number of geographical areas in Marathwada, which are fruitful in vegetation and especially medicinal plants. One of the places where medicinal plants are available on a large scale is Mahur. The Mahur forest has been widely acknowledged for

its “herbal treasure trove”. The tribal and rural population of Mahur taluka is composed of different communities. Each tribal community has distinct social and cultural identity of its own. The principle tribes in Mahur are Andh, Kolam, Naikede, Gond and Pradhan. Tribal people fulfill their needs of plant medicines from nearby forests for curing different ailments. The valuable indigenous knowledge about plants of this area is an important Indian heritage. Tribals are good at knowledge of herbal wealth and related vegetation in the immediate vicinity. The tribal communities of the area have staunch confidence in ethnomedicine. The use of plants as a medicine has been followed traditionally as trial and error and the knowledge about plant medicine is being passed from generation to generation. However, the uses of the plant medicine have not recorded. It is orally familiar to the rustics and tribal. The region is still ethnobotanically under exploration. Hence, now a day it is essential to make the documentation of such important medicinal information. However, many of these potential plants have not yet studied medico-botanically and its medicinal value is ignored. Therefore, it is essential to document the medicinal potential of plants.

### **1.1 Topography of Marathwada**

Marathwada formed a part of old Hyderabad state, which remained a separate territory up to 1956. The botanical exploration in this political unit remained unprogressive as compared with other parts of the subcontinent. After reorganization of state in 1956, this region was merged into Maharashtra state and since then there have been some efforts towards the floristic studies of the region. Subsequently Naik and his associates especially Zate (1983) have under taken the exploration of the Mahur and Kinwat forest of Nanded district.

Marathwada is a topographically large region comprising of eight districts, viz. Aurangabad, Beed, Jalana, Latur, Nanded, Osmanabad, Parbhani and Hingoli. Geographically this region is situated between  $77^{\circ} 5' - 78^{\circ} 5'$  East longitude and  $17^{\circ} 5' - 20^{\circ} 5'$  North latitude. It forms a part of the vast Deccan plateau of India and is one of the four divisions of Maharashtra state. The total area of  $64,798 \text{ km}^2$  is bounded by the Vidarbha region to the north, Andrapradesh on the east and southeast, Karnataka on the south and by western Maharashtra on the west. The entire region is situated at an average height of about 300-650 above mean sea level gradually sloping from west to east and is traversed



by hill ranges originating from the Sahyadris in the west and satpudas in the north. The major river Godavari flows from the west to the east and southwest collecting water on its way from several large and small tributaries like Dudhna, Manjra, Penganga, Purna, Tanvarja, Terna and others. Most of the tributaries are seasonal and dry up soon after the monsoon.

## **1.2 Geology and soil**

The Deccan trap characterizes Marathwada region. The granite rocks have given rise to red and black cotton soils. A major part of Marathwada region has deep black soil, which is derived from the trap rock. A mixture of laterite and black soil for example, is encountered in the eastern parts together with sandy soil along riverbanks. Most of the hilltops are bare or covered by coarse gravel while the low-lying areas accumulate clay and loam. Out of total 64, 30371 hectares geographical land about 2232279 hectares land is under forest, 622839 hectares is barren and pasture land. About 283182 hectares is fallow land and about 2792027 hectares land is net cultivated area.

Chemically, the soils are alkaline in reaction. The P<sup>H</sup> range varies from 6.5 to 8.5. Soluble salts as measured in terms of electrical conductivity are in normal range with an average E.C. of 0.3 to 0.67 mmhos/cm organic carbon content of most of the soils is mostly low to medium. The phosphorus is within the medium range. Zinc available to the crops varies from 0.8 to 6.4 ppm. Thus, the soils in general, are rich in calcium and magnesium carbonates and are deficient in nitrogen and phosphorous. This chemical composition is mainly responsible for the cracking of the soil during summer.

## **1.3 Climate and rainfall**

The weather, in general can be said to be dry and extreme. The average day temperature ranges from 27.7<sup>0</sup>C to 38<sup>0</sup>C while it falls from 26.9<sup>0</sup>C to 20<sup>0</sup>C during night. Similarly, summer and winter temperature also varies greatly. The maximum temperature during summer days is being about 45.7<sup>0</sup> C. While the lowest during winter nights reaching about 6<sup>0</sup>C. Relative humidity is extremely low for major part of the year and ranges between 35-50%, while it is highest up to 85%.

The rainy season begins from middle of June and ends by September, which is followed by sultry period from about the end of September to the middle of November. The winter season commences from the middle of November and ends by the end of

January followed by a dry hot summer from February to middle of June. Summers are, in general, full of gusty winds.

The region receives rain from the southwest monsoon. While the rest of the Deccan plateau the rains start by the middle of June and it is intense in July and August and cease by the end of September. The normal average rainfall is about 90 cm but is rather variable from year to year. Now a day it has decreased considerably in the recent years. The major amount of southwest monsoon precipitation is received on the west coast of India due to the Sahyadri and only a small amount escapes through high hills, which is received by the Deccan plateau. The region thus falls in the rain shadow of the Sahyadris.

The climate of the region as stated earlier supports the vegetation that it divided into tropical dry deciduous forests, the open scrub jungles and vast tracts of grassland.

#### **1.4 Geography of study area**

Mahur taluka is located in northern part of Nanded district and North and South by Yavatamal district bound it. At its East, part the Andhrapradesh and West by Pusad taluka of Vidarbh region. Geographically the Mahur taluka is situated between  $19^{\circ}49'$  to  $19^{\circ}83'$  North latitude and  $77^{\circ} 91'$  to  $77^{\circ}55'$  East longitude. The total geographical area of taluka is 52160 hectares and its population is 86782 (Census-2001), out of the population 15.5 percent is the tribal population of aborigines like Andh, Kolam, Gond, Naikede and Pradhan (Pawade *et al.* 2008). The study area consists of satmala and Nirmal hills. The hill ranges covered with dense plant population. The main river of the area is Penganga, which flows from the South to the North in an eastern direction. The average rainfall is about 699 mm and the temperature ranges between  $45^{\circ}$  F and  $113^{\circ}$  F in this area. The Mahur area endowed with forest resources. The total geographical area is 52160 hectares out to which 14397.39 hectares area covered with forest and 37762.61 hectares are non-forested area.

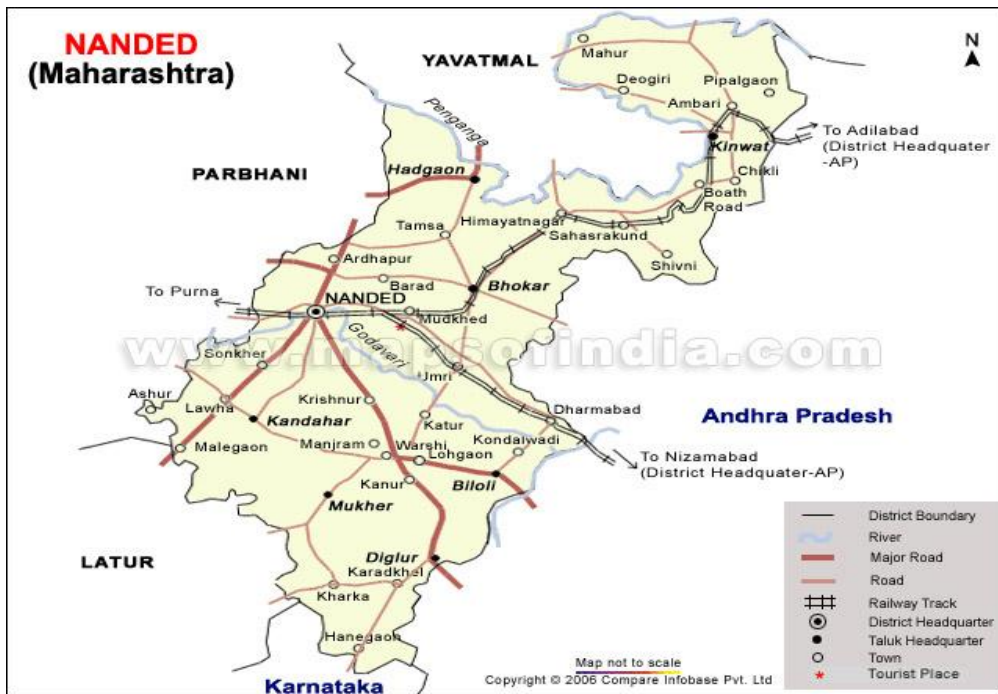


Fig No. 1 Map of Nanded District.

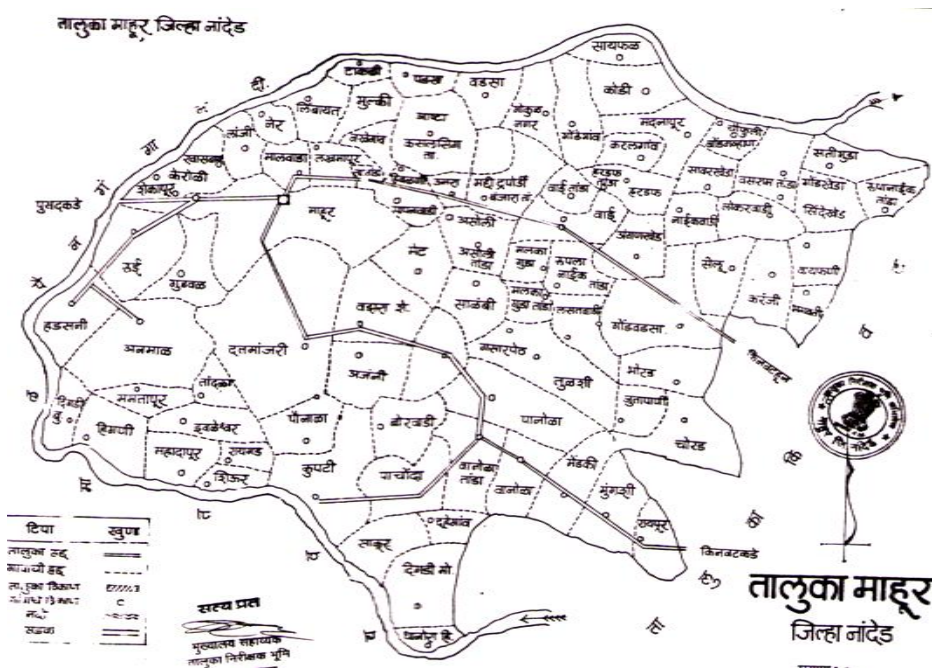


Fig: No 2: Location of the Study Area.

## **CHAPTER 2**

# **REVIEW OF LITERATURE**

## REVIEW OF LITERATURE

A comprehensive review of literature is an essential part of any scientific investigation, its main functions are to determine the previous work done, assist in delineation of problem area, provide basis for theoretical framework, and provide an insight into methods and procedures to be used, suggest operational definitions of major concepts and to help for interpretation of findings. Review of literature is directly indirectly relevant to the objectives of the study.

Medico botanical studies have been under taken in Maharashtra by number of workers. The major references are Gadgil and Vartak (1973 and 1976), Kamble and Pradhan (1983), Saxena and Vyas (1983), Vartak and Gadgil (1981) Bhogaonkar (2002), Badgujar and Patil (2008), Puri and Chaturvedi (2008), Gupta *et al.* (2009), Patil and Patil (2005, 2007a and 2007b), Pawar and Patil (2004, 2005 and 2006), Pawar *et al.* (2006), Patil *et al.* (2004), Jagtap *et al.* (2008), Antwal *et al.* (2008), Rathor *et al.* (2001).

## **CHAPTER 3**

# **MATERIALS AND METHODS**

## **MATERIALS AND METHODS**

### **3.1 Medico-botanical survey**

Extensive ethnomedicinal survey were carried out during 2012-2014 to document the precious indigenous health care practices prevalent among the different ethnic groups i.e. Gond, Kolam, Pradhan, Naikede and Andh of Mahur range forest of Nanded district. The tribal belonging to primitive or aboriginal culture posses a good deal of information about medicinal utility and biodiversity. During the survey, it was noted that the plant or plant parts were commonly used by the tribes to cure various diseases and disorders. Indigenous health care practices provide low cost alternatives in the situation where modern health care services are not available or too expensive.

### **3.2 Method of collection**

The study was covering 25 villages of the Mahur Tahsil. Information was collected during field trips on the basis of interviews with the traditional practitioners, village heads, women folks senior villagers at different localities inhabited who have knowledge of curative properties of plant. Occasionally, the resource persons were also taken into the jungles as guide for collection of plant specimens. Information regarding preparation of the remedies methods of preparation, dosages, mode of use were also recorded.

In this study, 23 knowledgeable elders (22 men and one women between the ages of 40 and 78) chosen with the assistance of local administrators and community leaders, served as key informants was visited three times in order to verify the reliability of the data obtained. The information said during the first visit regarding the use of a particular plant, the same informant did not agree with what was told during the first visit. If the information was found unreliable it is discarded. Repeated visits also help to get additional information. The enumerations were compared with standard literature Khare, (2007), Naik, (1998); Pawar and Patil, (2008), Jain, (1991) Kurian, (2001), Joshi, (2007), Agarkar, (1991), Kumar, (1993), Sinha, (1996), Kirtikar and Basu, (1991) and Grewal, (2000).

### **3.3 Interviews with tribal practitioners**

Ethnobotanical data were collected according as per methodology by Jain (1964), Sinha (1996). The ethnobotanical data, local name, mode of preparation, mode of uses were collected through interviews and discussions among the tribal practitioners in their local language. During interview interactions were made on the prescribed plant part(s) used in medicinal. Information about mode of preparation (i.e., decoction, paste, powder and juice), form of usage either fresh or dried and mixtures of other plants used as ingredients were recorded. Each prescription was considered authentic only after confirmation from few informants and by cross checking at different times. Preliminary identification was done by examining fresh plants procured from the villages. Plant materials were identified with the help of standard floras (Naik, 1979; Naik, *et al* 1998, Singh and Kartekeyan, 2001; Cheety, *et al.* 2008 and Yadav and Sardesai, 2002). Voucher specimens in duplicate were deposited in the herbarium Department of Botany, Dnyanopasak College Parbhani. The corresponding raw materials were collected and the morphological characters were compared with the fresh plants. Few respondents were more informative and co-operative; they have shown fresh plants in the habitat, which was useful for the identification.

During the study 187 plants were collected along with their ethnomedicinal uses. Plants were enumerated alphabetically along with local name; family etc.



# **CHAPTER 4**

## **ENUMERATION OF MEDICINAL PLANTS**

## ENUMERATION OF MEDICINAL PLANTS

### *Abelmoschus crinitus* Wall

**Family:** Malvaceae. **Local Name:** Rantlaki. **Part(s) used:** Leaves

**Ethnobotanical Uses:**

Paste of leaves is applied on fore head to cure headache (Gangaram).

### *Abelmoschus manihot* (L.) Medik.

**Family:** Malvaceae. **Local Name:** Ran bhendi. **Part(s) used:** seeds.

**Ethnobotanical Uses:**

About spoonful powder of seeds is given at night for three days to cure abdominal pain or gastric problem(Ram Cherange and Gangaram).

### *Abrus precatorius* L.

**Family:** Fabaceae. **Local Name:** Pandhri gunj. **Part(s) used:** Leaves, root and seed.

**Ethnobotanical Uses:**

1. Few leaves are chewed two times in a day for two days to treat hoarseness (Gangaram).
2. A spoonful extract of root is taken orally in early morning for three days to cure cough (Dohele).
3. Two gm seed powder is consumed thrice a day for two days to control leucorrhoea (Pawar).

### *Abrus precatorius* L.

**Family:** Fabaceae. **Local Name:** Lalgunj. **Part(s)used:** Root, and seed.

**Ethnobotanical Uses:**

1. A spoonful extract of root is used to cure hoarseness in voice ( Perchake).
2. Snuff the powder of seed once a day to cure headache (Dumane).
3. A spoonful extract of root is given twice a day for three days to cure white discharge (Dumane).
4. A spoonful extract of root is given twice a day for two days to cure fever (Dulasing Pawar).

***Abutilon indicum* (L.) Sweet**

**Family:** Malvaceae. **Local Name:** Sikka or Petari. **Part(s) used:** Fruit, root and leaves.

**Ethnobotanical Uses:**

1. A spoonful powder of fruit is consumed at night for seven days to cure urinary complaint. (Gangaram)
2. About spoonful extract of root is drunk twice a day for three days to cure fever. (Gangaram)
3. Powder of leaves is rubbed on teeth to cure teeth pain and bleeding gum. (Gangaram)

***Acacia farnesiana* (L.) Willd.**

**Family:** Mimosaceae. **Local Name:** Devbabul. **Part(s) used:** Stem bark, fruit.

**Ethnobotanical Uses:**

1. Paste of bark is applied on foot, hands and abdomen regularly to treat rickets of child (Pawar).
2. A spoonful powder of fruit is given along with butter milk two times in a day for three days as an antidote for rabid dog (Pawar).
3. A spoonful powder of fruit is given along with water two times in a day as an antidote for bite of rat (Mantute ).

***Acacia leucophloea* (Roxb.) Willd.**

**Family:** Mimosaceae. **Local Name:** Hiwar. **Part(s) used:** Stem bark.

**Ethnobotanical Uses:**

1. About a spoonful juice of stem bark is given twice a day for two days to cure fits (Gangaram).
2. Paste of stem bark is applied on chest to cure fits (Pawar).

***Achyranthes aspera* L.**

**Family:** Amaranthaceae. **Local Name:** Aghada. **Part(s) used:** Root.

**Ethnobotanical Uses:** The mixture of 25 gm powder of root and 25 gm ghee is consumed twice a day to cure hepatitis (Kadam).

***Adhatoda zeylanica* Medic.**

**Family:** Acanthaceae. **Local Name:** Adulsa. **Part(s) used:** leaves

**Ethnobotanical Uses:**

1. About half cup decoction of leaves is administrated twice a day for three days to cure cough (Chavan, Madwae and Dumane).
2. Powder of leaves is given along with betel leaf twice a day for seven days to control asthma ( Dumane).

***Aegle marmelos* (L.) Corr.**

**Family:** Rutaceae. **Local Name:** Bel.

**Part(s) used:** Fruit, root and leaves.

**Ethnobotanical Uses:**

1. A spoonful pulp of fruit is given along with cow milk twice a day for three days to cure dysentery (Perchak).
2. Half cup decoction of root and leaves is taken orally thrice a day for two days against abdominal pain (Madawe).
3. Half cup juice of fruit is taken twice a day for three days to treat dysentery (Madawe).
4. Half cup decoction of root is given twice days for six days to treat fever (Gangaram).

***Aerva lanata* Juss.**

**Family:** Amaranthaceae. **Local Name:** Kalrani. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. About half cup juice of leaves drunk at night to control indigestion (Gite).
2. Paste of leaves is applied on abdomen to control abdominal pain (Gite).
3. Paste of leaves is applied on swelled area to reduce swelling (Gite).

***Ageratum conyzoides* L.**

**Family:** Asteraceae. **Local Name:** Osadi. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

About spoonful juice of leaves is taken twice a day for five days to control cough (Gangaram)

***Ailanthus excelsa* Roxb.**

**Family:** Simaroubaceae. **Local Name:** Maharaka or maharuk.

**Part(s) used:** Stem bark.

**Ethnobotanical Uses:**

1. One cup juice of stem bark is given two times in a day for three days to control leucorrhoea (Perchake).
2. About half cup juice of stem bark is given in early morning for eight days to cure abdominal pain (Gite and Perchake).

***Amaranthus tricolor* L.**

**Family:** Amaranthaceae. **Local Name:** Tandulja or Tandulkundera.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. About half cup juice of plant is given twice a day for six days to treat urinary complaints (Gangaram).
2. Curries prepared from plant is consumed to treat dysentery (Rathod).
3. About a cup juice of plant is given twice a day to treat fever (Rathod).
4. Half cup juice of stem is given twice a day for fifteen days against obesity (Gangaram).

***Amaranthus viridis* L.**

**Family:** Amaranthaceae. **Local Name:** Pandra math.

**Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. About a cup juice of leaves is drunk two times to cure fits (Perchake).
2. Aspoonful juice of leaves is drunk in early morning for three days to cure abdominal pain (Perchake).

***Amorphophallus sylvaticus* (Roxb.) Kunth**

**Family:** Araceae. **Local Name:** Jangli suran, or gadda.

**Part(s) used:** Corm.

**Ethnobotanical Uses:**

About 25 gm of fresh fried corm is consumed twice a day for six days as a tonic or as an energetic (Gangaram, Perchake, Kadam, Behare).

***Ammannia baccifera* L.**

**Family:** Lythraceae. **Local Name:** Bharjambul.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

Plant ash is mixed in coconut oil and is applied over infected skin till cure (Ubale).

***Ammannia multiflora* Roxb.**

**Family:** Lythraceae. **Local Name:** Mungni. **Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

About two spoonful powder of plant is mixed in coconut oil and is applied over head at night for eight days to cure head itching (Ubale).

***Andrographis paniculata* (Burm. f.) Wall.**

**Family:** Acanthaceae. **Local Name:** Bhuilimb.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. About half cup of root extract is given twice a day for three days to expel intestinal round worm (Cherange).
2. Aspoonful powder of plant is advised to consume twice a day for seven days to cure fever (Gite).
3. About a cup of decoction of plant is taken twice a day for 15 days to control diabetes (Gite).

***Anisomeles indica* (L.) O. Ktze.**

**Family:** Lamiaceae. **Local Name:** Kalimeri. **Part(s) used:** Seeds.

**Ethnobotanical Uses:**

About spoonful seed powder is taken twice a day to control indigestion (Ubale).

***Anogeissus latifolia* (Roxb. ex DC.) Wall.**

**Family:** Combretaceae. **Local Name:** Dhawda. **Part used:** Gum.

**Ethnobotanical Uses:**

1. Water soaked gum is given two times in a day for two days to cure dysentery (Gangaram).

2. Dried gum powder is mixed in wheat flour, then it is fried in cow ghee and advised to consume 100 gm in early morning for 15 days to cure weakness (Gangaram and Baliram).

***Annona reticulata L.***

**Family:** Annonaceae. **Local Name:** Ramphal. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Juice of leaves and powder of seed is used to kill lice (Pawar).
2. Juice of leaves is used to treat boils (Pawar).
3. Juice of leaves is used to cure skin diseases (Pawar).

***Annona squamosa L.***

**Family:** Annonaceae. **Local Name:** Sitaphal.

**Part(s)used:** Leaves and stem bark.

**Ethnobotanical Uses:**

1. A Spoonful juice of leaves is taken once to stop vomiting (Mandale).
2. Paste of leaves is locally applied on wound for quick healing (Mandale).
3. Two spoonful extract of stem bark is taken twice a day for eight days to increase appetite (Mandale).

***Argemone mexicana L.***

**Family:** Papaveraceae. **Local Name:** Piwala dhotra or Bilayat.

**Part(s) used:** Root and leaves.

**Ethnobotanical Uses:**

1. One drop of leaf juice is dropped in eyes twice a day to cure eye diseases (Gangaram).
2. About one inch piece of root chewed twice a day for two days to treat tetanus (Gangaram).
3. Spoonful extract of root is given twice a day for five days to control hepatitis (Gangaram).

***Asparagus racemosus Willd.***

**Family:** Liliaceae. **Local Name:** Shatawari, **Part(s) used:** Root.

**Ethnobotanical Uses:**

1. Two-spoonful root powder is given twice a day for seven days to cure

leucorrhoea (Gangaram).

2. Two-spoonful root powder is given twice a day for seven days to increase lactation (Adhe).

***Azadirachta indica* A. Juss.**

**Family:** Meliaceae. **Local Name:** Kadu limb.

**Part(s) used:** Leaves, stem bark and flowers.

**Ethnobotanical Uses:**

1. Half cup juice of bark is drunk twice a day for three days to treat burning sensation in fever (Chavan).
2. About half cup decoction of stem bark is drunk twice a day for four days against malaria (Chavan).
3. About 25 gm flowers are chewed at night regularly for digestion (Chavan).
4. Powder of stem bark and leaves is locally applied on diseased skin to control skin diseases (Cherange).
5. About a cup juice of leaves is taken orally in early morning for 14 days for purification of blood (Chavan).
6. Powder of leaves is applied on wound for quick healing (Cherange).

***Balanites aegyptica* (L.) Del.**

**Family:** Balanitaceae. **Local Name:** Hinganbet. **Part(s) used:** Seed.

**Ethnobotanical Uses:**

1. Seed is crushed in water and two drops of this mixture is dropped in eyes twice a day for two days to treat eye diseases (Pawar).
2. One gm seed is consumed thrice a day to treat cough (Pawar).
3. Half spoonful seed extract is consumed thrice a day to cure abdominal pain (Chavan).

***Bambusa vulgaris* L.**

**Family:** Poaceae. **Local Name:** Bambu. **Part(s) used:** Tender shoot.

**Ethnobotanical Uses:**

1. Tender shoot is act as energetic (Madwae).
2. Paste of tender shoot is applied on piles till cure ( Madwae).



3. Ash of tender shoot is applied along with coconut oil on wound for quick healing (Gite).

***Barleria cristata* L.**

**Family:** Acanthaceae. **Local Name:** Nilikoranti. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. A spoonful juice of leaves is mixed in spoonful honey and is taken twice a day for three days to control cough (Ubale).
2. A spoonful juice of leaves is given twice a day for seven days to cure fever (Ubale).

***Barleria prionitis* L.**

**Family:** Acanthaceae. **Local Name:** Pivli kate koranti. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

Few drops of mixture of leaf juice and kapur is dropped in ear for earache and tympanitis (Kadam).

***Bauhinia variegata* L**

**Family:** Caesalpinaceae. **Local Name:** Apta or Kanchan.

**Part(s) used:** Stem bark, leaves.

**Ethnobotanical Uses:**

1. 50 gm powder of dried stem bark is mixed in powder of 21 Cardamom. About halfspoonfull mixture is given twice a day for twenty-one days to cure weakness (Gangaram).
2. Powder of two dried leaves, two date palm, dried ginger and black pepper is mixed in one glass water and used to cure malaria (Gangaram).

***Benincasa hispida* (Thunb.) Cong.**

**Family:** Cucurbitaceae. **Local Name:** Kohla. **Part(s) used:** Fruit.

**Ethnobotanical Uses:**

1. About two spoonful juice of fruit is taken twice a day for seven days to treat rheumatism (Pawar).
2. Half cup juice of fruit is taken at night for three days to cure abdominal pain (Pawar).

3. About half cup juice of fruit is drunk twice a day for 15 days for purification of blood (Pawar).

***Bidens biternata* (Lour.) Merr. & Sherff.**

**Family:** Asteraceae. **Local Name:** Bauchi.

**Part(s) used:** Leaves and Root.

**Ethnobotanical Uses:**

1. Two spoonful juice of leaves is drunk twice a day for three days to control cough (Ubale).
2. A spoonful extract of root is given two times in a day for three days to control abdominal pain by expelling intestinal worm (Ubale).

***Biophytum sensitivum* (L.) DC.**

**Family:** Oxalidaceae. **Local Name:** Lajari. **Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. Spoonful juice of plant is taken orally twice a day for two days to stop dysentery (Rathod).
2. Spoonful decoction of root is drunk two times in a day for seven days against kidney stone (Rathod).

***Blepharis repens* (Vahl.) Roth**

**Family:** Acanthaceae. **Local Name:** Hadsan.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. Two spoonful powder of plant is consumed along with cow milk to cure bone inflammation (Doheli).
2. Two spoonful powder is taken with cow milk, to increase strength of the fractured bones (Doheli).

***Blumea oxyodonta* DC.**

**Family:** Asteraceae. **Local Name:** Pandhari tantani.

**Part(s) used:** Leaves.

**Ethnobotanical Uses:** Paste of leaves is applied over wound two times in a day for three days for quick healing (Maruti Ubale)

***Boerhavia repens L.***

**Family:** Nyctaginaceae. **Local Name:** Punarnawa.

**Part(s) used:** Leaves.

**Ethnobotanical Uses:**

About half cup juice of leaves is given in early morning for seven days to cure hepatitis (Mantute).

***Bombax ceiba L.***

**Family:** Bombacaceae. **Local Name:** Kate shawari.

**Part(s) used:** Stem bark.

**Ethnobotanical Uses:**

1. Spoonful bark powder is taken with cow milk twice a day for fourteen days to increase sperm count (Doheli).
2. Two spoonful bark powder is taken with one cup curd twice a day for two days to cure dysentery (Doheli).

***Brassica campestris L.***

**Family:** Brassicaceae. **Local Name:** Mohari. **Part(s) used:** Seeds.

**Ethnobotanical Uses:**

A vertical incision is made on banana fruit, where the powder of seeds is filled and kept for over night. The banana fruit is eaten early in morning for the three days to increase blood in body (Kadam).

***Bridelia montana (Roxb.) Willd.***

**Family:** Euphorbiaceae. **Part(s) used:** Stem bark.

**Local Name:** Dat jodi.

**Ethnobotanical Uses:**

Powder of stem bark is rubbed on teeth two times in a day for seven days to cure teeth diseases (Gangaram).

***Buchanania lanzan Spreng. J.***

**Family:** Anacardiaceae. **Local name:** Charoli.

**Part(s) used:** Seeds and Stem bark.

**Ethnobotanical Uses:**

1. About 10 gm seeds are consumed or taken in early morning as a tonic (Perchake).
2. Spoonful extract of stem bark is given two times in a day for two days to cure typhoid (Perchake).

***Butea monosperma* (Lamk.) Taub.**

**Family:** Fabaceae. **Local Name:** palas.

**Part(s) used:** Leaves, Root, Flowers, and Seeds.

**Ethnobotanical Uses:**

1. Five flowers are soaked in water for over night. Sugar is added in this water early in the morning. About two spoonful water is advised two times in a day for eight days to increase spermcount ( Chorange).
2. Two spoonful juice of leaves is given two times in a day for three days to cure cough (Kadam).
3. Aspoonful extract of seed is given two times in a day for three days to treat abdominal pain (Kadam).
4. Powder of seed is given two times in a day to treat acidity (Kadam)..
5. A spoonful powder of seed is given along with milk thrice a day for three days to expel abdominal round worm (Kadam).
6. About spoonful extract of root bark is taken with milk to treat impotence (Kadam).
7. A mixture made from seed powder and lemon juice is applied on infected skin to cure skin diseases ( Kadam Kupti).

***Cadaba fruticosa* (L.) Druce.**

**Family:** Capparaceae. **Local Name:** Kali taklan. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Leaves are cooked in rice, and consume once a day up to fourteen days to treat rheumatism (Doheli).
2. Powder of leaves is mixed in cow ghee, about spoonful mixture is taken thrice a day for four days to cure rheumatism (Chavan).
3. Warmed leaves are tided on joint over night against joint pain (Pawar).

4. Paste of leaves is applied on paralyzed part (Adhe).

***Caesalpinia bonduc* (L.) Roxb.**

**Family:** Caesalpinaceae. **Local Name:** Gajaga or sargargota.

**Part(s) used:** Seed.

**Ethnobotanical Uses:**

1. About one gm seed is given along with betel leaf twice a day for two days to cure abdominal pain (Pawar).
2. About one spoonful water of crushed seed is administered twice a day for two days as an analgesic (Mawdawe).
3. Powder of warmed seed is consumed along with 50 gm ghee in early morning for six days to control rheumatism (Mantue).

***Caesulia axillaris* Roxb.**

**Family:** Asteraceae. **Local Name:** Jangali pandhra.

**Part(s) used:** Leaves.

**Ethnobotanical Uses:**

Two drops of leaf juice is dropped in ear two times in a day for two days against earache (Gangaram).

***Cajanus cajan* (L.) Millsp.**

**Family:** Fabaceae. **Local Name:** Tur. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

Paste of leaves is applied on fractured part, held up to three days, then wash with hot water continue till recovery (Pawar).

***Calotropis gigantea* (L.) R. Br.**

**Family:** Asclepiadaceae. **Local Name:** Pandhri ruchki.

**Part(s) used:** Flowers, leaves and latex.

**Ethnobotanical Uses:**

1. Latex is applied locally on scorpion stung area (Marape).
2. A flower is consumed along with betel leaf thrice a day to treat typhoid (Marap).
3. A flower or petals are given along with honey thrice a day to control asthma

an cough (Mantute).

4. Paste of lower leaves is mixed in 50gm jaggery and three tablets are made from it and advised to take after 10 minutes interval as an anthelmintic (Mantute).
5. A thorn from foot sole is easily removed on application of leaves latex (Gangaram).

***Calotropis procera* (Ait.) R. Br.**

**Family:** Asclepiadaceae. **Local Name:** Neli ruchaki.

**Part(s)used:** Root and Leaves.

**Ethnobotanical Uses:**

1. Past of root is used to treat eczema and boils (Pawar).
2. Two drops juice of leaves is given early in morning to treat cough (Gangaram).

***Capparis divaricata* Lamk.**

**Family:** Capparaceae. **Local Name:** Lahan waghata. **Part(s) used:** Fruits.

**Ethnobotanical Uses:**

1. About two spoonful fruit powder is recommended two times in a day for two days to stop dysentery (Doheli, Gangaram).
2. A spoonful fruit powder is consumed two times in a day for five days to control intestinal worms (Baliram Rathod).

***Capparis zeylanica* L.**

**Family:** Capparaceae. **Local Name:** Waghata.

**Part(s) used:** Root and Fruit.

**Ethnobotanical Uses:**

1. About spoonful extract of root is drunk twice a day to cure or regularize menstrual cycle (Perchake).
2. About half cup of juice of fruit is taken orally at morning for three days to cure diarrhoea (perchake).

***Carthamus tinctorius* L.**

**Family:** Asteraceae. **Local Name:** kardi.

**Part(s) used:** leaves and seeds.

**Ethnobotanical Uses:**

1. Paste of fresh leaves is applied on wound (Gangaram).
2. Two spoonful powder of seed is given at night along with warm water to treat digestive problem (Gangaram).

***Cassine albens (Retz.) Kosterm.***

**Family:** Celastraceae. **Local Name:** Bhuta palas or Bhoott keshi.

**Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Spoonful powder of leaves is filled in leaves of *Diospyros melanoxylon* and smoked after scorpion sting and also used to stop hiccough (Raut).
2. Paste of stem bark is applied on inflammatory area as an antiphlogistic (Perchake).

***Cassia auriculata L.***

**Family:** Caesalpiniaceae. **Local Name:** Tarota.

**Part(s) used:** Leaves and seeds.

**Ethnobotanical Uses:**

1. Paste of leaves is locally applied on wound for quick healing (Merape).
2. Aspoonful powder of seeds is taken along with tea once a day for eight days to treat rheumatism (Perchake).
3. Ash of plant is rubbed regularly on teeth to increase strength of teeth (Perchake).

***Cassia sophera L.***

**Family:** Caesalpiniaceae. **Local Name:** Devtarota.

**Part(s) used:** Leaaaves and seeds.

**Ethnobotanical Uses:**

1. Warmed leaves put on eyes at night for ten miuntes for two days to cure itching of eyes (Maruti Ubale).
2. About half cup decoction of seeds is taken orally at night for three days to cure indigestion (Perchake and Ubale).

***Cassia fistula L.***

**Family:** Caesalpiniaceae. **Local Name:** Amaltas or Bhava.

**Part(s) used:** Seeds, flowers, Pod and root.

**Ethnobotanical Uses:**

1. Powder of pod is used as an antidote on scorpion sting (Kadam).
2. About 10 gm flowers are advised orally twice a day for three days to control digestive problem (Kadam).
3. Powder of pod is administrated along with curd twice a day for three days to treat dysentery (Marape).
4. Powder of pod is applied on infected skin till cure (Marape).
5. A spoonful powder of pod is taken once a day for three days to cure abdominal pain (Kamble).
6. Powder of seed is used to stop nausea (Kamble).
7. A spoonful powder of pod is advised twice a day for three days to treat typhoid (Chavan).

***Celosia argentea L.***

**Family:** Amaranthaceae. **Local Name:** Kardu or kombada.

**Part(s) used:** Seeds.

**Ethnobotanical Uses:**

Half spoonful powder of seed is taken orally with cow milk twice a day for two days to treat kidney stone (Gangaram).

***Cissus quadrangula L.***

**Family:** Vitaceae. **Local Name:** Hadjodi.

**Part(s) used:** Young shoot, Leaves.

**Ethnobotanical Uses:**

1. Paste of tender shoot is applied on fractured area twice a day till cure (Gangaram).
2. Paste of warmed tender shoot or leaves is applied on swelling part till cure (Gangaram).

***Citrullus colocynthis (L.) Schrad.***



**Family:** Cucurbitaceae. **Local Name:** Indrayan or Kaduindrayan.

**Part(s) used:** Seed.

**Ethnobotanical Uses:**

2-3 seeds are given along with betel leaf thrice a day for three days to cure fever (Dulasing Pawar).

*Citrus aurantifolia* (Christm.) SW.

**Family:** Rutaceae. **Local Name:** Limbu. **Part(s)used:** Fruit.

**Ethnobotanical Uses:**

1. A mixture of juice of fruit and spoonful sugar is drunk twice a day against stomach pain (Mantute).
2. Two spoonful juice of fruit is taken twice a day for four days to expel intestinal worms (Gite).

*Cleome gynandra* L.

**Family:** Cleomaceae. **Local Name:** Pandhari tilwan.

**Part(s) used:** Seeds.

**Ethnobotanical Uses:**

A half spoonful mixture of seed powder and honey is taken orally to stop vomiting (Perchake).

*Cleome viscosa* L.

**Family:** Cleomaceae. **Part(s) used:** Leaves. **Local Name:** Piwali tilwan.

**Ethnobotanical Uses:**

About half spoonful juice of leaves is taken along with a spoonful honey twice a day for three days to treat diarrhoea (Perchake).

*Clerodendrum multiflorum* (Burm. f.) O. Ktze.

**Family:** Verbenaceae. **Local Name:** Pandhri takalani.

**Part(s) used:** Leaves and root.

**Ethnobotanical uses:**

1. Warmed leaves tied on joint to treat joint pain (Gangaram).
2. Spoonful extract of root is given as an antitode on snake bite (Cherange).
3. Half spoonful juice of leaves mixed with one gm lime, then it is applied

locally on wound on scorpion stung (Chavan).

***Clerodendrum serratum* (L.) Moon**

**Family:** Verbenaceae. **Local Name:** Bharang. **Part(s) used:** Root.

**Ethnobotanical Uses:**

About one spoonful extract of root is given twice a day for eight days to cure leucorrhoea (Gangaram).

***Clitoria ternatea* L.**

**Family:** Fabaceae. **Local Name:** Gokarna. **Part(s) used:** Whole plant

**Ethnobotanical Uses:**

About one spoonful powder of plant is consumed twice a day for three days to control rheumatism (Pawar).

***Coccinia grandis* (L.) Voigt**

**Family:** Cucurbitaceae. **Local Name:** Tondli.

**Part(s) used:** Fruit and root.

**Ethnobotanical Uses:**

1. About two fruits are consumed thrice a day for two days to treat mouth sores (Ubale).
2. Two spoonful extract of root is given twice a day for seven days to reduce blood sugar level (Ubale).

***Cocculus hirsutus* (L.) Diels**

**Family:** Menispermaceae. **Local Name:** Wasanwel.

**Part(s) used:** Leaves and Root.

**Ethnobotanical Uses:**

1. About spoonful juice of leaves is taken orally twice a day to stop dysentery (Chavan).
2. About two spoonful extract of root is drunk twice a day for seven days to treat arthritis (Chavan).
3. Extract of root is applied on infected skin to treat skin diseases (Chavan).

***Coix gigantea* Roxb.**

**Family:** Poaceae. **Local Name:** Kasaigawat. **Part(s)used:** Root.

**Ethnobotanical Uses:**

Spoonful extract of root is drunk twice a day for four days to cure urinary complaints (Gangaram).

***Commelina paludosa* Blume.**

**Family:** Commelinaceae. **Local Name:** Pangavat.

**Part(s) used:** Leaves.

**Ethnobotanical Uses:**

Paste of leaves is applied on inflammatory area and then coconut oil is applied to cure inflammation (Perchake, Gangaram, Baliram Rathod).

***Cordia dichotoma* Forst. f.**

**Family:** Ehretiaceae. **Local Name:** Bhokar.

**Part(s)used:** stem bark, root bark and fruit.

**Ethnobotanical Uses:**

1. Fruits are used against diarrhoea (Gangaram).
2. Decoction of stem bark is used to treat teeth pain (Cherange).
3. About half cup decoction of stem bark is advised orally twice a day for three days as expectorant (Gite).
4. Decoction of root bark is taken twice a day for two days to cure dysentery (Marape).

***Coriandrum sativum* L.**

**Family:** Apiaceae. **Local Name:** Kothmir. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Paste of leaves is applied on forehead to treat headache (Perchake).
2. Paste of leaves is applied on burnt area till cure (Perchake).

***Crotalaria hirsuta* Willd.**

**Family:** Fabaceae, **Local Name:** Sonari, **Part(s) used:** Leaves.

**Ethnobotanical Uses**

1. Paste of leaves is applied over inflammatory area two times in a day for three

days to cure inflammation (Gangaram).

2. Paste of leaves or juice of leaves is applied over forehead to control headache (Gangaram).

***Crotalaria montana* Roth**

**Family:** Fabaceae. **Local Name:** Rapati. **Part(s) used:** Root.

**Ethnobotanical Uses:**

Powder of root is used to control lice (Ubale).

***Crotalaria notonii* Wt. and Arn.**

**Family:** Fabaceae. **Local Name:** Pivla charak.

**Part(s) used:** Whole plant.

**Ethnobotanical Uses:**

Powder of plant is mixed with coconut oil and is applied regularly on skin to cure skin diseases (Perchake).

***Curculigo orchioides* Gaerth. Fruct.**

**Family:** Hypoxidaceae. **Local Name:** Kalimusali.

**Part(s) used:** Root tuber

**Ethnobotanical Uses:**

About spoonful powder of tuber is given along with cow milk twice a day as a tonic or as a energetic (Gangaram, Perchake, Chorange and Raut).

***Curcuma pseudomontana* Grah.**

**Family:** Zingiberaceae. **Local Name:** Ranhalad.

**Part(s) used:** Rhizome.

**Ethnobotanical Uses:**

1. A spoonful paste of fresh rhizome is mixed in cup of cow milk and is drunk twice a day for three days to cure cough (Ubale).
2. Paste of rhizome is applied on face to remove black lesions (Govind).
3. Paste of Rhizome is applied on injury till cure (Ubale).
4. Paste of fresh rhizome is mixed with moist soil and is applied on inflammatory area as a antiphlogistic (Gangaram).

***Cymbopogon martinii* (Roxb.) Wats.**

**Family:** Poaceae. **Local name:** Tikhadi gawat. **Part(s) used:** Rhizome.

**Ethnobotanical Uses:**

A spoonful extract of rhizome and root is given in early morning for three days to control asthma (Maruti Ubale).

***Cynodon dactylon* (L.) Pers.**

**Family:** Poaceae. **Local Name:** Harali. **Part(s) used:** plant.

**Ethnobotanical Uses:**

1. About half cup juice of plant is drunk twice a day for three days to treat bleeding nose (Pawar).
2. About a cup juice is advised along with sugar twice a days for two days to treat fever (Pawar).
3. Paste of plant is applied on swelled part (Pawar).

***Cyperus alopecuroides* Rottb.**

**Family:** Cyperaceae. **Local Name:** Songavat. **Part(s) used:** Rhizome.

**Ethnobotanical Uses:**

1. Paste of rhizome is applied over inflammatory area to cure inflammation (Gangaram).
2. Paste of rhizome is applied over wound for quick healing (Gangaram).

***Cyperus alulatus* Kern**

**Family:** Cyperaceae. **Local Name:** Bondgavat. **Part(s) used:** Rhizome.

**Ethnobotanical Uses:**

Powder of rhizome is mixed in water and is applied on scalp to remove dandruff (Behare ).

***Cyperus sanguinolentus* Vahl**

**Family:** Cyperaceae. **Local Name:** Rangavat. **Part(s) used:** Rhizome.

**Ethnobotanical Uses:**

To treat leucoderma the paste of fresh rhizome is applied over affected area in early morning for one hour thereafter washed it with water and apply coconut oil on that area, expose the area to sunlight for five to ten minutes continue it up to its disappearance (D D Kamble).

***Cyperus scariosus* R. Br.**

**Family:** Cyperaceae. **Local Name:** Nagar motha.

**Part(s) used:** Rhizome.

**Ethnobotanical Uses:**

1. Half-cup decoction of tuber is given twice a day for three days to treat fever (Gangaram).
2. About a cup decoction of rhizome is given twice a day to stop dysentery (Rathod).

***Datura innoxia* Mill.**

**Family:** Solanaceae. **Local Name:** Dhotra. **Part(s)used:** Leaf and root.

**Ethnobotanical Uses:**

1. Paste of leaves is applied on neck twice a day for three days to treat diphtheria (Mantute).
2. Half spoonful juice of leaves is given along with cup of honey to treat cough and asthma (Gangaram).
3. Paste of root is used against arthritis (Kamble).
4. Half spoonful juice of leaves is taken orally once a day for two days to treat fever (Gita).

***Datura metel* L.**

**Family:** Solanaceae. **Local Name:** Kala dhotra.

**Part(s) used:** leaves and fruit.

**Ethnobotanical Uses:**

1. Paste of leaves is applied on wound till cure (Mantute).
2. Powder of fruit is applied along with coconut oil on wound till cure (Mantute).
3. Juice or paste of leaves is applied on inflammatory area twice a day for three days as an antiphlogistic (Chavan and Pawar).
4. Juice of leaves is applied on burnt skin twice a day till cure (Shadmak).
5. Juice of leaves is applied on tumorous neck twice a day for seven days or till recovery (Shadmak).

***Dendrophthoe falcata* (L.f.) Etting.**

**Family:** Loranthaceae. **Local Name:** Kaverga or Bandgul.

**Part(s) used:** Stem bark and leaves.

**Ethnobotanical Uses:**

1. A spoonful powder of stem bark is given two times along with cow milk for three days to cure weakness (Dhoeli and Gangaram).
2. A spoonful juice of leaves and stem bark is given two times in a day along with cow milk for seven days for purification of blood (Mantute).

***Desmodium velutinum* (Willd.) DC.**

**Family:** Fabaceae. **Local Name:** Chirmi.

**Part(s) used:** Leaves

**Ethnobotanical Uses:**

Juice of fresh leaves is applied on feet at night for eight days to cure burning sensation of feet (D D Kamble).

***Dioscorea bulbifera* L.**

**Family:** Dioscoreaceae. **Local Name:** Jatashankar.

**Part(s) used:** Root tuber.

**Ethnobotanical Uses:**

1. Paste of root tuber is applied on wound twice a day till cure (Gangarm and Ubale).
2. Powder of root tuber is applied along with coconut oil on affected skin twice a day for five days (Adhe).
3. About two gm root tuber is given along with betel leaf thrice a day for three days to increase lactation (Chavan).
4. About one gm root tuber is consumed along with betel leaf twice a day to cure abdominal pain (Ubale and Gite).

***Diplocyclos palmatus* (L.) Jeffrey**

**Family:** Cucurbitaceae. **Local Name:** Shivlingi.

**Part(s) used:** Fruit and root.

**Ethnobotanical Uses:**

1. Paste of unripe fruit is applied on abdomen to treat abdominal pain (Gangaram).
2. Paste of root is applied on swelling till cure (Gangaram).

***Drimia indica* (Roxb.) Jessop**

**Family:** Liliaceae. **Local Name:** Jangli kanda or Ran kanda.

**Part(s) used:** Root tuber.

**Ethnobotanical Uses:**

1. Piece of bulb is given along with betel leaf four times in a day as an antidote on snake bite (Gangaram).
2. Paste of bulb is applied on stung area as an antidote on scorpion sting (Gite).
3. Piece of bulb is administrated twice a day to control abdominal pain (Gite).

***Echinops echinatus* Roxb.**

**Family:** Asteraceae. **Local Name:** Katechabuk.

**Part(s)used:** Root and stem.

**Ethnobotanical Uses:**

1. Paste of root is applied on piles twice a day for seven days (Perchake).
2. A mixture of stem ash and coconut oil is applied on infected skin till cure (Perchake).

***Eclipta alba* (L.) Hassk.**

**Family:** Asteraceae. **Local Name:** Maka. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Two drops of juice of leaves are dropped in eyes twice a day for two day to reduce of eye swelling (Gangaram).
2. Half cup leaf juice is drunk twice a day for three days to treat hepatitis (Gangaram).
3. Paste of leaves is applied on inflammatory area to cure inflammation (Ubale).

***Enicostema axillare* (Lam.) Raynal.**

**Family:** Gentianaceae. **Local Name:** Nai or kadu nai.

**Part(s) used:** Entire plant.



**Ethnobotanical Uses:**

1. Spoonful plant powder is given twice a day for fourteen days to control blood pressure (Gite).
2. Spoonful juice of plant is taken orally in early morning for eight days to treat fever (Gite).
3. Spoonful juice of leaves is taken thrice a day for two days against typhoid (Pawar).

***Eranthemum roseum* (Vahl) R. Br.**

**Family:** Acanthaceae. **Local Name:** Jabhal rangi. **Part(s) used:** Root.

**Ethnobotanical Uses:**

Paste of root is applied on feet at night to reduce burning sensation or to cure cracks of feet (Ubale).

***Erigeron lyratus* L.**

**Family:** Asteraceae. **Local Name:** Sonati. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

Paste of leaves prepared in safflower oil and is applied locally on scabies regularly till cure (Rathod).

***Euphorbia barnhartii* Croizat, Euph.**

**Family:** Euphorbiaceae. **Local Name:** Tindhari nivdung.

**Part(s) used:** Plant latex and tender shoots.

**Ethnobotanical Uses:**

1. Latex of plant is used to cure swelling (Mantute).
2. Latex of plant is applied on joints to cure rheumatic pain (Adhe).
3. Latex of plant is applied on infected skin till cure (Marape).
4. Latex of plant is given orally to cure urinary complaints (Cherange).
5. Latex is given along with butter to cure cough and asthma (Marape).
6. Latex is given orally to control abdominal pain, dysentery and as carminative (Mandale).
7. About one spoonful juice of warmed tender shoot is given twice a day for ten days to cure cough (Gangaram).

***Euphorbia thymifolia* L.**

**Family:** Euphorbiaceae. **Local Name:** Kalidudhi.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. Small tablets were made from the mixture of plant extract and jaggery. Three tablets are advised at the interval of ten minutes to control high fever (Perchake).
2. Spoonful decoction of plant is drunk twice a day for three days to treat typhoid (Perchake).

***Euphorbia dracunculoides* Lamk.**

**Family:** Euphorbiaceae. **Local Name:** Pisola.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. Paste of plant is applied over wound for quick healing.
2. Paste of plant is applied over joints to control arthritis.
3. Paste of plant is applied over inflammatory area to control inflammation (Baliram Rathod).

***Evolvulus alsinoides* (L.) L.**

**Family:** Convolvulaceae. **Local Name:** Vishnu kanta.

**Part(s) used:** Entire plant.

**Ethnobotanical uses:**

Paste of fresh plant is applied on breast twice a day for eight days to cure mastitis and breast inflammation (Gangaram).

***Exacum pedunculatum* L.**

**Family:** Gentianaceae. **Local name:** Tagari. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

Juice of leaves is applied on infected skin two times in a day for eight days to cure skin diseases (Maruti Ubale).

***Ficus benghalensis* L.**

**Family:** Moraceae. **Local Name:** Wad.

**Part(s) used:** Aerial root and latex.

**Ethnobotanical Uses:**

1. A spoonful latex is mixed in 50 gm of jaggery then it is consumed for seven days to enhance sperm count (Mantute and Gite).
2. Paste of aerial root is applied on hairs at night for 11 days to stop premature hair fall (Mantute and Gite).
3. Latex is applied on feet crack for seven days for healing (Chavan).
4. About two spoonful powder of aerial root is consumed twice a day for seven days to enhance sperm count (Gite).
5. Five dates are soaked in half of cup latex. It is consumed five times in a day for three days to increase sex power or enhance sperm count (Madawe).

***Ficus racemosa L.***

**Family:** Moraceae. **Local Name:** Umbar.

**Part(s) used:** Root, stem latex and fruit.

**Ethnobotanical Uses:**

1. Five fruits are consumed at morning for ten days to cure weakness (Cherange).
2. Latex is applied on gum to treat tooth ache (Pawar).
3. Two fruit are consumed thrice a day for five days to reduce body heat (Chavan).
4. About half cup extract of root is taken thrice a day for three days to cure leucorrhoea (Perchake).
5. A date is soaked in latex for seven days and consumed to cure weakness (Gite).
6. Two spoonful milk of cow and one spoonful latex of this plant along with calcium carbonate applied on swelled part twice a day for three days (Dumane).
7. Latex is applied on testis twice a day for three days to control swelling of testis (Dumane).

***Ficus religiosa L.***

**Family:** Moraceae. **Local Name:** Pimpal. **Part(s)used:** Stem bark.

**Ethnobotanical Uses:**

1. Two spoonful stem bark powder is mixed in two spoonful honey and taken orally twice a day for 15 days to treat asthma (Kadam).

2. A spoonful powder of stem bark is taken with water thrice a day for three days to treat fever (Kadam).

***Maytenus emarginata* (Willd.) Ding Hou**

**Family:** Celastraceae. **Local name:** Hekalni. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Paste of leaves is applied on inflammatory area (Gangaram).
2. Paste of leaves applied on infected skin till cure (Gangaram).

***Gantelbua urens* (Heyne ex Roth) Bremek.**

**Family:** Acanthaceae. **Local Name:** Matoli. **Part(s) used:** Seeds.

**Ethnobotanical Uses:**

A spoonful powder of seed is mixed in a cup of cow milk and drunk in early morning for four days to cure kidney stone (Behare).

***Gardenia latifolia* Ait.**

**Family:** Rubiaceae. **Local Name:** Chekati. **Part(s) used:** Fruit.

**Ethnobotanical Uses:**

1. About spoonful fruit powder is mixed in spoonful amount of honey. It is advised to consume twice a day for ten days for flatulence (Behare).
2. A spoonful root extract is mixed with spoonful honey and is given at night for five days to treat colic (Behare).

***Gardenia resinifera* Roth**

**Family:** Rubiaceae. **Local Name:** Dikemali. **Part(s) used:** Resin.

**Ethnobotanical Uses:**

1. About one gm resin powder is mixed in spoonful water and is taken twice a day for three days to expel roundworms (Ubale).
2. Resin is applied on teeth twice a day for three days to cure dysentery during teeth development in child (Rathod).
3. About half spoon dried resin powder is mixed in a cup of water and is drunk twice a day for two days to treat colic (Gangaram).

***Gloriosa superba* L.**

**Family:** Liliaceae. **Local Name:** Kalawi. **Part(s) used:** Root stock.

**Ethnobotanical Uses:**

A paste of root stock in cow urine is applied on piles twice a day for seven days (Pawar).

***Glossocardia bosvallea* (L. f) DC.**

**Family:** Asteraceae. **Local Name:** Khadak shepu.

**Part used:** Entire plant.

**Ethnobotanical Uses:**

1. About half cup decoction of leaves is taken twice a day for three days to cure chronic fever (Gangaram).
2. Spoonful powder of plant is given orally twice a day for two days to cure typhoid (Ubale).
3. Spoonful powder of plant is given at night for four days to cure gastric trouble (Rathod).

***Gnaphalium polycaulon* Pers.**

**Family:** Asteraceae. **Local Name:** Ran pather. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Paste of leaves is applied on swelled part till cure (Rathod).
2. Paste of leaves is applied on breast to control mastitis (Rathod).

***Gomphrena serrata* L.**

**Family:** Amaranthaceae. **Local Name:** Lahan kardu.

**Part(s) used:** Seeds.

**Ethnobotanical Uses:**

About spoonful seed powder is given at night for seven days to control urinary stone (Ubale).

***Goniocaulon indicum* (Klein ex Willd.) Cl.**

**Family:** Asteraceae. **Local Name:** Karad kusumb.

**Part(s) used:** Leaves and Flowers.

**Ethnobotanical Uses:**

1. A spoonful juice of leaves is given two times in a day for three days to cure abdominal pain (Rathod).
2. Juice of leaves and flower is mixed and applied over forehead to control headache (Rathod).

***Grangea maderaspatana (L.) Pior.***

**Family:** Asteraceae. **Local Name:** Machipatra.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. Few drops of juice of leaves are dropped in ear twice a day against earache (Gangaram).
2. Half cup of plant juice is given orally once a day for three days to stop dysentery (Gangaram).

***Haplanthodes verticillata (Roxb.) R. B.***

**Family:** Acanthaceae. **Local Name:** Pankenar. **Part(s) used:** Root.

**Ethnobotanical Uses:**

A spoonful extract of root is taken orally with honey twice a day for seven days in treatment of asthma (Ubale).

***Helicteres isora L.***

**Family:** Sterculaceae. **Local Name:** Murud sheng.

**Part(s) used:** Leaves and pod.

**Ethnobotanical Uses:**

1. A spoonful powder of leaves is given twice a day for two days to cure abdominal pain (Kadam, Raut).
2. A spoonful pod powder is consumed twice a day for three days to cure stomach-ache (Pawar, Ubale).
3. A spoonful fruit powder is given orally twice a day for two days to cure dysentery (Gangaram).
4. A spoonful pod powder is taken twice a day for a week to cure fits or to treat fits (Ubale).

***Hibiscus lobatus* (Murr.) O. Ktze.**

**Family:** Malvaceae. **Local Name:** Lahan jaswand.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

Paste of fresh plant is applied on breast to cure mastitis (Ubale).

***Hybanthus enneaspermus* (L.) F. Muell**

**Family:** Violaceae. **Local Name:** Ratan puruash.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. About one spoonful plant powder is taken with cow milk twice a day for eight days to increase sperm count (Ubale).
2. About spoonful, powder of root is given twice a day for three days to cure leucorrhoea (Doheli).

***Hygrophila schulli* (Buch. Ham.) M. R. & S. M. Almeida.**

**Family:** Acanthaceae. **Local Name:** Talim khana.

**Part(s) used:** Leaves and seed.

**Ethnobotanical Uses:**

1. A spoonful juice of leaves is taken twice a day for two days to cure abdominal pain (Gangaram).
2. About spoonful powder of seed is consumed along a cup of cow milk once in a day for seven days to control rheumatism as well as arthritis (Ubale and Gangaram).
3. One seed is consumed along with betel leaf thrice a day for three days to control acidity (Pawar).
4. About two spoonful powder of seed with *Blephaeris* and date is consumed thrice a day for ten days as a energetic (Shadmake).

***Indigofera cordifolia* Heyne ex Roth**

**Family:** Fabaceae. **Local Name:** Bhuigavat. **Part(s) used:** Root.

**Ethnobotanical Uses:**

Paste of root is applied regularly on joints at night for rheumatism (D. D. Kamble).

***Indigofera tinctoria L.***

**Family:** Fabaceae. **Local Name:** Neel. **Part(s) used:** Flowers.

**Ethnobotanical Uses:**

Paste of flowers is applied over burnt area two times in a day for eight days.  
(Maruti Ubale, Perchake, Cherange and Kadam).

***Iphigenia indica (L.) A. Gray***

**Family:** Liliaceae. **Local Name:** Jangli lasan or pakli lasan.

**Part(s) used:** Seeds.

**Ethnobotanical Uses:**

About spoonful seed powder is mixed in 25 gm jaggery and is given twice a day for three days to increase the lactation of mother (Ubale).

***Ipomoea pes-tigridis L.***

**Family:** Convolvulaceae. **Local Name:** Beshramwel.

**Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Paste of leaves is applied over swelled area to reduce swelling (Gangaram).
2. Paste of leaves is applied on joints to treat joint pain (Perchanke).

***Ixora chinensis Lamk.***

**Family:** Rubiaceae. **Local Name:** Kalamahu.

**Part(s) used:** Leaves and stem bark.

**Ethnobotanical Uses:**

1. About half cup juice of leaves is taken twice a day for two days to cure abdominal pain (Ubale).
2. About a cup of extract of bark is taken orally as antidote on snake poison (Rathod).

***Ixora pavetta Andrews***

**Family:** Rubiaceae. **Local name:** Lokhandi. **Part(s) used:** Stem bark.

**Ethnobotanical Uses:**

Decoction of bark is used to cure bleeding of teeth (Perchake).



***Jacquemontia paniculata* (Burm. f.) Hall. f.**

**Family:** Convolvulaceae. **Local Name:** Pandharwel.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

Plant powder is applied on gum twice in a day to treat teeth diseases till cure (Gangaram).

***Lagenaria siceraria* (Molina) Standl.**

**Family:** Cucurbitaceae. **Local Name:** Dudhya bhopala.

**Part(s) used:** Fruit.

**Ethnobotanical Uses:**

About half cup juice of fruit is taken thrice a day for seven days to lower the blood pressure (Pawar).

***Lantana camara* L.**

**Family:** Verbenaceae. **Local Name:** Ghaneri.

**Part(s) used:** Stem and Leaves.

**Ethnobotanical Uses:**

1. Ash of stem is applied along with coconut oil on wound for quick healing (Perchake).
2. Juice of leaves is applied on infected skin (Perchake).

***Launaea procumbens* (Roxb.) Ramayya & Rajgopal**

**Family:** Asteraceae. **Local Name:** Pathari. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. About two cup juice of leaves is given as antidote on food poisoning (Mantute).
2. Paste of leaves applied on joints twice a day for fifteen days to cure joint pain (Gangaram).

***Lawsonia inermis* L.**

**Family:** Lythraceae. **Local Name:** Mendi. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Half spoonful juice of leaves is taken orally twice a day for three days to cure cough (Rathod).

2. Paste of leaves is locally applied on feet to stop burning sensation of feet and skin diseases (Rathod).
3. Paste of leaves is applied on forehead to treat headache (Rathod).

***Leonotis nepetifolia* (L.) R. Br.**

**Family:** Lamiaceae. **Local Name:** Matisul or Deepmal.

**Part(s) used:** Leaves and flowers.

**Ethnobotanical Uses:**

1. Spoonful decoction of leaves is taken orally twice a day for three days to cure fever (Rathod Ubale Gangaram).
2. Paste of flowers is applied on infected skin to control skin diseases (Ubale).

***Leucas cephalotes* (Roth) Spreng.**

**Family:** Lamiaceae. **Local Name:** Tumba. **Part(s) used:** leaves.

**Ethnobotanical Uses:**

1. About spoonful juice of leaves is drunk twice a day for three days to control abdominal pain (Gangaram).
2. Paste of leaves or juice is applied on joints for rheumatic swelling (Gangaram).

***Limonia acidissima* L.**

**Family:** Rutaceae. **Local Name:** Kauth.

**Part(s) used:** Leaves and fruit pulp.

**Ethnobotanical Uses:**

1. About a cup juice of leaves is taken with a cup of cow milk twice a day for three days to treat hepatitis (Pawar).
2. Spoonful powder of fruit pulp is taken orally twice a day for seven days to treat indigestion (Pawar).

***Madhuca longifolia* (Koen.) Macbr.**

**Family:** Sapotaceae. **Local Name:** Mahuwa.

**Part(s) used:** Seed, stem bark and flowers.

**Ethnobotanical Uses:**

1. Seeds are crushed in water and applied over eczema till cure (Pawar).

2. Oil of seed is applied on joints to control arthritis and control rheumatism (Gite).
3. Paste of boiled flower is applied over belly twice a day for three days to in continence of urine (Dumane).
4. Half cup juice of stem bark and few flowers is given twice a days for two days to cure dysentery (Dumane).
5. About half spoon oil of seed is given twice a day for three days to cure cough (Gite).

***Mangifera indica L.***

**Family:** Anacardiaceae. **Local Name:** Amba. **Part(s) used:** Stem bark.

**Ethnobotanical Uses:**

1. Two spoonful powder of stem bark is consumed orally along with water thrice a day for two days to cure leucorrhoea (Perchake).
2. Spoonful powder of stem bark is taken orally thrice a day for three days to control hepatitis (Perchake).
3. Two spoonful powder of stem bark is given three days to stop dysentery (Perchake).

***Martynia annua L.***

**Family:** Martyniaceae. **Local Name:** Waghnaakhi or Kutri.

**Part(s) used:** Leaves & Fruit.

**Ethnobotanical Uses:**

1. Paste of leaves is applied on pimples (Perchake).
2. About one gm of seed is consumed along with milk thrice a day to cure headache (Perchake).

***Maytenus emarginata (Willd.) Ding Hou***

**Family:** Celastraceae. **Local Name:** Hekaln. **Part(s) used:** Leaf

**Ethnobotanical Uses:**

1. Paste of leaves is applied on inflammatory area (Gangaram).
2. Paste of leaves is applied on infected skin till cure (Gangaram).

***Melothria maderaspatana (L.) Cogn.***

**Family:** Cucurbitaceae. **Local Name:** Kamuni.

**Part(s) used:** Fruit, Root and Leaves.

**Ethnobotanical Uses:**

1. Paste of fruit is applied on piles till cure (Gite).
2. Paste of leaves is applied on joints regularly to treat joint pain (Gite).
3. About spoonful extract of root is drunk two times in a day for five days to regularize menstrual cycle (Gite).

***Mimosa pudica L.***

**Family:** Mimosaceae. **Local Name:** Lajalu. **Part(s) used:** Root.

**Ethnobotanical Uses:**

1. Powder of root is applied on wound for quick healing (Ramprasad Pawar).
2. Half cup decoction of root is given twice a day to control kidney stone ( Ramprasad Pawar).

***Moringa oleifera Lamk.***

**Family:** Moringaceae. **Local Name:** Shevga.

**Part(s) used:** Leaves and stem bark.

**Ethnobotanical Uses:**

1. A spoonful juice of stem bark is administrated twice a day for four days to enhance sperm count (Madawe).
2. A spoonful juice of leaves is taken twice a day for seven days to enhance sperm count (Madawe).

***Mucuna pruriens (L.) DC.***

**Family:** Fabaceae. **Local Name:** Khajkuir.

**Part(s) used:** Root and seeds.

**Ethnobotanical Uses:**

1. Spoonful extract of root is given with half cup of curd twice a day to stop dysentery (Perchake and Gangaram).
2. Spoonful extract of root is drunk two times in a day for three days to control abdominal pain (Rathod).
3. Spoonful powder of seeds is taken with honey twice a day for 14 days to

reduce weakness (Rathod).

***Murraya koenigii* (L.) Spreng.**

**Family:** Rutaceae. **Local Name:** Kadipatta.

**Part(s) used:** Root and Leaves.

**Ethnobotanical Uses:**

1. Two spoonful root extract is given twice a day for three days to expel intestinal worms (Gite).
2. Half cup juice of leaves is drunk in early morning for fifteen days to purify blood (Gangaram).

***Nerium indicum* Mill.**

**Family:** Apocynaceae. **Local name:** Pandhri kahner.

**Part(s) used:** Root.

**Ethnobotanical Uses:**

- Paste of root is applied on wound till cure (Gangarma).  
One gm of root is consumed as an antidote on snake bite (Gangaram).

***Nyctanthes arbor-tristis* L.**

**Family:** Oleaceae. **Local Name:** Parijatak. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

- A spoonful mixture of juice of *Nyctanthes* and *Ocimum* leaves is advised at early morning for six days to cure fever (Kadam).

***Nymphaea pubescens* Willd.**

**Family:** Nymphaeaceae. **Local Name:** Kamal. **Part(s) used:** Rhizome.

**Ethnobotanical Uses:**

1. A spoonful powder of rhizome with sugar is consumed twice a day for three days to cure leucorrhoea (Raut).
2. About two spoonful powder of rhizome is taken along with half cup of curd twice a day for two days to treat dysentery (Raut).
3. About one spoonful powder of rhizome is given along with buttermilk twice a day for four days to cure abdominal pain (Raut).

***Ocimum americanum L.***

**Family:** Lamiaceae. **Local Name:** Tulsi. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. About half cup decoction of leaves, two dates, ginger and black pepper is given twice a day in febrifuge (Perchake).
2. About half cup decoction of leaves is mixed with spoonful honey and is taken orally for twice a day for eight days to cure asthma (Perchake).
3. Leaves are chewed early in morning to cure cough (Dohele).  
About half cup decoction of leaves and fleshy scales of *Allum sativum* is given at night for eight days to cure asthma (Gite).

***Ocimum basilicum L.***

**Family:** Lamiaceae. **Local Name:** Sabja.

**Part(s) used:** Leaves, root, inflorescence and seeds.

**Ethnobotanical Uses:**

1. Juice of leaves is applied on body early in morning to cure body pain (Ubale).
2. About spoonful juice of leaves is mixed in spoonful honey and is given twice a day for 15 days to control asthma (Ubale).
3. Two spoonful milk soaked seeds are given in morning for 15 day to reduce body heat (Ubale).
4. Mixture made from two spoonful extract of root and one spoonful honey is given twice a day for eight days to control asthma (Ubale).
5. Inflorescence are chewed regularly early in morning for hoarseness of voice (Ubale).

***Opuntia elatior Mill.***

**Family:** Cactaceae. **Local Name:** Phady nivdung.

**Part(s) used:** Young stem and fruit.

**Ethnobotanical Uses:**

1. Paste of warmed young shoot is applied on inflammatory area (Kadam).
2. Paste of stem is applied on corn till cure (Kadam).
3. Two spoonful juice of fruit is administered orally twice a day for three days

to cure cough (Kadam).

4. A spoonful juice of fruit is advised twice a day for eight days to control asthma (Gangaram).

***Pergularia daemia* (Forsk.) Choiv.**

**Family:** Asclepiadaceae. **Local Name:** Utran.

**Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Three leaves are chewed as an antidote for scorpion bite and latex is applied on stunged area (Mantute).
2. About half glass juice of leaves is drunk to reduce poison from body (Mantute).
3. Three leaves are given thrice a day for three days against indigestion (Mantute).
4. A mixture of latex and butter is applied on teeth to cure teeth diseases and mouth diseases (Perchake).

***Petalidium barlerioides* (Roth.) Wall.**

**Family:** Acanthaceae. **Local Name:** Gokuli.

**Part(s) used:** Leaves and root.

**Ethnobotanical Uses:**

1. A spoonful juice of leaves is taken orally twice a day for three days to cure cough (Ubale).
2. About spoonful extract of root is taken orally twice a day for two days to cure fever (Ubale).

***Phyllanthus emblica* L.**

**Family:** Euphorbiaceae. **Local Name:** Awala.

**Part(s) used:** Leaves and fruit.

**Ethnobotanical Uses:**

1. Powder of leaves is applied along with coconut oil on wound till cure (Pawar).
2. Powder of leaves is applied on gum regularly to cure toothache (Gite).

3. Leaves are chewed as remedy for better digestion and cure hoarseness of voice (Gite).
4. About half cup juice of fruit is advised at morning for weakness (Perchake).
5. About two spoonful powder of fruit is taken orally at night for eight days to control digestive problem (Perchake).
6. About a spoonful powder of fruit is taken along with cow milk thrice a day for three days to control asthma (Pawar).
7. About spoonful powder of fruit is taken twice a day for four days to cure dysentery (Pawar).

***Phyllanthus maderaspatensis L.***

**Family:** Euphorbiaceae. **Local Name:** Bhuijambul.

**Part(s) used:** Fruit.

**Ethnobotanical Uses:**

1. Powder of fruit is applied on teeth twice a day to control teeth diseases (Ubale).
2. About spoonful powder of fruit is given at night for eight days to cure teeth diseases (Ubale).

***Pongamia pinnata (L.) Pierre***

**Family:** Fabaceae. **Local Name:** Karangi.

**Part(s) used:** Leaves and seeds.

**Ethnobotanical Uses:**

1. Paste of seed is locally applied on swelled part (Gangaram).
2. Paste of young leaves is locally applied on wound for quick healing (Gangaram).

***Portulaca oleracea L.***

**Family:** Portulacaceae. **Local Name:** Ghol. **Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. Paste of plant is applied on burnt area as a cooling agent (Gangaram).
2. Paste of plant is applied on inflammatory area thrice a day for three days (Rathod).
3. About a cup juice of plant is given orally twice a day for seven days to treat



- urinary complaints (Gangaram)
4. Paste of plant is applied on infected skin till cure (Gangaram).
  5. Half cup juice of plant is taken twice a day for two days against sunstroke (Gangaram).

***Prosopis cineraria* (L.) Druce**

**Family:** Mimosaceae. **Local Name:** Sondad. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Paste of leaves is applied on inflammatory area to cure inflammation (Gangaram).
2. Powder of stem bark is rubbed on teeth two times in a day for 15 days to cure bleeding gum (Baliram).
3. Leaves are chewed three to four times in a day for two days to cure mouth ulcer(Gangaram).

***Psidium guajava* L.**

**Family:** Myrtaceae. **Local Name:** Jamb.

**Part(s) used:** Stem and leaves.

**Ethnobotanical Uses:**

1. A spoonful decoction of stem bark is taken orally twice a day for two days to stop dysentery (Gangaram).
2. Half cup juice of leaves is taken orally at night to treat indigestion (Gangaram).

***Psoralea corylifolia* L.**

**Family:** Fabaceae. **Local Name:** Bawchi. **Part(s) used:** Seeds.

**Ethnobotanical Uses:**

Spoonful powder of seeds is mixed in spoonful honey, which is advised twice a day for eight days to reduce body heat (Ubale).

***Rhynchosia minima* (L.) DC.**

**Family:** Fabaceae. **Local Name:** Pivli pushpin. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

About spoonful juice of plant is taken orally thrice a day for two days to cure chronic fever (Perchake).

***Ricinus communis L.***

**Family:** Euphorbiaceae. **Local Name:** Earandi. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Spoonful juice of young leaves is mixed with half cup cow milk and drunk in early morning for three days to cure hepatitis (Gangaram).
2. Half cup juice of young petiole is mixed with half cup goat milk and drunk at morning for three days to cure hepatitis (Gangaram).

***Rorippa indica (L.) Hiern.***

**Family:** Brassicaceae. **Local Name:** Ranmohri.

**Part(s) used:** Leaves and seeds.

**Ethnobotanical Uses:**

1. Paste of leaves is applied on joint against joint pain (Ubale).
2. A spoonful powder of seed is consumed at night to treat indigestion (Ubale).

***Ruta graveolens L.***

**Family:** Rutaceae. **Local Name:** Satap. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Paste of leaves is rubbed on chest and abdomen of child thrice day for two days to stop chronic diarrhoea (Gangaram).
2. Two drops of leaf juice is given in early morning for three days to stop dysentery (Rathod).

***Santalum album L.***

**Family:** Santalaceae. **Local Name:** Chandan.

**Part(s) used:** Stem bark.

**Ethnobotanical Uses:**

1. Paste of stem is applied on swelled area to reduce pain (Gite)
2. Paste of stem is applied on infected skin to cure skin diseases (Gite).
3. Paste of stem is applied on forehead to treat headache (Gite).
4. About spoonful stem powder is taken with cow milk to reduce body pain (Gite).

5. Paste of stem is applied on forehead to control fever (Gite).
6. Two drops of stem extract is dropped in eye and around eye to cure eye diseases, itching of eye and it reduce red area in eye (Pawar).
7. Paste of stem or paste of root is applied on feet to control burning sensation of feet (Pawar).

***Sapindus emarginatus Vahl.***

**Family:** Sapindaceae. **Local Name:** Ritha. **Part(s) used:** Seeds.

**Ethnobotanical Uses:**

1. Few drops of seed extract are dropped in nose to cure headache (Gangaram).
2. Seeds extract is used as emetic for poison neutralization (Gangaram).

***Sesamum laciniatum Klein ex Willd.***

**Family:** Pedaliaceae. **Local Name:** Ranteel. **Part(s) used:** Seeds.

**Ethnobotanical Uses:**

1. Paste of seeds is applied on wound for quick healing (Ubale).
2. About spoonful seeds are taken regularly with warm water at night as a digestive (Ubale).

***Solanum anguivi Lamk***

**Family:** Solanaceae. **Local Name:** Ranwangi or dorli.

**Part(s) used:** Fruit.

**Ethnobotanical Uses:**

1. About spoonful juice of fruit is taken thrice in a day for eight days against weakness (Perchake).
2. Warmed young fruit is advised for digestive problem (Gite).
3. A paste of warmed fruit is applied on piles regularly until cure (Gite).
4. Warmed fruit or fried fruit is eaten at night as a carminative (Gite).
5. Young fruit is warmed on hot coal and eaten two times in a day for eight days to cure cough (Gite).

***Solanum virginianum L.***

**Family:** Solanaceae. **Local Name:** Bhuiringani.

**Part(s) used:** Entire plant.

**Ethnobotanical Uses:**

1. A Spoonful juice of root is taken twice a day for two days to cure dysentery (Perchake).
2. A spoonful juice of leaves is given along with spoonful cow milk twice a day for 1 day to treat rickets (Perchake).
3. A Spoonful juice of plant is given orally twice a day for 15 days to treat concussion of brain (Gangarma).
4. Powder of seed is rubbed on teeth to treat teeth diseases (Chavan).
5. Decoction of plant is given twice a day for three days to treat cough and asthma (Mantute).

***Sopubia delphiniifolia* (L) G. DON**

**Family:** Scrophulariaceae. **Local Name:** Ranshepu.

**Part(s) used:** Entire plant

**Ethnobotanical Uses:**

Paste of fresh plant is applied on inflammatory area till cure (Ubale).

***Soymida febrifuga* (Roxb.) A. Juss.**

**Family:** Meliaceae. **Local Name:** Rohan. **Part(s) used:** Stem bark.

**Ethnobotanical Uses:**

1. About a cup of decoction of stem bark is drunk twice a day for two days to cure dysentery (Baliram).
2. Spoonful powder of stem bark is drunk along with cow milk or buttermilk twice a day for three days to control abdominal pain (Gangaram).

***Spermacoce articularis* L. f.**

**Family:** Rubiaceae. **Local Name:** Madan ghanti. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

Paste of leaves is applied over inflammatory area to cure inflammation (Ubale).

***Syzygium cumini* (L.) Skeels**

**Family:** Myrtaceae. **Local Name:** Jambulan.

**Part(s) used:** Stem bark root furit and seeds.

**Ethnobotanical Uses:**

1. Half cup decoction of stem bark is taken orally twice a day for two days to

stop dysentery (Rathod).

2. Half cup decoction of root bark is taken thrice a day for three days to control leucorrhoea (Rathod).
3. A cup of fruit juice is drunk at night against indigestion (Ganagarm).
4. Two spoonful powder of seeds taken orally twice a day for 14 days to reduce blood sugar level (Gangaram).

***Tectona grandis L. f.***

**Family:** Verbenaceae. **Local Name:** Sagwan

**Part(s) used:** stellate hairs of seed, seed and stem bark.

**Ethnobotanical Uses:**

1. About 2 gm seed coat powder is taken along with water twice a day for seven days to cure kidney stone (Pawar).
2. About one spoonful crushed seeds are taken at night for three days to control kidney stone (Duamne).
3. Half spoon powder of seed is taken along with half cup of *Ocimum* leaf juice twice a day for seven days to cure kidney stone (Perchake).
4. Half cup extract of stem bark is consumed as an antidote on snake poisoning (Perchake).
5. One spoonful powder of stem bark is consumed twice a day for seven days to cure abdominal pain (Kadam).
6. About 10 gm stem bark is consumed twice a day for ten days to control acidity (Kadam).

***Tephrosia hirta Buch. Ham.***

**Family:** Fabaceae. **Local Name:** Ranlalari. **Part(s) used:** Root.

**Ethnobotanical Uses:**

A spoonful extract of root is drunk twice a day for three days to control cough (Ubale).

***Tephrosia villosa (L.) Pers.***

**Family:** Fabaceae. **Local Name:** Uabhar. **Part(s) used:** Flowers.

**Ethnobotanical Uses:**

Flower powder is mixed in water and the paste is applied on scalp to remove

dandruf (D. D. Kamble).

***Terminalia arjuna* (Roxb.) Wt. & Arn.**

**Family:** Combretaceae. **Local Name:** Arjun. **Part(s) used:** stem bark.

**Ethnobotanical Uses:**

1. Paste of stem bark is applied on wound for quick healing (Madawe and Gangaram).
2. Two spoonful decoction of stem bark is given twice a day for three days to treat dysentery (Gangaram).

***Tinospora cordifolia* (Willd.) Miers.**

**Family:** Menispermaceae. **Local Name:** Gulwel.

**Part(s) used:** Stem, root and seeds.

**Ethnobotanical Uses:**

1. About a cup decoction of stem is given twice a day for three days to cure fever (Cherange).
2. About two spoonful powder of seed is taken with water for seven days to cure hepatitis (Cherange).
3. About two spoonful extract of root is taken orally twice a day for 14 days to reduce blood sugar level (Cherange).

***Tribulus terrestris* L.**

**Family:** Zygophyllaceae. **Local Name:** Sarata. **Part(s) used:** Fruit.

**Ethnobotanical Uses:**

1. A spoonful powder of fruit is taken along with cow milk twice a day for seven days against arthritis (Madawe).
2. A spoonful powder of fruit is taken thrice a day for two days to treat cystitis and inflammation of bladder (Behare).

***Trichodesma indicum* (L.) Lehm.**

**Family:** Boraginaceae. **Local Name:** Kachmand. **Part(s) used:** Leaf.

**Ethnobotanical Uses:**

Two spoonful juice of leaves is given twice a day for seven days to control acidity (Maruti Ubale).

***Trichosanthes cucumerina* L.**

**Family:** Cucurbitaceae. **Local Name:** Ranpadwal or ran mechi.

**Part(s) used:** Root and fruit.

**Ethnobotanical Uses:**

1. Spoonful root extract is mixed with water and is taken orally as an antidote on snake bite (Doheli).
2. Half spoon powder of fruit is consumed at night for seven days to treat indigestion (Doheli).

***Tridax procumbens L.***

**Family:** Asteraceae. **Local Name:** Tantani or Jakham jodi or Dagadipala. **Part(s) used:** Leaves and fruit.

**Ethnobotanical Uses:**

1. Paste of leaves is applied on wound till cure (Ublae and Madawe).
2. Paste of leaves is applied on inflammatory area (Gangaram).
3. Two drops leaf juice is dropped in ear two times in a day for three days to treat tympanitis (Ubale and Govind).

***Trigonella foenum-graecum L.***

**Family:** Fabaceae. **Local Name:** Methi. **Part(s) used:** Seed and leaves.

**Ethnobotanical Uses:**

1. About 50 gm water soaked seed consumed in early morning to control diabetes (Pawar).
2. About 50 gm powder of seed is consumed along with 25 gm sugar in early morning for 15 days to treat rheumatism (Pawar).
3. Paste of leaves is used as antiphlogistic or applied on inflammatory area (Gangaram).

***Triumfetta rotundifolia Lamk.***

**Family:** Tiliaceae. **Local Name:** Lahan zuzudna. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. About spoonful extract of root is given two times in a day to stop dysentery (Gangaram).
2. A mixture of one spoonful leaf juice, five spoonful safflower oil and two gm lime is applied over burnt skin till cure (Perchske).

***Tylophora rotundifolia* Ham.**

**Family:** Asclepiadaceae. **Local Name:** Kutki.

**Part(s) used:** Root and stem.

**Ethnobotanical Uses:**

1. Half cup decoction of stem is taken orally twice a day for four days to treat typhoid (Cherange).
2. A spoonful powder of stem is consumed twice a day for seven days to increase appetite (Adhe and Pawar).
3. A spoonful extract of root is taken orally twice a day for two days to cure abdominal pain (Cherange).
4. Two small pieces of root is chewed twice a day for eight days to control acidity (Doheli).

***Typha domingensis* Pers.**

**Family:** Typhaceae. **Local Name:** Pankanis. **Part(s) used:** Root.

**Ethnobotanical Uses:**

Root is crushed in a half cup of curd and advised thrice a day for two days to cure inflammation of bladder or urinary complaints (Rathod).

***Vanda tessellata* (Roxb.) Hook. ex G. Don**

**Family:** Orchidaceae. **Local name:** Khakdakal.

**Part(s) used:** Epiphytic root and stem.

**Ethnobotanical Uses:**

Two spoonful extract of epiphytic root and stem is given two times in a day for fifteen days to treat or to control paralysis (Gangaram).

***Ventilago denticulata* Willd.**

**Family:** Rhamnaceae. **Local Name:** Lokhandi.

**Part(s) used:** Stem bark and Root.

**Ethnobotanical Uses:**

1. Powder of bark is rubbed on gums and bleeding gums till cure (Gangaram).
2. A spoonful root extract is given twice a day for two days to stop bleeding during dysentery (Gangaram).



***Verbascum chinense* (L.) Santapau**

**Family:** Scrophulariaceae. **Local Name:** Kutki. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. About cup of decoction of leaves is taken twice a day to cure dysentery (Gangaram).
2. Leaf juice is used in treatment of diarrhoea and dysentery. Plant juice is used against fever (Gangaram).
3. Paste of leaves applied on cracked feet to cure crack and burning sensation (Gangaram).

***Vitex negundo* L.**

**Family:** Verbenaceae. **Local Name:** Nirgudi. **Part(s) used:** Leaves.

**Ethnobotanical Uses:**

1. Paste of warmed leaves is applied on inflammatory area till cure (Gangaram).
2. Warmed leaves are tied on joint to cure arthritis (Perchake).
3. Leaves are cooked in rice and advised to consume early in morning for eight days to cure rheumatic pain (Perchake).

***Withania somnifera* (L.) Dunal**

**Family:** Solanaceae. **Local Name:** Dolkamuni.

**Part(s) used:** Root and Leaves.

**Ethnobotanical Uses:**

1. Powder of root is mixed in wheat flour and fried in cow ghee. 14 tablets were made from this mixture. One tablet is advised in early morning to cure weakness (Gite).
2. Paste of leaves is applied on wound for quick healing (Gite).

***Woodfordia fruticosa* (L.) Kurz**

**Family:** Lythraceae. **Local Name:** Ghyati.

**Part(s) used :** Leaves and Flowers.

**Ethnobotanical Uses:**

1. About half cup juice of flowers is given two times in a day to cure dysentery (Rathod).
2. Paste of leaves is rub on forehead to control headache (Rathod).

3. About one spoonful powder of flowers is given two times in a day for three days to cure red discharge (Gangaram).

***Ziziphus mauritiana* Lamk.**

**Family:** Rhamnaceae. **Local Name:** Ber. **Part(s) used:** Young shoot.

**Ethnobotanical Uses:**

Paste of young shoot is used as antidote for scorpion stung (Perchake).

**Name of the informers**

1. Gangaram Kolam
2. Baliram Rathod
3. Maruti Ubale
4. Govind Kolam
5. Girajabai Gite
6. Tolaram Rathod
7. Ramu Perchake
8. Narayan Behare
9. Sambhaji Doheli
10. Dasharath Kamble
11. Mantute
12. Sambhaji Marape
13. Dagdu Chavan
14. Adhe
15. Dulasing Pawar
16. Mandale
17. Husan Dumane
18. Champatrao Madawe
19. Bapurao Shadmake
20. Gopal Kadam
21. Ramrao Chirange
22. Laximan Raut
23. Ramprasad Pawar

# **CHAPTER 5**

## **DISCUSSION OF ETHNO BOTANICAL SURVEY**

## DISCUSSION

Herbal medicine is defined as a branch of science in which plant based formulation is used to alleviate the diseases. It is also known as botanical medicine or phytomedicine. Lately phytotherapy has been introduced as more accurate synonym of herbal or botanical medicine. Recently treatment of diseases with herbal medicine has addressed as phytopharmacotherapy. The herbal medicinal products have been included in dietary supplements.

In the early twentieth century, herbal medicine was prime healthcare system as antibiotics or analgesics were not available. With evident of allopathic system of medicine, herbal medicine gradually lost its popularity among people and it was based on the fast therapeutic actions of synthetic drugs. Almost a century has passed and did has witnessed limitations of allopathic system of medicine. Lately herbal medicine has gained momentum and it is evident from the fact that certain herbal remedies peaked at par with synthetic drugs.

Keeping in mind the rapid pace of research and development in herbal medicine, it has become an interdisciplinary science. If we look at scientific monograph of a medicinal plant, it can be concluded that knowledge of Alternative and Complementary Systems of Medicines like Ayurveda, botany, pharmacognosy and phytochemistry, biochemistry, ethnopharmacology and toxicology is integral part of herbal medicine.

In Marathwada there are some places which are rich in medicinal plants. The Mahur range forest of Nanded district is one of them. The tribal and rustics of this area have been using various plants and their parts as medicine. The knowledge of the use of the plants has been followed traditionally. Therefore, present study was planned to explore medico-botanical knowledge of this area.

The present data is outcome of ethnobotanical explorations carried out during 2011 to 2014. The ethnomedicinal information was collected from 23 tribal and rustic informers who practice and have experience in the use of ethnomedicine. Out of which 22 informers are men and one women whose age ranges between 40 to 78 years. It covered Mahur range of Nanded district (Maharashtra). A care was taken to tap information from every nook and corner of hilly areas and the plains as well. The tribal

and non-tribal rural populace was consulted for this comprehensive attempt. This work accounts for the plant species used by these people for medicine.

The geography, geology, climate, soils and the general vegetation of the district was also noticed. It was thought that these natural and social facts have bearings directly or indirectly on the total relationships of mankind with the surrounding plant species. These ancient important discoveries continued to survive by oral tradition over many generations in rural, semi-rural and tribal communities as well. With the rapid intrusion of modern civilization into this region, ancient tribal traditions, culture and way of rural folks seem to be on the verge of extinction. There is every possibility that valuable data of ethnobotany will be lost in the near future. Therefore, attempts were made to procure information about the different uses of plants, wild or domesticated, in the life or culture of tribal and rural inhabitants of Mahur taluka.

Tribal and rustic people have learned over the centuries to draw as much as possible from the surrounding vegetation wealth. Although their attention is centered about agriculture, they make great use of spontaneous plants in general. They have wide knowledge about plants and a strong interaction with them is deeply rooted in their culture. The wild plants make an important contribution, particularly to the diet of the local inhabitants, apart from other useful products.

The Mahur range forest also has a valuable heritage of herbal remedies. Its rural people and particularly the tribals still depend on the indigenous system of medicine. Along with modern system of medicine, homeopathy, ayurveda and unani system are practiced in India. Other than these systems, still there exists a traditional folklore which is being perpetuated verbally from person to person and generations to generations. By and large, this lesser known medicinal plantlore in the absence of official patronization could not receive the necessary research support and therefore remained lesser known or entirely unknown to the masses.

Ethno medicine is safe and less expensive therefore; tribal and the rural people of this area are still using their traditional therapy. The modern systems of medicine have many side effects. There seems a green wave of lay of interest in medicinal plantlore all over. This wave is discernible in India too. Non-availability of satisfactory drugs for the

treatment of different diseases or ailments in the modern system of medicine prompted many of us to study ethno medicinal claims.

The use of ethno medicine is widespread especially in inaccessible tribal areas. The high percentage of population depends on it due to lack of health centers and doctors and even the expenses of such treatments. The different plant species employed by the aborigines to cure various human diseases or ailments even in this age of chemo-and radio-therapies. These should be screened on scientific grounds.

Present study enumerated ethno medicinal uses of 187 plant species belonging to 73 families are in use various purposes. Some important herbal plants, which occur in this region, have exhibited remarkable ethno medicinal properties. Tribal people use various plant parts such as roots, stems, other underground parts, leaves, fruits, flowers seed and plant secretions like gum and latex. The different methods of administration of drugs noted during this study are: raw plant part or product, juice, extract, decoction, paste, ash, poultice, vapours or fumes, oil, contact drug to body part, bath by adding drugs in bath water etc.

**Appendix-1: Plant used to treat abdominal pain, dysentery  
gas problem, diarrhoea, to expel intestinal worm etc.**

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| 01. <i>Capparis divaricata</i>     | 39. <i>Azadirachta indica</i>       |
| 02. <i>Butea monosperma</i>        | 30. <i>Cassia auriculata</i>        |
| 03. <i>Pergularia daemia</i>       | 31. <i>Biophytum sensitivum</i>     |
| 04. <i>Solanum anguivi</i>         | 32. <i>Syzygium cumini</i>          |
| 05. <i>Triumfetta rotundifolia</i> | 33. <i>Trichosanthes cucumerina</i> |
| 06. <i>Aerva lanata</i>            | 34. <i>Mucuna pruriens</i>          |
| 07. <i>Bidens biternata</i>        | 35. <i>Balanites aegyptica</i>      |
| 08. <i>Amaranthus viridis</i>      | 36. <i>Psidium guayava</i>          |
| 09. <i>Soymida febrifuga</i>       | 37. <i>Bombax ceiba</i>             |
| 10. <i>Anogeissus latifolia</i>    | 38. <i>Limonia acidissima</i>       |

- |                                  |  |
|----------------------------------|--|
| 11. <i>Ailanthus excelsa</i>     | 39. <i>Tylophora rotundifolia</i>      |
| 12. <i>Abelmoschus manihot</i>   | 40. <i>Cassia sophera</i>              |
| 13. <i>Goniocaulon indicum</i>   | 41. <i>Andrographis paniculata</i>     |
| 14. <i>Woodfordia fruticosa</i>  | 42. <i>Phyllanthus maderaspatensis</i> |
| 15. <i>Ropriippa indica</i>      | 43. <i>Anisomeles indica</i>           |
| 16. <i>Ixora chinensis</i>       | 44. <i>Helicteres isora</i>            |
| 17. <i>Verbascum chinense</i>    | 45. <i>Sesamum laciniatum</i>          |
| 18. <i>Capparis zeylanica</i>    | 46. <i>Gardenia latifolia</i>          |
| 19. <i>Grangea maderaspatana</i> | 47. <i>Gardenia resinifera</i>         |
| 20. <i>Cocculus hirsutus</i>     | 48. <i>Glossocardia bosvallea</i>      |
| 21. <i>Madhuca longifolia</i>    | 49. <i>Cordia dichotoma</i>            |
| 22. <i>Ruta graveolens</i>       | 50. <i>Aegle marmelos</i>              |
| 23. <i>Mangifera indica</i>      | 51. <i>Drimia indica</i>               |
| 24. <i>Caesalpinia bonduc</i>    | 52. <i>Benincasa Hispida</i>           |
| 25. <i>Madhuca longifolia.</i>   | 53. <i>Diplocyclos palmatus</i>        |
| 26. <i>Dioscorea bulbifera</i>   | 54. <i>Carthamus tinctorius</i>        |
| 27. <i>Nymphaea pubescens</i>    | 55. <i>Citrus aurantifolia</i>         |
| 28. <i>Hygrophila schulli</i>    | 56. <i>Leucas cephalotes</i>           |

**Appendix- 2: Plant used to treat cough**

- |                               |                                  |
|-------------------------------|----------------------------------|
| 01. <i>Butea monosperma</i>   | 11. <i>Ocimum americanum</i>     |
| 02. <i>Solanum anguivi</i>    | 12. <i>Curcuma pseudomontana</i> |
| 03. <i>Ageratum conzoides</i> | 13. <i>Clerodendrum serratum</i> |
| 04. <i>Bidens biternata</i>   | 14. <i>Euphorbia barnhartii</i>  |
| 05. <i>Tephrosia hirta</i>    | 15. <i>Opuntia elatior</i>       |

- |                                    |                                |
|------------------------------------|--------------------------------|
| 06. <i>Petalidium barlerioides</i> | 16. <i>Solanum virginianum</i> |
| 07. <i>Balanites aegyptica</i>     | 17. <i>Datura inoxia</i>       |
| 08. <i>Lawsonia inermis</i>        | 18. <i>Adhatoda zaylanica</i>  |
| 09. <i>Abrus precatorius</i>       | 19. <i>Madhuca longifolia</i>  |
| 10. <i>Barleria cristata</i>       | 20. <i>Calotropis gigantea</i> |

**Appendix- 3: Plant used to treat gynecological diseases.**

- |                                    |                                   |
|------------------------------------|-----------------------------------|
| 01. <i>Melothria maderaspatana</i> | 07. <i>Abrus precatorius</i>      |
| 02. <i>Ailanthus excelsa</i>       | 08. <i>Hybanthus enneaspermus</i> |
| 03. <i>Woodfordia fruticosa</i>    | 09. <i>Ficus racemosa</i>         |
| 04. <i>Capparis zeylanica</i>      | 10. <i>Nymphaea pubescens</i>     |
| 05. <i>Mangifera indica</i>        | 11. <i>Abrus precatorius</i>      |
| 06. <i>Syzygium cumini</i>         | 12. <i>Asparagus racemosus</i>    |

**Appendix- 4: Plant used to treat acidity.**

- |                            |                               |
|----------------------------|-------------------------------|
| 1. <i>Butea monosperma</i> | 3. <i>Hygrophila schulli</i>  |
| 2. <i>Tectona grandis</i>  | 4. <i>Trichodesma indicum</i> |

**Appendix- 5: Plant used to treat hepatitis**

- |                                 |                                   |
|---------------------------------|-----------------------------------|
| 01. <i>Eclipta alba</i>         | 05. <i>Ricinus communis</i>       |
| 02. <i>Mangifera indica</i>     | 06. <i>Limonia acidissima</i>     |
| 03. <i>Tinospora cordifolia</i> | 07. <i>Tylophora rotundifolia</i> |
| 04. <i>Argemone mexicana</i>    | 08. <i>Boerhavia repens</i>       |
|                                 | 09. <i>Achyranthes aspera</i>     |

**Appendix- 6: Plant used against snakebite (Antidote)**

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| 01. <i>Ixora chinensis</i>          | 04. <i>Nerium indicum</i>           |
| 02. <i>Trichosanthes cucumerina</i> | 05. <i>Clerodendrum multiflorum</i> |



03. *Drimia indica*

06. *Tectona grandis*

**Appendix- 7: Plant used against scorpion sting**

01. *Pergularia daemia*

03. *Calotropis gigantea*

02. *Ziziphus mauritiana*

04. *Clerodendrum multiflorum*

**Appendix- 8: Plant used against rat bite**

01. *Acacia farnesiana*

03. *Drimia indica*

02. *Cassia fistula*

**Appendix- 9: Plant used to treat hoarseness**

01. *Abrus precatorius*

03. *Phyllanthus emblica*

02. *Ocimum basilicum*

04. *Abrus precatorius*

**Appendix- 10: Plant used to treat dog bite**

01. *Acacia farnesiana*

**Appendix-12: Plant used to cure urinary complaints**

01. *Abutilon indicum*

06. *Portulaca oleracea*

02. *Typha domingensis*

07. *Amaranthus tricolor*

03. *Coix gigantea*

08. *Tribulus terrestris*

04. *Gomphrena serrata*

09. *Madhuca longifolia*

05. *Euphorbia barnhartii*

**Appendix-13: Plant used to treat joint pain, rheumatism, arthritis and fracture**

01. *Ipomoea pes-tigridis*

13. *Madhuca longifolia*

02. *Melothria maderaspatana*

14. *Cadaba fruticosa*

03. *Cissus quadrangula*

15. *Cocculus hirsutus*

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| 04. <i>Leucas cephalotes</i>        | 16. <i>Cassia auriculata</i>        |
| 05. <i>Euphorbia dracunculoides</i> | 17. <i>Blepharis repens</i>         |
| 06. <i>Ropriippa indica</i>         | 18. <i>Clerodendrum multiflorum</i> |
| 07. <i>Vitex negundo</i>            | 19. <i>Indigofera cordifolia</i>    |
| 08. <i>Euphorbia barnhartii</i>     | 20. <i>Launaea procumbens</i>       |
| 09. <i>Datura inoxia</i>            | 21. <i>Cajanus cajan</i>            |
| 10. <i>Tribulus terrestris</i>      | 22. <i>Clitoria ternatea</i>        |
| 11. <i>Hygrophila schulli</i>       | 23. <i>Caesalpinia bonduc</i>       |
| 12. <i>Benincasa Hispida</i>        |                                     |

**Appendix-14: Plant used to treat inflammation and swelling**

- |                                     |                                      |
|-------------------------------------|--------------------------------------|
| 01. <i>Prosopis cineraria</i>       | 13. <i>Spermacoce articularis</i>    |
| 02. <i>Santalum album</i>           | 14. <i>Cassine albens</i>            |
| 03. <i>Ipomoea pes-tigridis</i>     | 15. <i>Curcuma pseudomontana</i>     |
| 04. <i>Aerva lanata</i>             | 16. <i>Vitex negundo</i>             |
| 05. <i>Eclipta alba</i>             | 17. <i>Euphorbia barnhartii</i>      |
| 06. <i>Commelina paludosa</i>       | 18. <i>Opuntia elatior</i>           |
| 07. <i>Cyperus alopecuroides</i>    | 19. <i>Portulaca oleracea</i>        |
| 08. <i>Euphorbia dracunculoides</i> | 20. <i>Datura metel</i>              |
| 09. <i>Crotalaria hirsuta</i>       | 21. <i>Ficus racemosa</i>            |
| 10. <i>Gnaphalium polycaulon</i>    | 22. <i>Trigonella foenum-graecum</i> |
| 11. <i>Blepharis repens</i>         | 23. <i>Diplocyclos palmatus</i>      |
| 12. <i>Pongamia pinnata</i>         | 24. <i>Cynodon dactylon</i>          |

**Appendix-15: Plant used to treat piles**

- |                            |                                    |
|----------------------------|------------------------------------|
| 01. <i>Solanum anguivi</i> | 02. <i>Melothria maderaspatana</i> |
|----------------------------|------------------------------------|

03. *Bambusa vulgaris*

05. *Echinops echinatus*

04. *Gloriosa superba*

**Appendix-16: Plant used to treat skin diseases and burn skin**

01. *santalum album*

12. *Ammannia baccifera*

02. *Butea monosperma*

13. *Crotalaria notonii*

03. *Triumfetta rotundifolia*

14. *Euphorbia barnhartii*

04. *Exacum pedunculatum*

15. *Madhuca longifolia*

05. *Indigofera tinctoria*

16. *Dioscorea bulbifera*

06. *Erigeron lyratus*

17. *Annona reticulata*

07. *Cocculus hirsutus*

18. *Lantana camara*

08. *Echinops echinatus*

19. *Echinops echinatus*

09. *Azadirachta indica*

20. *Calotropis gigantea*

10. *Lawsonia inermis*

21. *Coriandrum sativum*

11. *Leonotis nepetifolia*

**Appendix-17: Plant used to treat headache**

01. *santalum album*

06. *Lawsonia inermis*

02. *Martynia annua*

07. *Sapindus emarginatus*

03. *Goniocaulon indicum*

08. *Abelmoschus crinitus*

04. *Woodfordia fruticosa*

09. *Abrus precatorius*

05. *Crotalaria hirsuta*

10. *Coriandrum sativum*

**Appendix-18: Plant used to treat eye diseases**

01. *santalum album*

04. *Argemone mexicana*

02. *Eclipta alba*

05. *Balanites aegyptica*

03. *Cassia sophera*

**Appendix-19: Plant used to treat burning sensation of feet and cracking of feet**

- |                                |                               |
|--------------------------------|-------------------------------|
| 01. <i>santalum album</i>      | 05. <i>Eranthemum roseum</i>  |
| 02. <i>Verbascum chinense</i>  | 06. <i>Datura metel</i>       |
| 03. <i>Lawsonia inermis</i>    | 07. <i>Ficus benghalensis</i> |
| 04. <i>Desmodium velutinum</i> |                               |

**Appendix-20: Plant used to treat wound (wound healing)**

- |                                     |                                 |
|-------------------------------------|---------------------------------|
| 01. <i>Withania somnifera</i>       | 10. <i>Terminalia arjuna</i>    |
| 02. <i>Cyperus alopecuroides</i>    | 11. <i>Tridax procumbens</i>    |
| 03. <i>Euphorbia dracunculoides</i> | 12. <i>Datura metel</i>         |
| 04. <i>Blumea oxyodonta.</i>        | 13. <i>Phyllanthus emblica</i>  |
| 05. <i>Annona squamosa</i>          | 14. <i>Bambusa vulgaris</i>     |
| 06. <i>Azadirachta indica</i>       | 15. <i>Dioscorea bulbifera</i>  |
| 07. <i>Pongamia pinnata</i>         | 16. <i>Mimosa pudica</i>        |
| 08. <i>Sesamum laciniatum</i>       | 17. <i>Carthamus tinctorius</i> |
| 09. <i>Curcuma pseudomontana</i>    | 18. <i>Lantana camara</i>       |

**Appendix-21: Plant used as a tonic**

- |                                      |                               |
|--------------------------------------|-------------------------------|
| 01. <i>Buchanania lanzan</i>         | 03. <i>Bambusa vulgaris</i>   |
| 02. <i>Amorphophallus sylvaticus</i> | 04. <i>Hygrophila schulli</i> |

**Appendix-22: Plant is used to control diabetic**

01. *Andrographis paniculata*
02. *Trigonella foenum-graecum*
03. *Coccinia grandis*

**Appendix-23: Plant used against fits**

- |                               |                             |
|-------------------------------|-----------------------------|
| 01. <i>Amaranthus viridis</i> | 02. <i>Helicteres isora</i> |
|-------------------------------|-----------------------------|

03. *Acacia leucophloea*

**Appendix-24: Plant used to treat fever, malaria fever and typhoid fever**

01. *Cassia fistula*

16. *Andrographis paniculata*

02. *Abutilon indicum*

17. *Barleria cristata*

03. *Bauhinia variegata*

18. *Ocimum americanum*

04. *santalum album*

19. *Clerodendrum serratum*

05. *Rhynchosia minima*

20. *Glossocardia bosvallea*

06. *Euphorbia thymifolia*

21. *Leonotis nepetifolia*

07. *Buchanania lanzan*

22. *Datura inoxia*

08. *Petalidium barlerioides*

23. *Portulaca oleracea*

09. *Enicostema axillare*

24. *Amaranthus tricolor*

10. *Calotropis gigantea*

25. *Cyperus scariosus*

11. *Azadirachta indica*

26. *Nyctanthes arbortristis*

12. *Ficus religiosa*

27. *Citrullus colocynthis*

13. *Tinospora cordifolia*

28. *Abrus precatorius*

14. *Leonotis nepetifolia*

29. *Cynodon dactylon*

15. *Tylophora rotundifolia*

**Appendix-25: Blood purification and to increase blood volume**

01. *Brassica campestris*

04. *Syzygium cumini*

02. *Azadirachta indica*

05. *Benincasa Hispida*

03. *Tinospora cordifolia*

06. *Murraya koenigii*

**Appendix-26: Plants are used to treat body pain**

01. *Santalum album*

02. *Ocimum basilicum*

03. *Caesalpinia bonduc*

**Appendix-27: Plant used against earache or tymphanites**

01. *Caesulia axillaris*

03. *Barleria prionitis*

02. *Grangea maderaspatana*

04. *Tridax procumbens*

**Appendix-28: Plant used to control hiccup**

01. *Calotropis gigantea*

02. *Cassine albens*

**Appendix-29: Plant used to control asthma**

01. *Cymbopogon martini*

08. *Opuntia elatior*

02. *Haplanthodes verticillata*

09. *Solanum virginianum*

03. *Calotropis gigantea*

10. *Datura inoxia*

04. *Ficus religiosa*

11. *Phyllanthus emblica*

05. *Ocimum basilicum*

12. *Adhathoda zaylanica*

06. *Ocimum americanum*

07. *Euphorbia barnhartii*

**Appendix-30: Plant used against paralysis**

01. *Vanda tessellata*

02. *Cadaba fruticosa*

**Appendix-31: Plant used to enhance sperm count or against impotence**

01. *Butea monosperma*

04. *Ficus benghalensis*

02. *Bombax ceiba*

05. *Moringa oleifera*

03. *Hybanthus enneaspermus*

The present study is a careful observation regarding diseases and their curative phytomedicines. The tribal people use 56 plants to treat diseases like abdominal pain, dysentery, gas problem, diarrhea and to expel intestinal worms (Appendix-1). For the treatment of cough, 20 plants were practiced (Appendix-2). About 12 plants were used for the treatment of gynecological diseases (Appendix-3). 10 plants were used as an antidote for the snakebite and scorpion sting (Appendix 6 and 7). For the treatment of Hepatitis 9 plants were used (Appendix-5). For the urinary problems 9 plants are used by the tribal people (Appendix-12). For the treatment joint pain, rheumatism, arthritis, inflammation 47 plants are used (Appendix-13 and 14). For the treatment of piles 5 plants are used (Appendix-15). 21 plants are used to treat skin diseases (Appendix-16). 10 plants are used to against headache (Appendix-17). 18 plants are wound healers (Appendix-20). Three plants are used as antidiabetic (Appendix-22). For the treatment of malarial fever typhoid fever, 29 plants are used (Appendix-24). 6 Plants are used as blood purifier (Appendix-25). Five plants are used to treat impotency (Appendix- 31).

As in other parts of our country the fuel wood need is immense in this region also. It is the largest non-timber tree product in volume and value. Wood still continues to be the principal energy source in forested tribal area of this region because other options like fossil fuel and electricity are beyond their reach.

Non timber forests products are many which support industries. Such forest products based industries provide opportunities for off farm employment and income to the forest dwellers and the other people in vicinity.

The trees which are raised on private lands are lopped systematically but growing on waste land or in forest suffers from ruthless lopping. Certain valuable species may be declared as protected from lopping. Availability and quality of fodder is correlated with the production of milk and meat. Therefore, efforts should be made to increase fodder production.

Traditionally, in the non-tribal rural area flat-roofed houses are commonly seen in the range. However, cement concrete houses are perforce being raised in these places. The old houses were commonly constructed using mostly teak wood (*Tectona grandis*). In tribal hilly areas of this range teak wood is still being used.

The leaves of *Bueta monosperma* ( Lamk.)Taub are employed to prepared dining plates and bowls. The leaves are interwoven or stitched by using dried grass. Stalk of cultivated species of *Cajanus cajan* (L.)Mill. are employed for making zadni a tightly tied stack of stalks. These are also used on farmyards while cleaning the food grains.

There are some gums yielding species naturally found in the forest e.g. *Anogeissus latifolia* (Roxb.ex.DC.) Wall. Ex Guill; *Butea monosperma* (Lamk.) Taub, *Acacia nilotica* (L.) Del., *Boswellia serrata* Roxb.ex Coleb, *Limonia acidissima* L. Some are valuable as edible, medicinal and as gluing agent. These resources form the main socio-economic potential and fetch some income for annum, provided their utilization as a resource is systematic.

Ritha (*Sapindus emarginatus* Vahl) is only species found wild in this area of which the fruits are used as hair shampoo and antidotes. The population of this tree is very less in the forests. This happens because all the fruits were collected and marketed thereby deserving recommendation dispersal. This is one such as tree species deserving recommendation as a candidature for afforestation programme of the government or even on private barren lands.

Large scale propagation techniques for important tree species such as *Madhuca longifolia*, *Terminalia bellairica*, *Buchanania lanzan* and few other medicinal plants are still to be extended.

A grass tikhadi (*Cymbopogon martini*) yields essential oil which is commonly used in scents and soaps. This grass species is commonly found in this taluka. It should be exploited paying due attention to its periods of collection, quantification, processing, economy and local peoples participation.

*Balanites aegyptiaca* is another species which produces oil yielding seeds. This oil is used as edible by the tribals. Likewise *Pongamia pinnata* Pierre is a commonly found in the forest which also bears oil yielding seeds which can be used as lubricant, for making soap and as an insecticidal agent.

The valuable knowledge of the local people is gradually disappearing with the loss of plant wealth of this region. Present-day traditional healers, elder medicine men become very old. Due to lack of interest among the younger generation and their tendency to migrate into cities for lucrative jobs, the wealth of traditional knowledge



of the tribals of this area is declining. The local tribal communities having intimate relationship with the forests should be accepted as partners in the forestry. For the conservation of plant wealth there is a need to create an interest among the local communities.

Mahur taluka of Nanded district is predominated by Hindu community. Different caste and tribes inhabit this region of the state of Maharashtra. They have their own festivals, deities, ceremonies, rituals and customs. Generally, they perform specific worship with precise offerings. The worship is performed with traditional rituals for well being of the persons of the respective human society. They preserve traditions and forms of worship through folklore by offering suitable or available botanical articles, parts, food grains or their products to the deities' right from the occasion of birth to death.

The plant resources of Mahur taluka of Nanded district are still quite rich in raw materials needed for various purposes. The ethno medicinal plants need to be investigated for pharmacological activity on the basis of ethno therapeutics being practiced by the tribals/rural. This will bring to light some new sources of drugs of herbal origin. Systematic research at their conservation is a dire necessity to improve the economy of local inhabitants. The knowledge of proper harvesting, processing and marketing is also necessary.

It is clearly suffices that nature has bestowed the region under study with enormous wealth of medicinal plantlore. Systematic efforts should be undertaken to confirm ethnobotanical claims through intensive and interdisciplinary work involving ethnobotanists, chemists, pharmacognists and physicians of various systems of medicine, like Allopathy, Homeopathy, Ayurveda, Unani and other indigenous systems of medicine.

There is ample scope to extend scientific efforts to screen the pharmacognostical, phytochemical constituents and their pharmacological properties. The medicinal potential can be confirmed with biological screenings.

## **CHAPTER 6**

# **PHOTOS OF SELECTED PLANTS**



*Gloriosa superba*



*Holarrhena antidysentrica*



*Helicteres isora* with flower and fruits



*Physalis angulata*



*Bombax ceiba*



*Celastrus panicula*





*Cassia fistula*



*Cardiospermum helicacabum*



*Eucostema axillare*



*Erythrina*



Ayurvedic Medicine shop at



Informant Banjara Woman





# **CHAPTER 7**

## **SCOPE OF THE RESEARCH**

## **SCOPE OF THE RESEARCH**

The new branch of science, medico-ethnobotany acts as a bridge between traditional knowledge of tribal people and botany regarding medicinal aspect of the global population. A large part of the therapies consists of plant extract with their active constituents. India is very rich in medicinal plants and it is continued to be an important therapeutic aid for alleviating ailments of human kind.

Ethnobotanical research can provide a wealth of information regarding both past and present relationships between plants and the traditional societies. Investigation of traditional use and management of local flora have demonstrated the existence of extensive local knowledge not only about the physical and chemical properties of plant species, but also the phenological and ecological features in case of domesticated species.

The traditional knowledge system in India is fast disappearing so there is an urgent need for inventorying and recording of ethnobotanical information among the diverse ethnic communities. Most of the plants have ethnobotanical potential but now a days becoming rare and endangered or their depletion from the natural habitat. Present study i.e. medico-botanical survey helps to know the medicinal potential of plants of Mahur range forest and create a awareness among the indigenous communities about endangering medicinal plants.

There are multiple reasons why this study is important first, India has one of the wealthiest traditional yet living systems of medicine, ayurveda and also sidhha, homoeopathy, unani and others too. The valuable indigenous knowledge about plants of this area is an important Indian heritage. Tribal of Mahur range forest are good at knowledge of herbal wealth and related vegetation in the immediate vicinity. The tribal communities of the area have staunch confidence in ethnomedicine.

It is hoped that increase awareness and collaborative interdisciplinary research will help to develop better future for the subject and betterment of mankind. On such background, pharmacognosits should be better equipped to take the upcoming challenges.

# **CHAPTER 8**

## **PUBLICATIONS**



## RESEARCH PAPERS PUBLISHED

1. **S. D. Biradar** and Kanthale, P. R. 2012, Pharmacognostic Study of *Belanites aegyptiaca* (L.)Del. *Bionano frontier* Vol 5 (11): 57-59.
2. **S. D. Biradar** and Kanthale, P.R. 2012, Antimicrobial and Phytochemical Studies of *Ruta graveolens* L. *Flora and Fauna*, Vol 18 (2):177- 182.
3. **S. D. Biradar** and Kanthale, P.R. 2012 Ethnomedicinal Wisdom of Tribals of Mahur forest of Nanded District, Maharashtra, India. *Recent Research in Science and Technology* Vol 4 (10):67-70.
4. **S. D. Biradar** and Kanthale, P.R. 2012, Ethnomedicinal Plants and their Utilization By Tribals of Mahur Range Forest of Nanded District Maharashtra, India. *Indian Journal of Natural Product Radiance* Vol. 3 (4): 578-581.
5. **S. D. Biradar** and Ghorband, D. P. 2012, Traditional Health care practices among the tribes of Kinwat range forest of Nanded district (Maharashtra). 2012 *Indian Journal of Plant Sciences* Vol 1 (2-3): 85-89.
6. **S. D. Biradar** and Kanthale, P.R. 2013, Medico-Botanical Treasure Trove of Mahur Range Forest of Nanded District, Maharashtra. *Ecology and Fisheries*, Vol.7 (1):65-76.
7. **S. D. Biradar** and Kanthale, P.R. 2013, Ethnobotanical and Ethnomedicinal observations in Mahur forest of Nanded District. Maharashtra, India. *Bioinfolet* Vol 10 (4A):1156-1159.

# **CHAPTER 9**

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