

**“Study Of Certain Medicinal Plants  
in Jalgaon District”**

**Final Report of Minor Research Project**

Submitted to

**University Grants Commission, New Delhi**



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**Mrs. Vidya A. Patil ,**

Assistant Professor,  
Department of Botany  
(Principal Investigator)

**Bhusawal Arts, Science and P.O. Nahata Commerce College,  
Bhusawal Dist. Jalgaon (M.S.)**

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Bhusawal.

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## 1.1 Introduction:

Ayurveda is India's traditional natural system of medicine that have been practiced for more than 5000 years. Ayurveda is a Sanskrit word that literally means ; Science of life'' or 'Practices of longevity' Ayurveda was the system of health care conceived and developed by the seers and national scientists through centuries of observations, experiments ,discussions and meditations.

Manuscript pages from Atharveda earliest Indian text approximately 1500 BC with much medicinal information, one of several Vedas , upon which Ayurvedic medical practice is based on Ayurvedic manuals were written by Charaka Sushruta and Vagbhata that gives description of various practices, Charaka listed remedied and Sushruta listed over 700 vegetable medicines.

Ayurveda emphasizes prevention of diseases rejuvenation of our body systems and extension of life span. It provides integrated approaches to preventing and treating illness through lifestyle interventions and natural therapies.

Use of plant based remedies is also widespread in many countries. Herbal remedies are made directly from plant materials, numerous pharmaceutical products are based on derived from plant compounds. Similarly, cosmetics and other products may contain plants of medicinal or therapeutic value. The use of medicinal plants for healthcare is believed to be increasing throughout much of the world eg. Africa

(Unningham,1993;Marshall1998) China (He & Sheng, 1997) Europe (Lange,1998) & North America (Brevoort,1998).

India is of twelve mega diversity country of world with rich diversity of biotic resources .Out of thirty four hot spots recognized, India has two major hotspots eastern Himalayas and Western Ghats. India harbors about 47,000 species of plants of which 17,000 are angiosperms ( Bapat et al 2008)

India is one of top three countries in number of threatened endemics for at least one taxonomic group. Threat to biodiversity due to invasive alien species is considered only to that of habitat destruction .An exotic species of tropical America has naturalized in most parts of India. This is noxious weed because of its prolific seed production, fast spreading ability ,allopathic effects on other plants and health hazard to human and other animals *Lantana camera* , one of ten worst weeds of world and native of subtropical America, is now found all over the Indian subcontinent.

Biodiversity is destroyed rapidly throughout world Biodiversity loss originates from social, economic, political cultural and historical features of society. Habitat destruction is the largest single cause of biodiversity loss , introduction of exotic species, over harvesting ,over exploitation loss of specific pollinators, loss of reproduction, low seed germination capacity, climate change and environmental factors due to change of environment beyond the tolerance limit of species, international trade pathological causes like out breaks of diseases and epidemics etc. are the major threats to the biodiversity.

The World Health Organization (WHO) estimates that of 80% of people rely mainly on traditional remedies such as herbs for their medicine (Kala ,2005) resulting into increasing demand for medicinal plants.

Medicinal plants always had great significance in culture , medicine and nutrition of societies in the world .Populations through their healers and autonomous use have accumulated experiences and broad knowledge of them. The scientific achievement from the latest decades and their large socialization have encouraged the monoculture of scientific knowledge in the health professional practices, which largely discredit other current knowledge and practices in societies (Santos,2007). As far as phytotherapy is concerned , the knowledge has been considered only as empirical source for expansion of scientific truths and technologies, linked to industrial development and market needs in order to search new patents (Barreiro and Bolzani, 2009).The scientific status of healthcare makes society more and more dependent on professionalized practices, hindering health professionals to permeate listen to local knowledge in Primary Health Care ( Tesser & Barros, 2008).

Traditional medicine continues to play an important role in health care. In many parts of the world, it is preferred form of health care. Elsewhere, use of herbal medicine and so called complementary and alternative therapies is increasing dramatically. In many developing countries, traditional medicine offers a major and accessible source of health care. Traditional medicine is the sum total of knowledge and practices based on theories, beliefs and experiences indigenous to different cultures and used in the maintenance of health as well as in prevention, diagnosis and treatment of physical and mental illness. Traditional medicines have a long history and have been field tested for centuries by thousands of people, resulting in the accumulation of much empirical knowledge in the communities passed on by generation of healers. Traditional medicine is perceived as efficient, safe and cost effective moreover, it is accessible to the poor and those living in remote area.

Plants are indispensable sources of medicinal preparations. preventative and curation in China and India the leading country using medicinal plants, since long back.

## **1.2 Aims and Objectives**

Study of certain medicinal plants of Yawal and Vadoda Forest region includes following aims and objectives -

1. To provide information related to raw material to commercial uses, sources of medicinal plants.
2. To conserve the wealth of medicinal and other commercially important plants in this area.
3. To use single or different parts of the same plant such as leaves, bark, seeds, flowers as a source of drug.
4. To prepare computerized data base and herbarium of medicinal plants.
5. To know the distribution, occurrence of rare, endangered, vulnerable, critically endangered species.
6. To know the drug, oil, latex, wax, pulp, fumitories, masticatories yielding plants.
7. To understand the importance of conservation and protection of medicinal plants of the area, through awareness by publishing the research findings and exhibitions of medicinal plants in school and college level.
8. To know the valuable medicinal plants used by tribal.
9. To ensure appropriate, safe and effective use of herbal medicine.

Study of medicinal plants help us to explore the part of Knowledge, which our ancient people have gathered their serene experience. This information if presented in the systematic and scientific manner, then it can be very useful to future generation.

## **1.3 Reasons for undertaking this work**

Many valuable drugs of the present day have been discovered from the information provided by the tribal people. We know that many part of India have not been thoroughly studied. Similarly the Yawal and Vadoda forest region from Jalgaon district has not even explored except sporadic information available. There is much diversity in the vegetation due to topographical variations in east and west Khandesh Satpuda. Variation occurs even from area to area.

The vegetation composition of east Satpuda tribals differs much from that of the west satpuda in Khandesh itself, so as the case of medicinal plants too. There is no study on certain medicinal plants in the forest of Jalgaon district in Yawal and Vadoda forest area as it is evidenced from the literature survey. Therefore this forest region is explored.

There are many plants species used, by the tribal now it is realized all over the world that studies on medicinal plants are very important. To compile the future material medicine of too India in general and world as a whole in light of the dream of health for all in 21<sup>st</sup> century.

## **2.1 Review of literature**

Ethno botany is the scientific field studying human interactions in province (China) and in some south east and other Himalayan countries in 2009. In developed countries traditional knowledge is being widely and has already been pointed out for other Mediterranean countries (2009).

Resources centre for edible, medicinal and other useful plants. A database of flora in the Celtic countries and regions of Europe in industrialized countries, the erosion of popular information on plants are stored in the Yao peoples 2009.

Gupta R. 1986 carried out work on cultivation of plants used in Ayurvedic medicine in India.

Dixit R.D. & D.C Pal 1996 worked out on Role of house hold Remedies in Primary Healthcare.

Medicinal and aromatic plants programme in Asia 6<sup>th</sup> March 2008 a time traditional and indigenous knowledge of those plants research with ongoing parts to reach out to the parts of Asia.

CSIR is India's largest institute working on medicinal plants, like Neem and other.

M.S. Swaminathan Research Foundation is also working on this issue. Indian system of medicine and homeopathy.

Revitalization of siddha medicine in Tamilnadu, India working on Medicinal plant cultivation, Scientific approach legislation for protection of traditional knowledge.

Jain, 1987 a mentioned that Ethno botanical information usually exists among surviving ethnic groups, particularly among technologically less advanced people of



remote forest areas .This knowledge is valuable heritage with us & it is of great practical utility for us.

Jain 1963 & Tarafder reported the use of plants in folk medicine which is very prevalent in Central India. More than one hundred plants were reported to be commonly used medicine in district of Bastar.

Sharma (1968-69) enlisted 248 botanical drugs which are mentioned mainly in Atharvaveda & Rigveda.

Singh & Arora ,1978 reported that in India about 800 species are consumed as a food plants chiefly by the tribal inhabitants.

Singh & Arora ,1978 ; Watt.1889-99; Kanjilal. Et al 1934-1940) reported that of these species ,about 300 species occurs in the north eastern region.

Sing & Chunekar (1972) published a glossary of such medicinal plants, which have been mentioned in Charak Samhita, Sushruta Samhita .

Sharma (1971,1972 ,1973) reviewed the Nighantus &other treatises & listed the plants mentioned therein.

Another source of literature is recent medico botanical writings. The source is for extensive & reliable, a few compilations worthy of mention are Laszio (1958 and Santapau 1958).

Watt, G. 1889-1899 has given, The Dictionary of Economic products of India 6 Volumes. The work of Watt 1889-1899, Kirtikar & Basu1935 & Nadkarni 1954 classified on this account. Few casual references were made to wild food plants in the regional or local floristic studies by Dalziel Gibson (1861) Birdwood (1807-1897) Nairne (1894) Woodrow (1909) Vartak(1959) Datar&Vartak(1975 & Gadgil &Vartak (1975-1976).

Primitive people have realized the miraculous healing effects of the plant. They called them as wonder herbs due to their healing properties. Today herbs have

come back in health system and their importance is once again a blooming through out world. Today herbs are popular among all people, due to side effect of chemical drugs.

Tribal communities, Adivasis depend mostly on medicinal plants for Curing diseases Scared grooves called 'Devrai' in remote areas have been protected by our Government as eco-sensitive zones to conserve the wealth and other commercially important plants in these area.

The use of plants as a sources of medicine dates back to about 4,000 - 5,000 BC. The Chinese were pioneer in using plants as a valuable sources of medicine . Egyptians 2500 BC were knowing the properties of uses of plants are a 'Vedas'. Atharveda ( 800 BC ) gives more detailed account on medicinal plants. 'Sushruta', 'Charak . Works of Charak namely Charak Shushruta' (400 - 500 AD ) also adds to the knowledge of medicine. Shushruta wrote 'Sushruta Samhita' which deals with about 700 drugs. 'Atharva veda' also describes uses of large number of drugs.

In India, earliest references of the curative properties of plants appear in 'Rigveda' (3,500,1,600 B.C) several plants have been referred in 'Suktas of Rigveda' , the wealth of medicinal plants of ancient times. During the last few decades there is growing interest in medicinal plants not only in India but through out the world.

'Atharveda' (800 BC ) gives more detailed account on medicinal plants. In India earliest reference to the medicinal value of plants appears in 'Rigveda' in which brief references to healing properties of plant like Palas, Peepal etc. has been made in Ayurveda that definite properties and uses of drugs and drug yielding plants have been discussed. Ayurveda medicine had it's origin from the works of Ayurveda. Later works of Charak , Sushruta viz. Charak samhita and susruta - samhita added knowledge to science of medicinal plants.

Most of the American, Indians used herbal medicines and Cosmetics. Herbal tablets, tonic, talcum powder, shampoos have become a popular consumer items. The word herbal has become a symbol of safety. Most of the work 20<sup>th</sup> century medicinal plants is carried out by Kirtikar and Basu , Jain (1963), Kurup (1979). These studies of medicinal plants all over the world providing herbal drugs which are used to treat the human diseases by the tribal people .

Traditional medicine continues to play an important role in health care. In many parts of the world, it is preferred form of health care. Elsewhere, use of herbal medicine and so called complementary and alternative therapies is increasing dramatically. In many developing countries, traditional medicine offers a major and accessible source of health care. Traditional medicine is the sum total of knowledge and practices based on theories, beliefs and experiences indigenous to different cultures and used in the maintenance of health as well as in prevention, diagnosis and treatment of physical and mental illness. Traditional medicines have a long history and have been field tested for centuries by thousands of people, resulting in the accumulation of much empirical knowledge in the communities passed on by generation of healers. Traditional medicine is perceived as efficient, safe and cost effective moreover, it is accessible to the poor and those living in remote area.

Plants are indispensable sources of medicinal preparations. preventative and curation in China and India the leading country using medicinal plants, since long back.

According to WHO 80% of world population used traditional medicines to meet their daily health requirements. Since the medicinal plants are the backbone of the traditional medicine. Nearly 3300 million people in under developed countries utilize medicinal plants on a regular basis. WHO Also appreciated the importance of medicinal plants for public healthcare in developing nations and evolved guidelines to support the member states in their efforts to formulate national policies on traditional medicine and to study their potential usefulness including evolutionary, safety and efficacy. In Africa traditional systems are more culturally accepted and are able to meet psychological in a way chemical medicine does not do so.

In 1975 the ministry of health set up an office for traditional; medicine with the aim of conducting chemical screening of medicine and carrying out a census of Traditional medicinal practioner as well as evaluating traditional medicines. However little progress was made in interest in traditional medicine declined in Ethiopia.

The adivasi people in Yawal Taluka and Vadoda (Muktainagar) are diverse in their ethnic and religious background. The knowledge and use of plants are different from one social group to another. The quantity and species selection are different. The main methods used to collect data were-

- 1) Direct field observation, plant specimen collection and identification.
- 2) Species-specific information on plants in use. Interview was conducted using structured questionnaire prepared for Traditional Medical Practitioners (TMPs).
- 3) Information was collected for species found to be in use i.e. sold in market or administered by traditional practitioners.
- 4) Plants are identified and recorded during interview with most practitioners of drug plants are found in tropics growing in wild condition made by herbal doctors and Ayurvedic vaidu, who refer to them as a Jaributis. The medicinal value of drug plants is due to presence of specific chemical substances present in them which when consume in small doses produce physiological action in human body. Some of the chemical components including alkaloid of the 2, 50,000 higher plant species on earth. Nearly 80,000 species are reported to have at least some medicinal use. Around 5,000 species have specific therapeutic value. The classification is according part used habit, habitat therapeutic value etc. beside the plants classification.

Generally medicinal plants are classified depending on the basis of morphology of plant, part from which drug is extracted there are following types of medicinal plants.

The Indian traditional medicines can be classified into two groups. In first group are the medicinal preparations belonging to the Ayurvedic, Siddha and Unani system. The folk medicine belongs to the second group. The medicines of the first group are generally of plant, minerals or animal origin or mixture of two or three of them. There are well laid down procedures to make these preparations as a result of which it is claimed that their bioavailability is enhanced. The medicines of second group, on the other hand, are herbal household remedies.

The tribal people conserve the plants in various ways tribes are in belief of supernatural power and doctrine that the land mark things like trees, grooves forest etc.

are the dwelling places of ancestral souls. It makes indefinite form of totemic. The plant totems are not injured and at a time of wedding or domestic rituals, they are themselves worshiped. On the other hand taboos in their tradition indicate some selected plants like Bel, Durva, Rui, peepal, wad, mango are sacred whose different parts are used in worship of God. Due to the faith on plants in burning places or burial grounds the plants are protected.

The Pawara people do not eat their crop plants before the Navai festival. First they offer the grains of first harvest to God. These people have strong belief that every thing is a gift of super power that is God. These people worshiped the crop plants after harvesting.

### **3.1 - Study area**

#### **❖ Geography**

Jalgaon district lies between 20<sup>0</sup> and 21<sup>0</sup> north latitude and 74<sup>0</sup> 55' and 76<sup>0</sup> 28' east longitudes. On its location in the upper Tapi basin, it forms a distinct topographical unit separated from Neighboring Madhya Pradesh state by Satpura and from the south by Satmala hilly ranges. An arc of extended ranges of Sahyadr stretches in the easterly direction. From east to west the river Tapi passes through the district with deep cut up bed and black soil fertile plains along its banks.

The district is bordered in the north by Madhya Pradesh and in the south, it is continuous with the periphery of Aurangabad district. Limits of Madhya Pradesh again together with Buldhana district of Maharashtra are in its east Nasik and Dhule district of Maharashtra constitute its western borders. Jalgaon is one of thirty five districts of Maharashtra, situated at northernmost border of the state. It is part of region of Bombay presidency. Khandesh was divided in 1906 into two districts viz. west Khandesh and east Khandesh. Which were later on renamed after the district head quarters as Dhule and Jalgaon districts respectively.

Jalgaon district nearly 128 Km along the Tapi river and varies in breadth from 112 to 144 Km. Jalgaon forms an upland basin, one of the most northerly sections of Deccan plateau. The Jalgaon district at present comprises 13 administrative tehsils viz, Jalgaon, Bhusawal, Raver, Yawal, Muktainagar, Chopda, Erandol, Amalner, Pachora, Jamner, Parola, Bhadgaon and

Chalisgaon. The district headquarter is located at Jalgaon. The total forest area in the district is 72685.27 hectares. It is distributed among 305 villages.

### ❖ **Topography**

Jalgaon district includes varied topographical features and landscapes, consisting of hills and forests stretches of barren plain, low rolling rocky hills and densely gullied topography near major river banks. Regionally, from east to west, parallel with Tapi, are well marked belts of the country in the centre, rich Tapi valley in the north, the high and Satpura and in the south and South west bare, ridges and rich, well watered valleys flanked by the Ajanta range.

The Tapi banks are high and bar. North of Tapi, the whole length of rich alluvial plain is bounded by the steep Southern face of the Satpura a belt on mountain land from 32-35 Km. breadth. Northern boundary of the district is marked by the longitudinal depression of Aner river and eastern counterpart the Suki river. These two longitudinal valleys separate the southern ranges of the Satpura from their northern ranges of the Satpura from their northern terrain .Within the limits of Jalgaon district these are three chief hills ranges ,The Satpura in north, the Hati in southeast and Ajanta or Satmala in south. The Satpura, a broad belt of mountain land, stretching in a wall like line along the north bank of the Tapi, rise from the first range of hills, ridge behind ridge, to the central crest about 675m .high and then slope gently river Narmada.

### ❖ **Geology and soil**

The physiography of the district is made up of high hill ranges on north , in the centre and low hill ranges to the south of Tapi on north, the hill ranges stretch east west and form part of satpuras, the highest peak being about a belt 1175 meters boundary of the district. Among important tributaries of Tapi are the Purna on the east and Girna on numerous streams originating from the hilly ranges find their way to main rivers. Deccan traps cover almost the whole of this district, except a few strips of alluvium-covered land on both sides of major streams. These trap rocks are the results of out pouring of lava which spread over vast areas of western ,central and southern India at the end of Mesozoic era, They came through long narrow features fissures and cracks in the horizontal earth crust and spread out as nearly horizontal sheets. They are called 'Plateau basalt'

➤ **Climate-**

The climate of the area is generally dry except in monsoon. The rainy season start in the month of June and there is post monsoon at the end of October and winter begins from December and ends with February .Summer is very hot and begins from March and ends in May. The hottest month is May.

➤ **Temperature**

December and January are the coldest month of the year with the mean daily temp  $8.5^{\circ}\text{C}$  and mean maximum  $24^{\circ}\text{C}$ .Temperature rises gradually from the month of March and in the month of May it is highest minimum temp recorded in the summer is  $42.5^{\circ}\text{C}$  and highest recorded up to  $47.8^{\circ}\text{C}$

➤ **Rainfall-**

The average rainfall in the district is 740.7mm 87% of annual rainfall occurs during the monsoon in the month of June to September. There is highest rainfall in month of July

➤ **Humidity-**

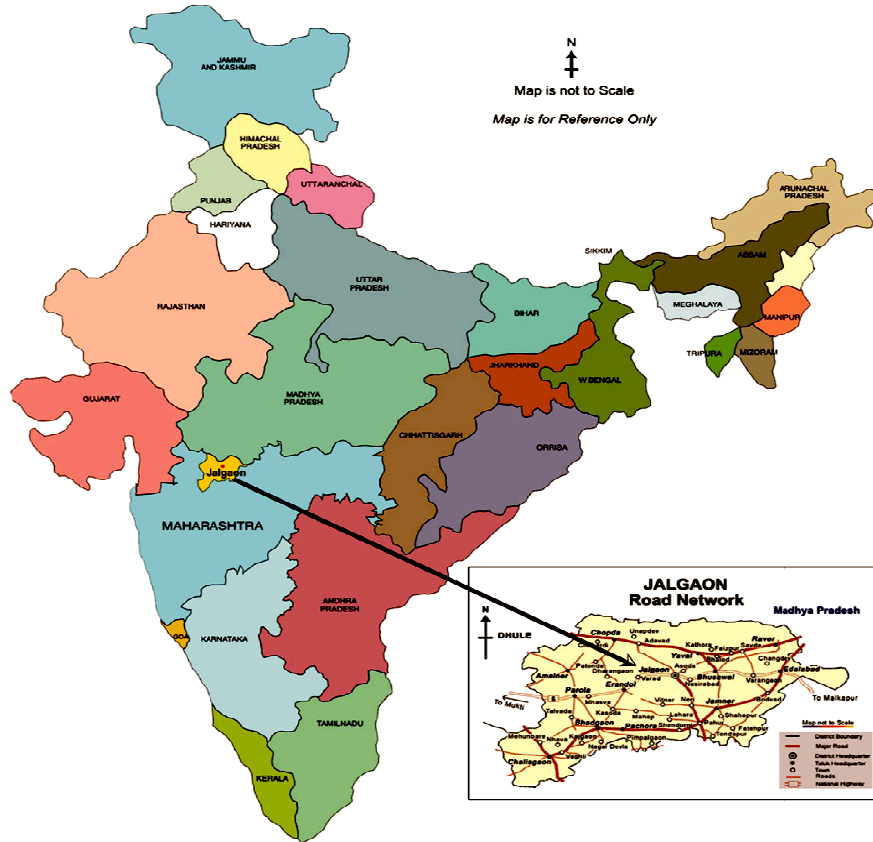
Air is generally dry, particularly in the afternoon the air is generally dry, particularly in the month of afternoon Summer is the driest part of the year.

➤ **Winds-**

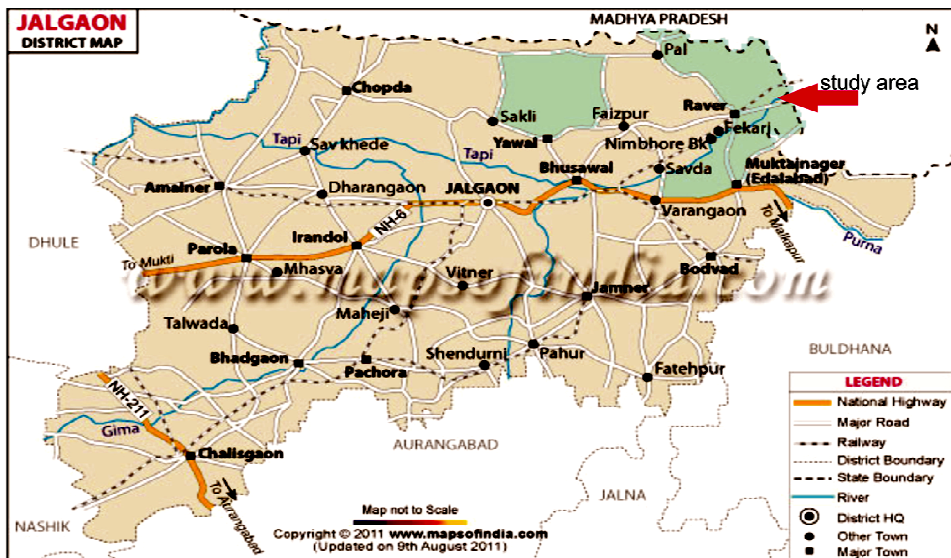
In summer, winds are generally light in the morning and blow from direction between south west and North West In the afternoons they strengthen and blow to a northerly direction. In the monsoon winds are stronger and predominantly south –west erl. During the post monsoon and winter the winds are light.



## ❖ Location of Study area on India Map



## ❖ Location of Study area on Jalgaon District Map



#### 4.1 – Material and Methods

##### ➤ Field Work

The adivasi people in Yawal Taluka and Vadoda (Muktainagar) are diverse in their ethnic and religious background. The knowledge and use of plants are different from one social group to another. The quantity and species selection are different. The main methods used to collect data were-

- 5) Direct field observation, plant specimen collection and identification.
- 6) Species-specific information on plants in use. Interview was conducted using structured questionnaire prepared for Traditional Medical Practitioners (TMPs).
- 7) Information was collected for species found to be in use i.e. sold in market or administered by traditional practitioners.
- 8) Plants are identified and recorded during interview with most practitioners of drug plants are found in tropics growing in wild condition made by herbal doctors and Ayurvedic vaidu, who refer to them as a Jaributis. The medicinal value of drug plants is due to presence of specific chemical substances present in them which when consume in small doses produce physiological action in human body. Some of the chemical components including alkaloid of the 2, 50,000 higher plant species on earth. Nearly 80,000 species are reported to have at least some medicinal use. Around 5,000 species have specific therapeutic value. The classification is according part used habit, habitat therapeutic value etc. beside the plants classification.

Generally medicinal plants are classified depending on the basis of morphology of plant, part from which drug is extracted there are following types of medicinal plants as shown in the Table no.1.

Extensive survey were carried out during 2012-2014 in different seasons at various localities in the Yawal and Vadoda forests area from Jalgaon district. Plant species are identified with the help of flora, manuals. Number of plants collected, relevant information gathered. Photographs are taken It also mainly includes direct field observations, plant specimen collection and identification. Plant authentication (Kshairsagar S.A and Patil D.A 2008). 85 useful medicinal plants are identified and recorded (Cooke 1958). Herbarium are prepared and preserved in the Department of Botany, Bhusawal Arts Science and P. O Nahata Commerce College Bhusawal.

Species-specific information on plants in use. Interview was conducted using structured questionnaire prepared for Traditional Medical Practitioners (TMPs). Information was collected for species found to be in use i.e. sold in market or administered by traditional practitioners.

Plants are identified and recorded during interview with most practitioners of drug plants are found in tropics growing in wild condition made by herbal doctors and Ayurvedic vaidu, who refer to them as a Jaributis. The medicinal value of drug plants is due to presence of specific chemical substances present in them which when consume in small doses produce physiological action in human body. The classification is according part used habit, habitat therapeutic value etc. beside the plants classification.

Generally medicinal plants are classified depending on the basis of morphology of plant, part from which drug is extracted.

Thus the study is based on direct field observations, plant specimens collection and identification from Yawal and Vadoda Forest Area from Jalgaon district. Valuable data, identification of plants are based on local identification, parts used, uses, drug preparation, availability of medicinal plants used by tribal peoples. Information of species was collected and found to be in use and administered by Traditional Medical Practitioners. (TMPs) The medicines are given generally by external application, oral doses. The preparations are given in the form of paste, juice, cold infusion, hot infusion, decoction, oils and pills etc. The tribal people takes the juice, paste, decoction etc. and use in medical treatment. The methods of preparation of drugs are discussed as follows.

#### **4.2 Methods of Preparation of Drugs**

**1. Juice:-** The juice of medicinal plant organ is obtained by crushing in water, the crushed parts are poured in a thin cloth and then squeezed to get juice. The juice is filtered, diluted or given in a concentrated form.

**2. Paste:** - Paste is made of leaf, stem or roots. Wash with water, and make them into soft, moist and crush them small quantity of water and make the paste.

**3. Decoction:-** It is an extract of plant or plant organ completely obtained by boiling the pieces in water at a temperature above 90<sup>0</sup> C. Leaves, stems are washed and chopped into pieces. The Chopped pieces of extract are divided into four parts. Each part is boiled separately till ¼th of extract is remained. It is filtered and used as decoction.

**4. Cold infusion :-** The bark is crushed and added in water. Then it is soaked in water for 24 hrs. later strain it through muslin cloth. Cold infusions of herbs are used, whose properties are otherwise destroyed by hot water.

**5. Hot infusion-** Boiling water is poured on to the fresh dried herb and left to infuse, usually for 5-10 minutes. The quantity most often used is 1-2 teaspoons of herb to one cup of boiling water. The cup should be covered and the infusion left to stand for the required length of time, Strain it through muslin cloth and use warm or cold.

**6. Oil:-** Kernels are removed from seed, crushed and placed on leaves of *Butea monosperma* and wrapped, heated in steam unwrapped when hot, then squeeze it using cloth, oil is extracted from leaves. It is extracted by using 1 kg plant material and properly made into paste. Juice is extracted from the paste by squeezing through cloth. The juice is boiled to evaporate and only oil is left.

**7. Pills :-** 1 kg plant material is boiled in 4 liter of water. It is boiled to evaporate, then strained. The material is thickened on fire. The small sized pills prepared and allowed to dry.**8. Powder:-** The plant organ is washed with water, then it is dried in shade and finally sun dried for one day. The material is crushed in mortar with pestle. The material is strained through cloth and made into powder by drying. Powder of crude drug is called churnas.

**9. Tinctures:-** These are the extracts from drug plants prepared with ethanol of varying concentration. As these are made with alcohol instead of water, they can be kept for a longer time. They are made by using powdered herbs and the usual proportions are two tablespoons of herb to one cup of alcohol.

**10. Bath sachets-** Adding herbs to the bath water is an effective form of medicine and in skin treatment.

**11. Bhasmas** - The ashes of medicinal substances.

**12. Leha or paste** - As poultice and semi solid preparations of leaves.

## 5.1 – Observations and Results

### ❖ **KHAIR**

*Acacia catechu* (L.f.) Willd.

Mimosaceae

Tall-armed tree, with light black rough bark. Leaves long pinnate. Flowers creamy-white, in axillary spikes. Pods pale to dark brown.

Plant parts used- Leaves, bark.

Medicinal uses –

1. Valuable astringent.
2. Used against dysentery bleeding piles. Uterine hemorrhage, leucorrhoea.
3. Hypertrophy of tonsils, ulceration of mouth.
4. A powder of catechu is used for plugging cavity of an aching tooth to relieve pain.
5. A tincture of Catechu is useful in painful mammary gland.
6. Kathol is used as a tonic, as a galactagogue for nursing mothers.
7. The juice of the fresh bark is given with asafetida in haemoptysis.
8. Catechuic acid found in small fragments in cavities of the wood is useful in chest disease. It is astringent cooling cures itching bronchitis.
9. Indigestion, boils, ulcers, leprosy, urinary and vaginal discharges.

Distribution- Throughout in forest, VAP 137, Adgaon.

### ❖ **KHAIR WILD**

*Acacia chundra* (Roxb. ex. Rottl.) Willd.

Mimosaceae

Small trees. Bark brown. Leaves long leaflets 25-45 pairs. Stipular spines hooked. Flowers white. Pods stalked brown, glabrous, and beaked.

Plant parts used- Bark.

Medicinal uses-

1. Bark powder is given to expel intestinal worms.
2. Decoction of the bark is given in leucorrhoea.

Distribution - Common in open forest, VAP 181, Manudevi.

## ❖ **BABHUL**

*Acacia nilotica*( L) Del sp.tomentosa (Bth.) *Brenan azadarach* L.

Mimosaceae

Tall straight or crooked trees. Leaves pinnae-4-8 pairs, minute. Seeds brownish black, smooth.

Plant parts used- Leaves ,bark.

Medicinal Uses –

1. Wet fresh wood is burnt over the fire and oily extract oozes out is applied on leprosy.
2. Ash prepared from fruits mixed with milk is useful in lumbago pains.
3. Bark is excellent astringent.
4. Best medical purpose is a decoction prepared by boiling in water for 10 minutes, used in chronic diarrhoea, used externally or local application.
5. As an injection in leucorrhoea and other vaginal discharges.
6. Decoction of bark used in sore throat ulceration of the gums.

Distribution- Throughout in forest, VAP132 , Machindranath.

## ❖ **HIVER**

*Acacia leucophloea* ( Roxb.) Willd.

Mimosaceae.

Tall trees. Leaves bipinnate, leaflets linear-oblong, glabrous. Heads creamy to pale yellow in long terminal panicles. Pods linear-oblong, yellowish- brown .Seeds smooth pale brown.

Plant parts used – Bark, fruit.

Medicinal uses –

1. Bark is useful in toothache.
2. Bark and leaves are used in dye.
3. Fruit ash is useful in pain, rheumatism

Distribution- Throughout in forest, VAP 171 , Kingaon.

## ❖ AGHADA

*Achyranthes aspera* Linn.

Amaranthaceae

Erect herbs. Leaves elliptic, lanceolate, silky beneath. Flowers pale – green. Simple and branched spikes.

Plant parts used- Leaves, whole plant.

Medicinal Uses -

1. Antibacterial and antifungal activity.
2. Antidiabetic, spasmolytic.
3. To cure lepromatous leprosy, bhasma of *Achyranthes* is used to cure bronchitis, asthma. It shows Cardiovascular activity.
4. Abortifacient activity- 1 % solution of Achyranthine causes
5. contraction of both gravid and non gravid uterus.
6. Plant decoction acts as diuretic pungent and purgative also in colic dropsy.
7. Roots used in dental care.

Distribution- Common in forest, VAP 144, Dolarheda.

## ❖ BEL

**1. *Aegle marmelos* (Linn) Corr.**

**Bail**

**Rutaceae**

Tall trees, armed with thorns. Bark grayish-white or grey brown. Young parts pubescent. Leaves pinnately compound 3 –oliolate. Leaflets ovate-lanceolate, acuminate, Flowers bisexual, greenish creamy white, Fragrant, in axillary panicles. Fruits ,globose, rind grey or yellowish when ripe, pubescent. Pulp thick orange coloured. Seeds obliquely lenticular or oblong, wrinkled, glabrous, pale brown.

Distribution-Occasional in forest VAP,105 Dolarheda.

Medicinal uses-

1. Bel fruit pulp is used to cure cough and asthma.
2. It is purgative, used in colic disorders.

## ❖ **KORPHAD**

*Aloe vera* Burm .f.

Liliaceae

Perennial herbs with short thick stem .Leaves sessile , Succulent, green , lanceolate with spiny margin. Flowers in raceme pinkish in colour scape is larger than leaves. .Fruits rarely formed,capsule

Plant parts used - Leaves.

Medicinal uses –

1. Leaf juice is useful in piles, stomach disorders.
2. Leaf juice mixed with opium and applied to forehead relieves headache.
3. Leaf pulp is a refrigerant medicine in conjunctivitis and is used as an external application for all local inflammation.
4. Leaf juice with turmeric is given in glandular enlargement.
5. Tender pulp is eaten in rheumatism.
6. Pulp is used in menstrual suppression as well as against muscular pain.
7. Salad of leaves is given to cure indigestion, constipation and flatulence.

Distribution- Cultivated, VAP 152, Dolarkheda.

## **JANGALI DRAKSHA**

*Ampelocissus latifolia*(Roxb.) Planch.

Vitaceae

Woody climbers, with deep reddish purple stem and branches. Leaves petiolate, ovate, deeply lobed .Flowers deep red in panicle. Berries smooth, pale to deep purple.

Plant parts used – Fruits.

Medicinal uses –

1. Fruits are edible and good for cough and fever.
2. Fruits are eaten in case of allergic problems.

Distribution- Throughout on hedges and forest, VAP 157 , Charthana.



## ❖ **RAMPHAL**

*Annona reticulata* L.

Annonaceae

Trees with spreading branches. Leaves ovate- lanceolate, glabrous, minutely pellucid-punctate, petiolate. Flowerws 2-4 on lateral, glabrous pedicels. Fruits yellowish-brown, sub-globose or heart-shaped.

Plant parts used - Leaves, fruits.

Medicinal uses-

1. Leaf extracts yield dye.
2. Fruits are nutritious.

Distribution- Occasional in forests, VAP 175, Nandvel.

## ❖ **PIVALA DHOTRA**

*Argemone mexicana* L.

Papaveraceae

An annual prickly herb. Leaves both radical and cauline, bluish green, spiny on margins, sessile. Flowers bright yellow, solitary, terminal. Capsules spinous, erect. Seeds black prominently reticulately veined.

Plant parts used - Leaves, seeds.

Medicinal uses –

1. Leaf extract is useful in jaundice, leprosy.
2. Sexually transmitted diseases.
3. Oil is used as a lubricant.

Distribution-A weed in waste places not common in deciduous forest, VAP153 , Haripura.

## ❖ **SHATAVARI**

*Asparagus officinalis* L.

Liliaceae

Deciduous shrubs, with ash brown to pale bark. Cladodes long glabrous. Flowers white in long racemes. Berries globose scarlet or pale purple.

Plant parts used - Leaves and roots.

Medicinal uses –

1. The decoction of roots increases appetite.
2. Leaf extract increase the secretion of milk in lactating mother.
3. Root powder check tumors and inflammation.
4. Useful on epilepsy and night blindness. Useful in duodenal ulcers, juice of the whole plant is use to cure diseases of blood, eye throat.
5. Extract of roots is useful in kidney disorder, jaundice, liver.
6. Root extract is use as tonic, to remove weakness.
7. Is useful in bleeding piles and dehydration.
8. It improves memory, intelligence, and physical power and youthful.
9. Active in nervous disorder.

Distribution-Wild in forest undergrowth, VAP 126 , Adgaon.

## ❖ **BAMBOO**

*Bamusa arundinacea* Willd.

Poaceae

Thorny perennials .Culms many, nodes and internodes prominent. Leaves sheath, ligule short, blades linear – lanceolate. Grains oblong.

Plant part used - Leaves, culms.

Medicinal uses –

1. Young shoots or culms contain hydrocyanic and Benzoic acids and are useful as a stimulant in lung diseases.
2. A decoction of the nodes of bamboo stem is used as abortifacient, emmenagogue.
3. The leaf buds are excellent remedy for thread worms.
4. Leaf juice is given to check the blood vomiting.
5. From culms of female plant contain crystalline secretion is obtained which is used as an aphrodisiac, tonic ,expectorant , demulcent and asthmatic problems.
6. It is given in hepatic fever, asthma and paralytic complaints.
7. Decoction of leaves is used to induce lochia after child birth.

Distribution- Often forming dense stands, also cultivated at some places,VAP,169 Dolarkheda.

## ❖ **KATEKORANTI**

*Barleria prionitis* L.

Acanthaceae

Bushy shrubs. Leaves elliptic- lanceolate, entire. Flowers yellow, in axillary terminal spikes. Capsules brown. Seeds orbicular, hairy.

Plant parts used - Leaves root.

Medicinal uses –

1. Leaf extract is cooling agent to reduce body heat. In case of excess body heat ash prepared from dried root given along with sugar and warm water.

Distribution- Rare in forest, VAP125 , Manudevi.

## ❖ **APTA**

*Bauhinia racemosa* Lam.

Caesalpinaceae

Deciduous trees. Bark dark brown, rough. Leaves cordate at base bilobed glabrous above. Flowers yellow, in terminal. Pods-oblong curved, linear seed brown.

Plant parts used - Leaves

Medicinal Uses –

1. Leaf extracts use in cough and cold.

Distribution -Throughout in scrub forest, VAP103 Dolarkheda.

## ❖ **KANCHAN**

*Bauhinia variegata* L.

Caesalpinaceae

Small-sized trees. Leaves ovate or orbicular, bilobed. Flowers white to pink, in dense panicles, variegated. Pods, flat, oblong, glabrous.

Plant parts used - Bark.

Medicinal uses –

1. The bark is an alternative blood purifier.
2. Anthelmintic, astringent and tonic.
3. The decoction of bark is given in ulcers, leprosy, syphilis and various skin diseases.
4. An emulsion of the ground bark in water is useful in diarrhea and liver complaints.
5. A decoction of the root is a remarkable drink for reducing obesity.

Distribution- Planted at some places in forest areas, VAP 113, Lalgota.

## ❖ PUNRANAVA

*Boerhavia repens* Linn.

Nyctaginaceae

Diffuse, nearly glabrous herbs. Leaves broadly ovate, elliptic oblong or suborbicular. Flowers minute, in umbels, forming axillary and terminal, corymbose panicles. Frutis minute, 5-Ribbed.

Plant parts used - Roots.

Medicinal uses-

1. Root extract is given in gonorrhoea and kidney troubles.

Distribution-Common on waste lands, VAP 131 , Manudevi.

## ❖ CHAROLI

*Buchanania lanzen*, Spreng.

Anacardiaceae

Large sized tree. Bark rough, blackish -brown. Trunk straight .Leaves 9-30×3.5-11 cm, glabrous above, silky- pubescent to villous beneath, elliptic-oblong. Flowers greenish-white or creamy-white in terminal and axillary, pubescent pyramidal panicles Drupe obliquely lentiform, chestnut brown, smooth, glabrous, 1 seeded.

**Medicinal uses:** Seeds are edible.

**Distribution** –Rare VAP 107, Dolarkheda.

## ❖ PALASH

*Butea monospema* ( Lam.) Taub.

Fabaceae

Deciduous tree with rough, ash-coloured bark. Leaflets glabrous, obovate, elliptic oblong. Racemes compact. Pods sandy brown rounded on edges.

Plant parts used - Leaves, bark, flowers.

Medicinal uses -

1. It yields gum which is a source of medicinally important.
2. Gum has an astringent and given in acute cases of diarrhoea and dysentery. The leaves are anti-inflammatory, used in pimples, burns, flatulence.
3. Leaf juice is useful in eye disease, skin disorders.

4. Leaf juice is useful liver disorders, fractures piles, anorexia, rectal diseases.
5. Seed powder is use in piles, tumors, menstrual disorder antiseptic and cooling agent.
6. Flowers and leaves are astringent, diuretic and aphrodisiac, flowers and seeds are mixed in a decoction used as wormicide against tapeworm and ringworms, Seeds are useful against roundworms and tapeworms.
7. Used against boils and pimples.
8. Dried bark powder is digestive tonic, in constipation, gonorrhoea.
9. Flowers used in fever, leprosy, swelling.
10. Decoction of flowers is regarded as blood purifier.
11. The gum is used by ladies after delivery as a liver tonic.
12. Paste of bark is applied on fractured parts.

Distribution - Throughout common in deciduous forest, VAP 155 , Yawal.

### ❖ **RUI**

*Calatropis procera* (Ait) R. Br.

Asclepiadaceae

Erect shrubs. Leaves obovate, ovate. Flowers purple in cymes. Follicles in pairs. Seeds many light brown, coma silky white.

Plant parts used - Leaves.

Medicinal uses -

1. Leaf extract are used on dropsy.
2. Decoction of leaves is used for extracting Guinea worms.
3. A leaf juice is applied on skin diseases, body pains and asthma.

Distribution - Occasional in waste places, VAP 124, Machindranath.

### ❖ **CHAMBHAR AWALI**

*Cassia auriculata* L.

Caesalpiniaceae

Erect bushy shrubs, 1-2 m tall. Leaves long, glabrous. Flowers yellow with orange. Pods brown.

Plant parts used- Leaves, roots.

Medicinal uses -

1. Root decoction is given in diabetes.
2. Leaf paste applied in rheumatic pains.

Distribution - Common in semi-arid regions, VAP 146 , Adgaon.

## ❖ **SADABAHAR**

*Catharanthus roseus* L.

Apocyanaceae

Erect, bushy perennial herbs 60-90 cm tall glabrous. Leaves oblong-elliptic. Flowers violet or white, solitary or paired. Follicles oblong, Seeds black.

Plant parts used - Roots, leaves

Medicinal uses -

1. Roots are macerated and given as a tonic and stomachache.
2. Leaf extract is used to cure diabetes and for treating menorrhagia.
3. The juice of leaves is useful on snakebite and relieving toothache and hypertension.
4. Leaf juice has carminative, homeostatic and astringent properties.
5. Abortifacient antilactagogue nerve tonic.
6. Vinblastin and vincristine effective on cancer tumours.
7. Effective on cholera.
8. Used in leukemia, lymphomas, lung cancer, breast cancer.

Distribution -Throughout, VAP 142 , Haripura.

## ❖ **AMBAT VEL**

*Cayratia trifolia* ( L.) Domin.

Vitaceae

Slender climbers, leaflets glabrous-green, ovate. Flowers white in branched cymes. Berries purple, globose.

Plant parts used - Leaves, stem, roots.

Medicinal uses -

1. Paste of whole plant is applied externally on affected part daily once till cure.

Distribution - Rare in forest, VAP 176 , Haripura.

## ❖ SAFED MUSLI

*Chlorophytum tuberosum* Baker.

Liliaceae

Tall herbs tuberous. Tuber in bunch. Leaves ensiform, flat or folded lengthwise. Flowers white in clusters in racemes in upper half of central scape. Capsule obovoid, trigonous.

Plant parts used - Roots.

Medicinal uses -

1. Dry powdered tuberous roots with milk used for the treatment of debility.
2. Tubers are used as tonic for general weakness.

Distribution-Occasional, VAP120, Ambapani.

## ❖ KARDU

*Celosia argentea* L.

Amaranthaceae

Annuals, erect. Simple, glabrous, tall herbs. Leaves ovate, linear-lanceolate, spikes terminal long bright –pinkish- purple. Seeds spherical dark black, smooth glabrous.

Plant parts used - Root, seeds.

Medicinal uses -

1. Powdered seeds given with warm water to cure kidney stone.
2. Roots used as toothbrush for toothache.

Distribution- Common in forest, VAP 149, Yawal.

## ❖ GOKARNA (BLUE)

*Clitoria biflora* Dalz.

Fabaceae.

Climbers. Leaves alternate ovate. Pods linear, flat, hairy.

Plant parts used - Leaves.

Medicinal uses-

1. Paste of leaves is used in elephantiasis.
2. Leaf extract is given in jaundice.

Distribution - Occasional in forest, VAP 145, Manudevi.

## ❖ **GOKARNA (WHITE)**

*Clitoria ternatea* Linn. *Var. ternatea*.

Fabaceae

Climber. Leaves alternate imparipinnate, leaflets ovate oblong entire. Flowers white. Pods falcate. Seeds yellowish brown.

Plant parts used - Roots, leaves, flowers, seeds.

Medicinal uses -

1. Leaf extract is used in ulcers, headache , eye diseases.
2. Paste of the whole plant is useful in elephantiasis.
3. Roots decoction is used in cough, fever, urine disorder, goiter, indigestion
4. Seed powder is used in liver disorder.

Distribution- Throughout, on hedges, VAP 183 Pal .

## ❖ **BHOKAR**

*Cordia dichotoma* Forst. f .

Boraginaceae

Tall tree with ash coloured bark. Leaves ovate, elliptic. Flowers creamy, white in axillary or terminal cymes. Drupes ovoid, mucilaginous.

Plant parts used - Seeds

Medicinal uses -

1. In case of blood toxicity, ash prepared from seeds mixed with jaggery is useful.

Distribution- Throughout in forest, VAP 173, Halkheda.

## ❖ **AMBE HALAD**

*Curcuma aromatica* Salisb.

Zingiberaceae

Perennial, rhizomatous herbs. Rhizome tuber bearing. Leaves oblong lanceolate, spike central bracts green to greenish white.

Plant parts used - Rhizome

Medicinal uses -

1. Rhizome decoction applied on wounds, antibacterial
2. Useful on various sexual diseases.
3. Rhizome extract is carminative, Stomachic, Cooling.

Distribution - Found in forest undergrowth occasional, VAP 179 , Manudevi.



## ❖ **HALAD**

*Curcuma longa* L.

Zingiberaceae

Perennial rhizomatous herbs. Leaves oblong.

Plant parts used-Rhizome

Medicinal uses -

1. Curcumin dye present in turmeric acts as Cholagogue, causing contractions of gall bladder.
2. Powder form of rhizome acts as an antiseptic, anti-inflammatory properties.
3. The volatile oil fraction of rhizome are used in treatment of cervix cancer.

Distribution- Rare in forest, VAP 139 , Yawal.

## ❖ **DURVA**

*Cyanadon dactylon* L.

Poaceae

Perennial creeping herbs with slender erect tall culms. Leaves linear, flat. Spikelets sessile, greenish.

Plant parts used - Leaves.

Medicinal uses -

1. Decoction of whole plant is useful in preventing vomiting, tuberculosis, fevers and as a mouth freshener.
2. Paste of whole plant is applied in case of leprosy, skin diseases.
3. A decoction is given in epilepsy, gonorrhoea, syphilis.
4. Provide minerals and salts.
5. Helpful in uterine haemorrhage.

Distribution- Common in grasses, VAP110 , Manudevi.

## ❖ NAGARMOTHA

*Cyperus rotundus* L. Var. rotundus.

Cyperaceae

Glabrous herbs. Leaves narrowly linear glabrous. Spikelets linear oblong, in compact spikes. Nuts dark-brownish-black, obovoid-oblong, trigonous.

Plant parts used - Roots, leaves.

Medicinal uses -

1. Juice extracted from plant is given in stomach pain and heart diseases and anorexia.
2. Root powder promotes the hair growth.
3. Paste of the plant is applied on affected part in sexual diseases

Distribution- Among grasses common, VAP134 , Manudevi.

## ❖ DHATURA

*Datura metal* Linn.

Solanaceae

Erect, glabrous or subglabrous herbs. Stem purple. Leaves broadly ovate lanceolate. Deeply toothed. Flowers purple, solitary terminal. Capsules, globose, straight seeds orbicular smooth.

Plant parts used - Leaves Seeds, fruits

Medicinal uses -

1. Strongly intoxicant, narcotic, toxic, antispasmodic.
2. The young leaves and seeds contain drug hyoscine atropine.
3. The dried leaves and twigs of the plants are smoked as an antispasmodic in the asthma whooping cough , bronchitis.
4. The juice of fruits is useful to check dandruff and falling of hair.
5. The seeds are astringent, antispasmodic, narcotic, bitter carminative and stomachache.
6. The paste of seeds used for used for decaying teeth piles. tumours, parasitic skin diseases.
7. Dried and powdered leaves with warm water, poultice applied, locally.

Distribution- Common in forest, VAP ,156 . Langadaamba.

## ❖ RANKANDA

*Drimia indica* Jessop.

Liliaceae

Herbs. Bulbs globose-ovoid tunicated. Leaves flat strap shaped. Flowers few brownish purple in racemes. Capsules oblong. Seeds flat, winged black.

Plant parts used - Bulb

Medical uses -

1. Used as medicine for squill.
2. Bulb juice is administrated in bronchial complaints.

Distribution- Occasional on rocky hill slopes, VAP 111, Machindranath.

## ❖ MAKA

*Eclipta prostrata*(L). L.

Asteraceae

Hairy erect or diffuse herbs. Leaves elliptic-lanceolate-hairy. Heads white terminal solitary. Achenes compressed, narrowly winged black glabrous.

Plant parts used - Leaves

Medicinal uses –

1. Leaf juice is given liver disorders.
2. Decoction of the whole plant is useful in gonorrhoea.

Distribution - Throughout in damp places, VAP 143 , Adgaon.

## ❖ AMALA

*Emblica officinalis* Gaertn. (*Phyllanthus emblica* Linn)

Euphorbiaceae.

Deciduous trees, with yellowish, smooth bark. Leaves sub sessile linear -lanceolate glabrous. Flowers greenish to yellow green, smooth.

*Plant parts used - Fruits.*

Medicinal Uses -

1. Fresh fruits are excellent liver tonic, antiscorbutic, diuretic, laxative.
2. Murabba prepared from Amala is excellent remedy for indigestion , constipation, flatulence and gastric disorders.

3. Dried fruits are good blood purifier, refrigerant stomachache.
4. The fruits are one of the three constituents of the well known preparation of Triphala, which is laxative, used in stomach complaints.
5. Fermented liquor made from the fruits is useful in indigestion, anemia, jaundice, heart complaints, cold in nose and for promoting urination.
6. Oil prepared from the fruits promote the hair growth.

Distribution- Common in forest, VAP135 ,Manudevi.

### ❖ JANGALI KELA

*Ensete superbum* ( Roxb.) Cheesm. (*Musa superba* Roxb.)

Musaceae

Tree like herbs stems thick composed of convolute leaf-sheaths. Leaves large oblong flowers in two dense rows. Bracts or bicular, dull scarlet brown fruits oblong seeds angular brown black.

Plant parts used- Fruits, seeds,

Medicinal uses-

1. Fruit is laxative and used in intestinal disorders, uremia, nephritis hypertension, vascular diseases.
2. Dried powder of seeds with water used to dissolve kidney stone.
3. It is also effective in the treatment of coliac and intestinal disorder.

Distribution-Occasional on rocky hill tops, VAP 130 , Manudevi.

### ❖ NILGIRI

*Eucalyptus globulus* Labill .

Myrtaceae

Trees, 6 m tall, bark ashy-grey or white. Leaves lanceolate, gland dotted. Inflorescence umbellate. Flowers white. Fruit hemispherical to broadly turbinate.

Plant parts used - Leaves, bark.

Medicinal Uses -

1. Leaves terminal braches yield oil is used in malaria and other fevers.
2. Preparing deodorizers, antiseptics, insect's repellents.
3. Treatment of asthma and bronchitis.
4. Leaf extract is used on earache.
5. Oil is used as a massage gel over body pain.
6. Oil from leaves is used as germicidal.

Distribution- Planted in forest, VAP ,118 Machhindranath .

## ❖ HIRTA

*Euphorbia hirta* L.

Euphorbiaceae

Annual slender herbs. Leaves elliptic oblong hairy Flowers in dense axillary cymes. Capsule hairy. Seeds reddish brown, ovoid.

Plant parts used - Leaves, roots.

Medicinal uses -

1. Hot decoction of the whole plant is given in cough and intestinal worms.
2. Dried root powder is given with warm water for suppression of lactation.

Distribution - Throughout, VAP 119, Yawal.

## ❖ WAD

*Ficus beghalensis* L.

Moraceae

Large trees sending down many aerial roots. Young parts softly pubescent. Leaves ovate or bicular ovate to elliptic obtuse entire, sessile in pairs axillary globose red when ripe Achenes reddish brown ovoid.

Plant parts used - Bark and latex

Medicinal uses –

1. Bark extract is an astringent cooling agent.
2. Powder of bark and latex are applied in rheumatism pains, infusion of bark is effective in diabetes dysentery, leucorrhoea, nervous problem.
3. Paste of leaves promote healing of wounds.
4. Latex is used externally to joint pains and lumbago.

Distribution-Planted along roadsides, VAP 164 , Manudevi.

## ❖ UMBER

*Ficus racemosa* Linn.

Moraceae

Trees with dark greybark. Leaves oblong lanceolate, receptacles creamy white, pedunculate, axillary. Syconus.

Plant parts used - Bark inflorescence.

Medicinal uses -

1. The bark powder is used for healing ulcers skin diseases, Latex of the plant added in a water and given in gonorrhea, leucorrhoea, urinary diseases, hemorrhage.
2. The ripe fruits are used as cooling agent thirst, vomiting.
3. Gives remedy on pitta, kapha, burning sensation.
4. Unripe fruits are astringent, carminative, digestive.

Distribution-Rare in forest,VAP116 ,Nandvel.

## ❖ PIMPAL

*Ficus religiosa* L.

Moraceae

A large tree. Leaves orbicular-ovate, coriaceous. Receptacles sessile, in axillary pairs, globose.

Plant parts used - Leaves, bark, fruits, seeds.

Medical uses -

1. Bark powder mixed with *Terminalia bellirica* jaundice.
2. The fruits of plant are carminative, stimulant, and diuretic, used in dropsy.
3. Leaves and twigs are laxative, digestive
4. Bark is effective in gonorrhea
5. Bark is externally applied on ulcer, wounds.
6. Seed extract is applied on skin diseases.

Distribution - Occasional, VAP 161 , Vadoda.

## ❖ VACHNAG

*Gloriosa superba* L.

Liliaceae.

Glabrous branched climber. Tubers elongate erect. Leaves sessile opposite or in whorls ovate long flowers yellow tinged with red in upper half, at length completely scarlet, large axillary, solitary. Capsules 2-5 cm linear seeds sub-globose.

Plant parts used- Roots, leaves, flowers.

Medicinal uses -

1. Leaf juice with sugar is given in vaginitis and vulviitis.
2. Leaf juice is useful for the treatment of delay in delivery.
3. Root powder is utilized in the treatment of common fever, syphilis, gonorrhea.
4. Extract of whole plant is useful in leprosy, piles, ulcer.

5. Paste of dried or fresh tubers is applied on snake bite.
6. Paste of tuberous roots is effective in skin diseases.
7. Paste of roots is also applied locally on abdomen to make child birth safe and easy.

Distribution - Frequent in hilly forest, VAP 178 , Dolarkheda.

### ❖ ANJAN

*Hardwickia binata* Linn.

Caesalpiniaceae

Trees, with dark grey bark. Leaflets sessile, ovate, glabrous. Flowers yellowish- green, in long slender racemes or terminal panicals. Pod strap shaped.

Plant parts used - Leaves

Medicinal Uses -

1. Leaf paste applied on forehead in headache.
2. Leaves are useful in lactation in cattle.

Distribution - Common in patches in forest, VAP 115 , Dolarkheda.

### MURAD SHENG

*Helicteres isora* L.

Sterculaceae

Shrub, 2 m tall, stellately hairy Bark smooth Pale or dark brown. Leaves bifarious, 8-13×5-10 cm, broadly ovate- oblong or roundish. Irregularly crenate-serrate, coriaceous, scabrid Flowers in axillary clusters- receptacles raised into gynandrophore. Follicles 5 twisted spirally, 3.5-5 cm long; woody at length, pale brown; nearly glabrous; seeds reddish brown, triangular glabrous minutely tuberculate..

**Medicinal uses:**

1. Paste of dried fruits is given for stomachache and dysentery in children.

**Distribution-** Occasionally in hilly forest, VAP-101 Charthana.

## ❖ AMBADI

*Hibiscus cannabinus* Linn.

Malvaceae

Tall erect undershrubs. Leaves linear lanceolate, glabrous. Flowers pale yellow. Capsule broad ovoid brown. Plant parts used- Leaves, flowers and fruits.

Medicinal Uses -

1. Flower powder with piper fruit powder and sugar together is use to cure acidity.
2. Leaf extract is useful for killing worms.
3. Reduce pains.

Distribution - Occasional in forest, VAP160, Yawal.

## ❖ LAL AMBADI

*Hibiscus sabdariffa* Linn.

Malvaceae

Erect herbs. Leaves entire, elliptic, glabrous, midrib glandular at base beneath. Flowers solitary axillary. Capsule subglobose, dark red, silky. Seeds large, black brown.

Plant parts used- Leaves seeds, fleshy red calyx.

Medicinal uses -

1. Leaves are emollient, diauretic sedative refrigerant.
2. Infusion of calyces is diuretic. antiseptic mild laxative, cooling useful in heart and nerve, diseases, high blood pressure and calcified arteries.
3. Seed decoction is reported useful in dysuria, dyspepsia and debility.

Distribution-Rare in forest, VAP 163, Haripura.

## ❖ MOGLI ERAND

*Jatropha gossipifolia* Linn.

Euphorbiaceae

Tall, erect shrubs, with deep-reddish-brown stem and branches. Leaves crimson-red, elliptic-obovate. Flowers deep-red in terminal, trichotomous cymes. Capsules smooth, glabrous. Seeds grayish-brown.

Plant parts used- Leaves, bark, seeds.

Medicinal uses -

1. Latex of the plant is applied on burnt skin for quick healing.
2. Latex of plant is mixed with water and used for gargling in, toothache.



3. Oil from the seeds is antiseptic useful in scabies, eczema, itches, and ringworm.
4. Seeds oil relives body pains.

Distribution – Rare in forest, VAP 177 , Haripura.

## ❖ ADULSA

*Justicia adhatoda* L. (*Adhatoda zeylanica* Medic)

Acanthaceae

Tall bushy shrubs. Leaves petiolate, lanceolate elliptic, glabrous, spike long. Flowers white. Fruits capsule.

Plant parts used - Leaves

Medicinal Uses -

1. Leaves. Contain alkaloid vascine leaves are antispasmodic and powerful expectorant.
2. Leaf juice is commonly used in chest diseases, heart troubles and blood impurities.
3. Dried leaves are smoked for relief from asthma.
4. The decoction is used for chronic bronchitis and asthma.
5. Leaf juice is used for diarrhoea and dysentery.
6. Leaves are used as a febrifuge in malarial fever.
7. Fruits and flowers are aromatic and used as antispasmodic.
8. Roots are useful in diphtheria, and diuretic, useful in gonorrhoea.
9. Warm leaf decoction is used for Scabies and other skin diseases.
10. Antiseptic, antiperiodic and antihelminthic.

Distribution: Common in forest, VAP 170, Manudevi.

## ❖ GHANERI

*Lantana camera* L.Var. aculeate (L.) Moidenke. Verbinaceae

Scadent shrubs, with pale yellowish brown bark.. Leaves ovate pubescent. Flowers dark red, bright pink, orange in spikes.

Plant parts used - Leaves

Medicinal uses -

1. Leaf extract is used in stomachache.

Distribution - Common in forest, VAP 127, Manudevi.

## ❖ KAVATH

*Limonia acidissima* L. (*Feronia limonia* Corr.) Rutaceae

Moderate sized tree with sharp straight spines. Leaves alternate, imparipinate. Flowers small in terminal or lateral panicles. Berries globose hard woody, rind greenish white or pale yellow. Seeds many embedded in pulp, oblong.

Plant parts used - Leaves, fruits.

Medicinal uses -

1. Fruits have refreshing cardiacal and antiscorbutic, properties .
2. Sweet and sour pulp of fruit is edible and rich in vit c.

Distribution- Occasional in forest, also planted, VAP128 , Haripura.

## ❖ MAHWA

*Madhuca latifolia* ( Roxb.) Chev. Sapotaceae

Tall, bark black, grayish-black or ash-coloured, longitudinally fissured. Leaves coriaceous, elliptic-oblong. Flowers creamy-white in dense axillary fascicle. Berries yellow when ripe.

Plant parts used - Leaves, flowers, fruits.

Medicinal uses -

1. Oil is used in skin diseases, rheumatism and headache, Laxative, considered useful in habitual constipation piles and hemorrhoids an emetic. tonic, appetizer.
2. Bark extract is used for treating ulcers and bleeding gums itching.
3. Baked flowers are eaten on cough and cold.
4. Abdominal pains and gastric disorders.

5. Hot poultice of the crushed leaves are applied locally for the treatment of sprains and fractures .
6. Flowers are cooling expectorant, stimulant, used in piles.

Distribution - Frequent in deciduous forest, VAP138 , Lalgota.

### ❖ AMBA

*Mangifera indica* Linn.

Anacardiaceae

Tall evergreen trees. Leaves alternate. Flowers small in panicles. Drupes.

Plants parts used - Leaves ,bark, fruits, seeds.

Medicinal uses –

1. Ripe fruits antidysenteric, diuretic laxative, refreshing.
2. Rind is astringent and stimulant given in debility.
3. Kernal is anthelmintic and astringent.
4. Seeds power is given in asthma diarrhoea, dysentery.

Distribution - Througout, VAP 184, Kingaon.

### ❖ MAYAJAL

*Marselia quadrifolia*

Pteridiphyte

Semiaquatic with selender, creeping hairy rhizomes. Fronds usually four foliate, lemna often floating on water surface. Micro and megasporangia are born inside hard globose sporocarps.

Plant parts used- Roots leaves

Medicinal uses -

1. Root extract is useful in regulation of menstrual cycle.
2. Leaves and whole plant extract are used for sedation in insomnia.

Distribution - Common in wet places, VAP136 , Manudevi.

## ❖ **BAKAM / NEEM**

Botanical Name – *Melia azadarach L.*

Meliaceae

Tall trees with dark bark. Leaves pinnate, leaflets ovate. Flowers panicles. Drupes yellow.

Plant parts used - Leaves, bark, flowers ,stem, fruits.

Medicinal uses -

1. Joint pains, body heat.
2. Root and bark powder, young fruits are used as an astringent .
3. The bark is used in powder form on general debility.
4. The bark contain bitter resin used as vermifuge.
5. Leaves are used as a stimulant in the form of paste or poultice for boils and ulcers.
6. Hot decoction is antiseptic and used for healing lotion for ulcers , swollen glands and sprains.
7. Dry flowers are used as a tonic.
8. Fruit are antiseptic used as a dressing for ulcers and external stimulant in leprosy and other skin diseases.
9. The juice of leaves is antihelmintic, diuretic.
10. Tender twigs are used as tooth brush ‘datoon’ to keep mouth and breath clean and healthy.
11. Leaves are kept in woolen clothes to press them and repel insects .
12. Fruit paste is applied as an insecticide for destruction of lice.
13. Seeds are prescribed in rheumatism.

Distribution - Common in forest, VAP154 , Adgaon.

## ❖ **BUCH**

*Millingtonia hortensis* Linn.

Bignonaceae

Tall trees with corky bark. Leaves long, leaflets ovate. Flowers fragrant, long Panicles.

Plant parts used - Leaves.

Medicinal uses -

1. The leaves are antipyretic.
2. Decoction of leaves applied on the parts affected in dog bites and rabbies.

Distribution- Not frequent in forest ,VAP114 , Yawal.

## ❖ **BAKUL**

*Mimusops elengi* Linn.

Sapotaceae

Tall tree, branched, Bark dark brown, Leaves small ovate Flowers whitish, fragrant.

Plant parts used - Leaves, bark, flower, seed, fruits.

Medicinal uses -

1. Bark is astringent and tonic ,antipyretic.
2. It's decoction is used in catarrh of the bladder and urethra as an astringent.
3. In fever as a febrifuge and tonic.
4. The decoction is a useful mouth washing in diseases of the gums and teeth .
5. Bark and fruits are used in diarrhoea and dysentery.
6. Dried flowers used as snuff and pounded seeds are used in constipation.
7. The leaves are used in Snake bite.
8. The plant is used in syphilis, sores cough, bronchitis and menorrhagia, dropsy.
9. Seeds power is used constipation in children.
10. Young twigs are used for cleaning the teeth.

Distribution- Rare in forest ,VAP 148, Manudevi.

## ❖ **GULBAKSHI**

*Mirabilis jalapa* L.

Nyctanthaceae

Shrubs with tuberous roots. Leaves broadly ovate. Flowers white, red, or yellow. Fruit globose, brownish black.

Plant parts used - Leaves.

Medicinal uses -

1. Root decoction applied for healing of wounds.
2. Root juice is digestive, ash of fruit with milk is taken as a tonic.

Distribution- Rarely found in dense forest, VAP108 , Adgaon.

## ❖ SHEVAGA

*Moringa oleifera* L.

Moringaceae

Middle sized soft wooded trees. Bark corky, rough. Leaves tripinnate, leaflets 5-9 pairs, obovate, or elliptic. Flowers white, in large, axillary panicle. Capsules long. Seeds many winged, glabrous.

Plant part used - Roots, bark, seed, fruits

Medicinal Uses -

1. Seed powder is use in acute rheumatism.
2. Roots are spasmodic affection of the bowels, hysteria, flatulence, epilepsy, stomachic, pneumonia, female sterility.
3. Root powder is useful in constipation and gout and blood pressure, cholera, dysentery.
4. The root decoction are carminative, cardiac tonic, in paralysis.
5. Root bark is used is abortifacient.
6. The fruit is recommended in diseases of liver, tetanus, paralysis snake bite. Scorpion sting spider sting.
7. The seed powder is used in gout and acute rheumatism.
8. The gum is given in dental cares with sesamum oil.
9. Leaves are emetic and their juice with black piper is used in headache.
10. The poultice of leaves is used in reducing glandular swelling.

Distribution- Planted, also found naturally at some places, VAP 147 , Haripura.

## ❖ TUTI

*Morus alba* Linn.

Moraceae

Medium sized trees. Bark grey, smooth. Leaves broadly ovate, glabrous, entire or lobed, serrate. Spikes short, ovoid, axillary.

Plant parts used- Root, leaves, bark, fruit.

Medicinal uses -

1. The root extract is used as anthelmintic and astringent
2. The leaf ash with water is diaphoretic and emollient.
3. A decoction of leaves is used as a gargle in inflammation of throat.
4. The paste of leaves with margosa leaves and white onion is used for external use in bed sore.
5. The fruit is refrigerant in fever, for remedy for sore throat dyspepsia.

6. The bark is used as purgative and vermifuge.

Distribution- Common in forest, VAP 159 , Charthana.

### ❖ **KHAJKUHILI**

*Mucuna pruriens* (Linn.) DC.

Fabaceae

Extensive hairy twinnings. Leaves petiolate, silky hairy, ovate- rhomboid. Flowers in long racemes. Pods densely bristly. Seeds elliptic, dark brown. black, smooth glabrous.

Plant parts used - Roots ,seeds and fruits

Medicinal uses -

1. Roots are used in fever, diuretic, purgative, emmenagogue.
2. A strong infusion of roots with honey is given in cholera, dropsy in the form of paste applied all over the body ,in elephantiasis.
3. Seeds powder is used as an anthelmintic, nerve tonic
4. To kill the worms in intestine fruit hairs are scraped and given with water to remove worms.

Distribution- Throughout, VAP 104, Adgaon.

### ❖ **PARIJATAK**

*Nyctanthes arbor-tristis* L.

Oleaceae

Tall seldom shrubs. Leaves coriaceous, scabridly hairy, ovate elliptic. Flowers fragrant, in trichotomously cymose, pedunculate, capitate heads. Capsule obcordate-oblong or nearly orbicular. Seeds black, flat glabrous.

Plant parts used - Leaves, flowers, bark, and seeds.

Medicinal uses -

1. Leaf juice is used to growing hairs, in baldness.
2. Leaf extract is used on rheumatism, in fever, chronic fever.
3. Leaf juice is a laxative, diaphoretic mild bitter tonic and gives a remedy for intestinal worms in children.
4. The bark powder is expectorant.
5. The powdered seeds are used as an application for dandruff.
6. Leaf paste is used by tribals in snake bite.
7. It is used in cancer ulcers dysentery and menorrhagia.

Distribution - wild, VAP 123, Machindranath.

## ❖ KALI TULSI

*Ocimum americanum* L.

Lamiaceae

Annual herbs, erect. Leaves petiolate. Entire or serrate margin, opposite, oblong. Flowers small purple or reddish verticillaster inflorescence. Fruits are nutlets, Seeds many.

Plant parts used - Roots ,leaves, stem ,flowers ,seeds

Medicinal uses -

1. Aromatic, carminative.
2. Leaf paste is used on skin diseases.

*Distribution- Rare, VAPI22, Adgaon.*

## ❖ SABZA

*Ocimum basilicum* Linn.var.basilicum.

Lamiaceae

Aromatic tall herbs. Leaves glabrous, lanceolate. Flowers white. In compact or distant whorls, in terminal, simple or branched racemes, Nutlets oblong punctate.

Plant parts used - Roots Leaves, flowers and seeds

Medicinal uses -

1. Clove like scent and saline taste of oil serve as flavoring Agent and useful on cough cold.
2. The juices of leaves are used as nasal douche and nostrum for earache, headache in ringworm.
3. The plant is considered to be stomachic, anthelmintic, antipyretic, diaphoretic, expectorant, carminative, stimulant and pectoral.
4. An infusion of the plant is used in cephalgia and gouty joints and also used as a gargle for foul breath.
5. Roots are febrifuge and also used in bowel complaints of children
6. Flowers are carminative, diuretic, stimulant and demulcent.
7. Seeds are mucilaginous and used in gonorrhoea dysentery, chronic diarrhoea, nephritis, cystitis and internal piles. The seeds are aphrodisiac and also diuretic.

*Distribution - Among grasses in Manudevi forest, VAP 150, Manudevi.*



## ❖ **KRISHNA TULSI**

*Ocimum tenuiflorum* L. (*Oscimum sanctum* Linn.)

Lamiaceae

Erect much branched undershrub. Stem and branches purplish. Leaves elliptic-oblong, acute, entire, or crenate-serrate. Flowers pale pink, in terminal racemes in close whorls of 6 each. Nutlets brown ellipsoid.

Plant parts used - Roots, leaves, stem, flowers, fruits, seeds.

Medicinal Uses -

1. Root decoction is given in malarial fever as a diaphoretic.
2. Fresh roots are ground with water and applied to stings and bites of insects and leaches.
3. Leaves are used as expectorant in chronic cough and are given with honey and are useful for curing bronchitis and asthma.
4. Leaves are applied to skin in ringworm and other skin diseases.
5. Leaf juice poured into ear is useful remedy for earache.
6. Seeds contain mucilaginous substance acts as a demulcent given in disorders of genito urinary troubles.
7. Leaves are useful in heart diseases, blood, diseases, leucoderma.
8. Leaf extract expel worms.

Distribution- occasional in forest, VAP 165, Manudevi.

## ❖ **BHUIVALI**

*Phyllanthus amarus* S. and T. (*Phyllanthus niruri* auct. non L.)

Euphorbiaceae

Annuals, Leaves glabrous, elliptic or obovate. Flowers pale yellow, axillary, minute. Capsule globose, smooth.

Plant parts used - Roots, leaves, twigs.

Medicinal uses –

1. Paste prepared from whole plant is used on skin diseases.
2. The whole plant is used in dropsy, gonorrhoea, and menorrhagia, genital disorders.
3. Decoction of bark is useful in diabetes.
4. Infusion of young shoots is given in dysentery.
5. Fresh root juice is used as a remedy for jaundice.
6. The fresh leaf extract considered to be a remedy for jaundice.
7. The plant is bitter in taste astringent.

Distribution - Throughout common, VAP109, Kingaon.

## ❖ **JAMBA**

*Psidium guajava* L.

Myrtaceae

Large shrubs or small trees, bark grayish- black, rough. Leaves elliptic oblong. Flowers white or creamy white. Berries pyriform. Seeds minute ellipsoidal.

Plant parts used - Leaves, bark, fruits.

Medicinal uses -

1. Fruits are aromatic.
2. Leaves are used for bowel troubles.
3. Decoction of bark is given in diarrhoea in children.
4. Fruits are tonic, cooling and laxative, useful in colic and bleeding gums.
5. Commonly leaves are used for gargle for swollen gums, ulceration of the mouth.
6. Leaves are used in treatment of wounds and ulcer.
7. A decoction of leaves is used for arresting vomiting and diarrhea.
8. A decoction of young leaves and shoots is prescribed as febrifuge. The leaves are locally applied in rheumatism and the extract of leaves used in epilepsy.
9. Infusion of leaves is used in kidney problem.
10. A preparation of the fruit along the root is useful in jaundice.

Distribution - Wild, VAP 133 Adgaon.

## ❖ **BIBBA**

*Pterocarpus marsupium* Roxb.

Fabaceae

Deciduous trees with ash coloured or yellowish grey. Leaflets 5-9, ovate- oblong . Pods glabrous.

Plant parts used - Gum, leaves ,bark flowers.

Medical uses –

1. The gum is used as astringent and used in diarrhea and toothache.
2. Leaves are used externally for boils, sores and various skin disease.
3. The bark is an astringent.
4. The flowers are used in fevers. stomachache ,cholera dysentery and menorrhagia.
5. The water kept overnight in wooden tumblers of the plant is said to be useful for chest pain and diabetes.
6. Juice extracted from fruits is applied externally in burns, sting bite.

Distribution- Occasional in forest, VAP 151 , Manudevi.

## ❖ MADHU MALATI

*Quisqualis indica* Linn.

Combretaceae

An extensive, wood climber, with smooth, pale brown bark. Leaves opposite membranous, elliptic-oblong, flowers bright-rosy-pink or red in drooping sikes.

Plant parts used - Leaves.

Medicinal uses -

1. Leaf paste is applied on wounds for wound healing.

Distribution-Rare in forest, VAP166 , Charthana.

## ❖ ARAND

*Ricinus communis* Linn.

Euphorbiaceae

Tall plant. Leaves palmately lobed. Flowers pale yellow in terminal racemes. Seeds long oblong grayish brown, mottled white.

Plant parts used - Leaves, seeds.

Medicinal uses -

1. Seeds contain ricin a toxin and alkaloid ricinine.
2. Oil prepared by cold extraction is important medicinally used as purgative.
3. Seeds contain ricin a toxin and alkaloid ricinine.
4. Oil prepared by cold extraction is important medicinally used as purgative. administered in acute diarrhoea caused by food poisoning for children.
5. Oil is an excellent evacuant and given to remedy dysentery enteritis spasmodic diseases of bowels, inflammatory disorders of urinogenital organs, asthma, dropsy.
6. Oil is externally applied in conjunctivitis.
7. The leaves are applied to the head to relieve headache and poultice for boils effective given in acute diarrhoea.
8. As an enema the oil is given in constipation.

Distribution- Rare, cultivated at some places, VAP129 , Adgaon.

## ❖ CHIKANA

*Sida cordata* (Burm. f.) Borss.

Malvaceae

Perennial herbs. Leaves membranous. Flowers yellow axillary, solitary. Fruit globose. Seeds brown smooth.

Plant parts used - Leaves, root.

Medicinal uses -

1. Root extract is applied on wounds for quick healing.
2. In case of sexual diseases like leucorrhoea ash of whole plant is given.

Distribution- Throughout, common along roadsides, VAP 102, Ambapani

## ❖ JAMBHUL

*Syzygium cumini* L. (*Myrtus cumini* Linn.)

Myrtaceae

Tall tree branches glabrous Leaves opposite, decussate elliptic, ovate Flowers fragrant pale white Berries oblong, dark purple smooth, juicy. Seed one large.

Plant parts used - Leaves and fruits.

Medicinal uses -

1. Leaves are used as an astringent in cerebral disorders. epilepsy, in dyspepsia.
2. A decoction of leaves is used as a mouth wash stomach and liver.
3. Powder of leaves is used in hemorrhages, internal ulceration deep sinuses.
4. Leaf paste is used in scorpion sting.
5. Fruit is a carminative, used in diarrhea, ulceration and rheumatism.
6. Oil from fruits promotes growth of hair.

Distribution - Planted along forest roadsides, VAP 174 , Manudevi.

## ❖ CHINCH

*Tamarindus indica* L.

Caesalpiniaceae

A large evergreen tree. Leaves linear, minute. Flowers yellowish in long raceme. Pods long with fibrous grey epicarp.

Plant parts used - Leaves, fruits.

Medicinal uses -

1. Powdered fruit have allergic activity, antibacterial, antifungal activity.
2. Dried leaves have antimalarial and antiviral activity.
3. Fruits are laxative.
4. Seed powder used as sex stimulant.
5. Bark powder used in skin diseases.

Distribution-Throughout, planted in forest, VAP158 , Lalgota.

## ❖ SAGWAN

*Tectona grandis* L. f.

Verbinaceae

Deciduous trees with straight trunk, and pale-brown rough bark. Leaves coriaceous rough stellately tomentose. Flowers white or pale-blue, in terminal panicles. Drupes sub-globose. Seeds oblong, glabrous reticulate.

Plant parts used - Bark, seeds.

Medicinal uses -

1. Used in anthrax in cattle.
2. Used in diarrhoea

Distribution-Throughout in deciduous forest, VAP 140 ,Dolarkheda.

## ❖ **BEHDA**

*Terminalia bellirica*.(Gaertn.) Roxb.

Combretaceae

Tall trees, bark ash-coloured. Leaves petiolate. Flowers pale yellow, in spikes . Fruits brown.

Plant parts used - Fruits.

Medicinal uses-

1. Jaundice, mouth freshener.
2. The ripe and dried fruits acts as a tonic astringent , laxative and
3. Administered in piles, diarrhoea, fever, dropsy.
4. Fruit beleric myrobalan used in bronchitis asthma.
5. The fruit pulp mixed with salt , honey and pepper gives an effective remedy for sore throat , hoarseness of voice cough and dyspepsia.
6. Dried powder of fruits when mixed with water and applied locally, then it relieves pain and swelling.
7. Fresh paste of fruits is applied locally for the treatment of leprosy.
8. Fruits have an antibiotic property.

Distribution- Common, VAP 141 Manudevi.

## ❖ **HARITAKA**

*Terminalia chebula* Retz.

Combretaceae

Tall trees, bark dark brown. Leaves ovate silky when young. Flowers creamy white or pale yellow in terminal panicles. Fruit glabrous ribbed.

Plant parts used - Fruits

Medicinal uses -

1. It is safest, effective, laxative, astringent tonic, stomachache. The pulp of the fruit is given in chronic diarrhoea , dysentery, flatulence, asthma, vomiting , urinary disorders, intestinal worms, enlarged spleen and liver.
2. Rock salt, clover and cinnamon given daily at bed time acts as a laxative, stomachic, tonic.
3. Chronic ulcer and wound may be treated with fine powder of fruit, purgative.
4. Powder of fruit gives remedy for toothache and bleeding, ulceration of gums.
5. It increases digestion, taste and helps in improving the vision.

Distribution - Rare in forest, VAP ,162 Adgaon.

## ❖ ARJUN

*Terminalia cuneata* Roth. (*Terminalia arjuna*. Roxb. ex DC) W and A) Combretaceae

Tall trees. Leaves elliptic-oblong glabrous. Flowers white in panicles. Fruits ovoid. Seed linear.

Plant parts used - Leaves, bark.

Medicinal uses -

1. Bark powder is astringent, febrifuge, cooling, it is given with warm water in cardiac problem.
2. Stimulant in cirrhosis of liver, it gives relief in hypertension and acts as a diuretic. Bark is made into decoction and used as heart tonic, expectorant.
3. It is an excellent remedy for heart diseases.
4. The decoction with milk is given every morning as an empty stomach.
5. The decoction is used for cleaning sores and ulcers.
6. Bark powder is employed as antidysentric in asthma, expectorant, leucorrhoea, fatigue, bronchitis, tumours, internal and external hemorrhages.
7. Leaf juice cures earache.

Distribution - Occasional in dry deciduous forest, VAP 180, Kingaon.

## ❖ JANGALI KAPAS

*Thespepsia lampas* (cav.) Dalz. and Gibs

Malvaceae

Shrubs. Leaves angular, broadly ovate, petiolate. Flowers axillary in racemes Capsule long ovoid.

Plant parts used - Leaves, seeds, root.

Medicinal uses -

1. Root extract is useful in acidity and stomach problems.
2. Leucorrhoea.

Distribution - Common in forest, VAP 106, Manudevi.

## ❖ GULVEL

*Tinospora cordifolia* (Willd.)Miers. ex.tik. f.Thoms.

Menispermaceae

Twiners, bark greysh white. Leaves ovate,triangular, glabrous, 5-7 veined, petiolate. Racemes. Drupe globose deep red.

Plant parts used - Leaves, roots.

Medicinal uses -

1. Fresh leaf juice is antiperiodic.
2. Powder of roots is as a tonic, hepatic stimulant and diuretic.
3. It's watery extract is very effective in fevers.
4. Root decoction is commonly used in rheumatism , urinary diseases,
5. Dyspepsia general debility, syphilis, skin diseases, piles, bronchitis, jaundice.
6. A drug is used in chronic , diarrhoea, chronic dysentery .

Distribution- Throughout on hedges, VAP 172 , Adgaon.

## ❖ EKDANDI

*Tridax procumbens* L.

Asteraceae

Herbs, leaves opposite, ovate or oblong. Achenes obovate. Pappus.

Plant parts used - Leaves.

Medicinal uses -

1. Leaf extract acts as an expectorant.
2. Leaves paste is used for external application on wounds.

Distribution- Common in forest, VAP 182 , Manudevi.



## ❖ PAN KANIS

*Typha angustifolia* L.

Typhaceae

Stout, rhizomatous herbs. Stem 1-2 m tall. Leaves plano-convex. Flowers female flowers in the lower part of brownish spike and finally ending in male spike of yellowish colour.

Plant parts used – Roots.

Medicinal uses -

1. Extract of roots is applied on skin diseases.

Distribution - Occasional in ponds in marshy place, VAP ,167 Pal .

## ❖ NIRGUDI

*Vitex nigundo* L.

Verbinaceae

Large shrubs or small trees, with light blackish brown, fissured bark. Leaflets tomentose beneath. Flowers white or bluish-purple, in terminal panicles. Drupes dark purple to almost black.

Plant parts used - Leaves, bark.

Medicinal uses -

1. Bark powder is used in stomach pain, toothache.
2. Leaf extract is used to cure internal ulcers, external swellings
3. Leaves warmed and tied over forehead in headache, cold cough.
4. Piles and rheumatic pains.

Distribution- In river beds and waste places of forest, VAP 185, Vadoda.

## ❖ **ASHWAGANDHA**

*Withania somnifera* ( L ) Dunal.

Solanaceae

Horny undershrubs. Leaves ovate,hairy. Flowers greenish, sub-sessile axillary. Berries, stellate-tomentose, red. Seeds spherical.

Plant parts used- Leaves, roots.

Medicinal uses-

1. Leaf extract is used as a tonic promotes strength and vigours, treatment of rheumatic pain inflammation of joints.
2. Leaf paste is used for all skin lesions, ulcers, boils, cancer.
3. Leaves febrifuge painful swelling and sore eyes wound healing.
4. Leaf extract used in heart diseases like hypertension.
5. Used as a tonic and sex stimulant.
6. Root decoction is given to control blood pressure.

Distribution - Not common, VAP ,168 Sheshnag .

## ❖ **KUTRI**

*Xanthium indicum* Koen.

Asteraceae

Tall, annual herbs. Leaves broadly ovate, triangular. Heads greenish yellow, in terminal and axillary spikes. Fruit pale to dark brown.

Plant parts used- Leaves.

Medicinal uses-

1. Leaf extract applied on piles.

Distribution - Occasional, VAP117 , Manudevi.

## ❖ **BOR**

*Ziziphus mauritiana* Lam.

Rhamnaceae

Shrub. Leaves ovate oblong glabrous above. Panicles terminal. Flowers pale –yellow greenish yellow Drupes, globose.

Plant parts used- Roots, fruits, bark.

Medicinal uses -

1. Fruits edible and digestive. leaves used as fodder a medicine used in chest trouble Seeds are aphrodisiac.
2. Kernels are used as sedative and used to vomiting Seeds are used for diarrhoea.
3. Bark powder is used against nausea.
4. Root decoction are useful to cure wounds, ulcer.
5. Leaf extract used in typhoid fever.

Distribution- Occasional ,VAP 121 , Adgaon.

## ❖ **GHATBOR**

*Ziziphus xylopyra* (Retz.)Willd Var. *glaberrima* Sedgew.

Rhamnaceae

Shrubs, bark brown .Leaves ovate or sub- orbicular. Flowers creamy -White or greenish- yellow, in axillary facicles. Drupes globose.

Plant parts used - Bark, fruits.

Medicinal uses -

1. The bark is made into decoction and given as laxative in care of constipation.
2. The bark is made into decoction and useful for killing worms.
3. Pulp of leaves is useful in scurvy, toothache and diuretic.
4. Leaf juice applied on wounds.

Distribution - Occasional in deciduous forest, VAP 112 , Manudevi.

Sr NO	Scientific Name	Local Name	Plant Part Used	Family	Uses
1	<i>Acacia catechu</i> (L.F.) wild.	Khair	Leaves, bark	Mimosaceae	Astringent, dysentery. Piles, tonsils, ulceration of mouth, cooling agent.
2	<i>Acacia chundra</i> (Roxb. ex Rottl.) Willd	Khair wild	Leaves, bark	Mimosaceae	Leprosy, lumbago pains, astringent, sore throat, ulceration of gums, toothache, rheumatism, dye preparation.
3	<i>Acacia nilotica</i> L.	Babool	Leaves, bark	Mimosaceae	Lumbhago pains, Astrigent, chronic diarrhea, leucorrhoea, sore throat ulsARATION of the gums.
4	<i>Acacia leucophloea</i> (Roxb.) Willd.	Hiver	Bark ,fruits	Mimosaceae	Tooth ache , dye preparation rheumatism, reparation.
5	<i>Achyranthes aspera</i> ( L.) Corr.	Aghada	Leaves, whole plant	Acanthaceae	Antibacterial, antifungal ,anti diabetic, spasmolytic, purgative, dental care, cardiovascular diseases.
6	<i>Aegle marmelos</i> Corr.	Bel	Fruits	Rutaceae	Purgative, diabetes, cough, inflammation, asthma.
7	<i>Aloe vera</i> (L) Burm. f.	Korphad	Leaves	Liliaceae	Piles, stomach disorders, cooling agent, indigestion constipation, flatulence, rheumatism.
8	<i>Ampelocissus latifolia</i> (Roxb.) Planch.	Jangali Draksha	Fruits	Vitaceae	Cough, fever. allergy.

9	<i>Annona reticulata</i> L.	Ramphal	Leaves, fruits	Annonaceae	Fruits edible. dye preparation
10	<i>Argemone mexicana</i> L.	Pivala dhotra	Leaves, seeds	Papavaraceae	Jaundice, leprosy, lubricant, sexually transmitted diseases.

11	<i>Asparagus officinalis</i> L.	Shatavari	Leaves, roots	Liliaceae	Appetite, lactation, tumours, inflammation, epilepsy, night blindness, ulcer, kidney disorders, tonic, nervous disorders.
12	<i>Bambusa arundinacea</i> Willd.	Bamboo	Leaves, culms	Poaceae	Stimulant, abortifacient, emmenagogue, blood vomiting, demulcent, expectorant, asthma.
13	<i>Barleria prionitis</i> L.	Katekotanti	Leaves, roots	Acanthaceae	Reduces body heat.
14	<i>Bauhinia racemosa</i> Lam.	Apta	Leaves	Cesalpiniaceae	
15	<i>Bauhinia variegata</i> L.	Kanchan	Leaves	Cesalpiniaceae	Blood purifier, anthelmintic, astringent, leprosy, syphilis, skin diseases, and liver complaints. Reduce obesity,
16	<i>Boerhavia repens</i> L.	Punarnava	Roots	Cesalpiniaceae	Kidney trouble gonorrhoea.
17	<i>Buchanania lazei</i> Spreng.	Charoli		Anacardiaceae	
18	<i>Butea monosperma</i> (Lam.) Taub.	Palash		Fabaceae	Astringent, diarrhoea, dysentery, anti-inflammatory, burns, anorexia,

					antiseptic, cooling agent, diuretic. aphrodisiac, constipation, gonorrhoea, blood purifier, liver tonic.
19	<i>Calatropis procera</i> ( L) R. Br	Rui	Leaves	Asclepiadaceae	Dropsy, kills guinea worms, skin diseases, body pains asthma.
20	<i>Cassia auriculata</i> L.	Chambhar Awali	Leaves, roots	Cesalpiniaceae	Diabetes, rheumatic pains.
21	<i>Catharanthus roseus</i> L.	Sadabhar	Leaves, roots	Apocynaceae	Tonic toothache, menorrhoea, hypertension, carminative, cholera, leukaemia, lung, breast cancer.
22	<i>Cayratia trifolia</i> (L) Domin.	Ambat Vel	Leaves, stem	Vitaceae	Wound healing.
23	<i>Chlorophytum tuberosum</i> Baker.	Safed Musali	Roots	Liliaceae	Debility, general tonic for weakness.
24	<i>Celosia argentea</i> L.	Kardu	Roots, seeds	Amaranthaceae	Kidney stone, toothache.
25	<i>Clitoria biflora</i> Dalz.	Gokarna Blue	Leaves,	Fabaceae	Elephantiasis , jaundice.
26	<i>Clitoria ternatea</i> L.	Gokarna White	Leaves, roots, flowers, seeds	Fabaceae	Ulcers, headache, eye diseases, urine disorders, indigestion, goitre, liver disorders, elephantiasis.
27	<i>Cordia dichotoma</i> Forst.f.	Bhokar	Seeds	Boraginaceae	Blood toxicity.

28	<i>Curcuma aromatica</i> Salisb.	Ambe Halad	Rhizome	Zingiberaceae	Antibacterial, sexual diseases, carminative, cooling, stomachic.
29	<i>Curcuma longa</i> L.	Halad	Rhizome	Zingiberaceae	Antiseptic, anti-inflammatory, cervix cancer.
30	<i>Cynadon dactylon</i> ( L.) Pers.	Durva	Leaves,	Poaceae	Vomiting, tuberculosis, mouth freshener, epilepsy, gonorrhoea, syphilis, uterine haemorrhage
31	<i>Cyperus rotundus</i> L.	Nagarmotha	Roots, leaves	Cyperaceae	Stomach pains, heart diseases, anorexia, promote hair growth, sexual diseases.
32	<i>Datura metel</i> L.	Dhotra	Roots , leaves, fruits	Solanaceae	Narcotic, toxic, antispasmodic, asthma, cough, bronchitis, piles, skin diseases.
33	<i>Drimys indica</i> ( Roxb.)	Rankanda	Bulb	Liliaceae	Bronchial complaints.
34	<i>Eclipta prostrata</i> L.	Maka	Leaves	Asteraceae	Liver disorders, gonorrhoea.
35	<i>Emblica officinalis</i> Gaertn.	Amla	Fruits	Euphorbiaceae	Tonic, anti scorbutic, diuretic, laxative, constipation, Blood purifier, gastric disorders, anaemia, jaundice, heart complaints, promotes hair growth.
36	<i>Ensete superbum</i> (Roxb.)	Jangali Kela	Fruits ,bark	Musaceae	Laxative, uraemia, nephritis, hypertension. Kidney stone, intestinal

					disorders.
37	<i>Eucalyptus globules</i> Labill.	Nilgiri	Leaves , bark	Myrtaceae	Malaria, fever, antiseptic, insect repellents, bronchitis, asthma, body pains, germicidal.
38	<i>Euphorbia hirta</i> L.	Hirta	Roots, leaves	Euphorbiaceae	Cough, kills intestinal worms.
39	<i>Ficus beghalensis</i> L.	Wad	Bark ,latex	Moraceae	Astringent, cooling agent, diabetes, dysentery, nervous problem, wound healing, joint pains, lumbago.
40	<i>Ficus racemosa</i> L	Umber	Bark	Moraceae	Ulcers, Vomiting, gonorrhoea, leucorrhoea, urinary diseases, cooling agent.
41	<i>Ficus religiosa</i> L	Pimpal	Leaves, bark, fruits	Moraceae	Astringent, cooling agent, carminative, stimulant, diuretic, laxative, ulcers, skin diseases
42	<i>Gloriosa superba</i> L.	Vachnag	Roots, leaves, flowers	Liliaceae	Fever, piles, ulcer, vaginitis.
43	<i>.Hardwickia binata</i> Linn.	Anjan	Leaves,	Ceasalpinaceae	Headache, lactation in cattle.
44	<i>Hibiscus cannabinus</i> L.	Ambadi	Leaf, flower	Malvaceae	Acidity, reduce pains.
45	<i>Helicteris isora</i> L.	Muradsheng	Fruit	Sterculiaceae	astringent, demulcent, vermifuge & urinary astringent, colic flatulence.
46	<i>Hibiscus sabdariffa</i> Linn.	Lalambadi	Leaves, seed	Malvaceae	Emollient, diuretic, sedative, antiseptic,



					laxative ,dysuria, dyspepsia, debility.
47	<i>Jatropha gossipifolia</i> L.	Moglierand	Leaves, bark, seeds	Euphorbiaceae	Toothache, scabies, eczema, ringworm.
48	<i>Justicia adhatoda</i> L.	Adulsa	Leaves	Acanthaceae	Antispasmodic, expectorant, heart troubles, chronic asthma, febrifuge, antispasmodic, diphtheria, diuretic, scabies, antiseptic, anti periodic, diarrhoea, dysentery .
49	<i>Lantana camara</i> L . Var. <i>aculeata</i> ( L.) Moidenke	Ghaneri	Leaves	Verbinaceae	Stomachache
50	<i>Limonia acidissima</i> L.	Kavath	Leaves, fruits	Rutaceae	Ant scorbutic, rich in vitamin C.
51	<i>Madhuca longifolia</i> (Roxb)Chev.	Mahwa	Leaves, flowers, fruits	Sapotaceae	Skin disease, rheumatism, headache ,laxative, tonic, constipation, ulcers, gastric disorders, sprains, fractures.
52	<i>Mangifera indica</i> Linn.	Amba	Leaves ,bark, fruits, seeds.	Anacardiaceae	antidysenteric, diuretic laxative, refreshing. Astringent, stimulant , debility.Anthelmintic .
53	<i>Marselia quadrifolia</i>	Mayajal	Roots, leaves	Marseliaceae	Insomnia
54	<i>Melia azedarch</i> L.	Neem	Leaves, stem bark, flowers	Meliaceae	Astringent, vermifuge, debility, ulcers, sprains, skin diseases, rheumatism,

					insect repellents.
55	<i>Millingtonia hortensis</i> L.f.	Buch	Leaves	Bignoniaceae	Antipyretic, dog bites.
56	<i>Mimusops elengi</i> L.	Bakul	Leaves, bark, flowers, seeds	Sapotaceae	Astringent, tonic, diarrhoea, dysentery antipyretic, febrifuge, constipation, cough, bronchitis, dropsy.
57	<i>Mirabilis jalapa</i> L.	Gulbakshi	Leaves	Nyctanthaceae	Wound healing, digestive, tonic.
58	<i>Moringa oleifera</i> Lam.	Shevaga	Roots, bark,, flowers, fruits	Moringaceae	constipation , carminative, spasmodic, hysteria, cholera ,dysentery, rheumatism, pneumonia.
59	<i>Morus alba</i> Linn. .	Tuti	Roots, leaves, bark, fruits	Moraceae	Anthelmintic emollient, astringent, dyspepsia, purgative, vermifuge.
60	<i>Mucuna pruriens</i> (L) DC.	Khajkuhili	Roots, seeds, fruits	Fabaceae	Purgative, emmenagogue,  cholera, anthelmintic, dropsy, nerve tonic, elephantiasis.
61	<i>Nyctanthes arbor-tristis</i> L.	Parijatak	Roots, leaves, bark, seeds	Oleaceae	Promote hair growth, chronic fever, rheumatism, diaphoretic, expectorant,, snake bite, cancer, dysentery, menorrhagia.
62	<i>Ocimum americanum</i> L.	Kalitulsi	Roots, leaves,stem, flowers bark,	Lamiaceae	Aromatic, purgative, skin diseases.

			seeds		
63	<i>Ocimum basilicum</i> L.	Subza	Roots, leaves, flowers bark, seed	Lamiaceae	Ringworm, expectorant, antipyretic, ,stimulant, purgative, dysentery diarrhoea, diuretic. carminative, aphrodisiac, flavouring agent, anthelmintic.
64	<i>Ocimum tenuiflorum</i> L.	Krishnatulas	Roots, leaves, stem, flowers bark, seeds	Lamiaceae	Malarial fever, diaphoretic, bronchitis, asthma ringworm earache, heart diseases, leucoderma.
65	<i>Phyllanthus amarus</i> S.& T	Bhuiwali	Roots, leaves, twigs	Euphorbiaceae	Diabetes, skin diseases ,menorrhagia dysentery, astringent, jaundice.
66	<i>Psidium guajava</i> L.	Jamba	leaves, bark, fruits	Myrtaceae	Aromatic, bowel trouble, tonic, laxative, colic and bleeding gums, ulceration of mouth, vomiting, febrifuge, kidney trouble, jaundice. Diarrhoea.
67	<i>Pterocarpus marsupium</i> Roxb.	Bibba	Gum, leaves, bark, flowers	Fabaceae	Diarrhoea, astringent, diabetes ,burns, menorrhagia dysentery, skin diseases.
68	<i>Quisqualis indicum</i> L.	Madhumalati	Leaves	Combretaceae	Wound healing.
69	<i>Ricinus communis</i> L.	Arand	Leaves, seeds	Euphorbiaceae	Purgative, dysentery, asthma, dropsy, conjunctivitis constipation.

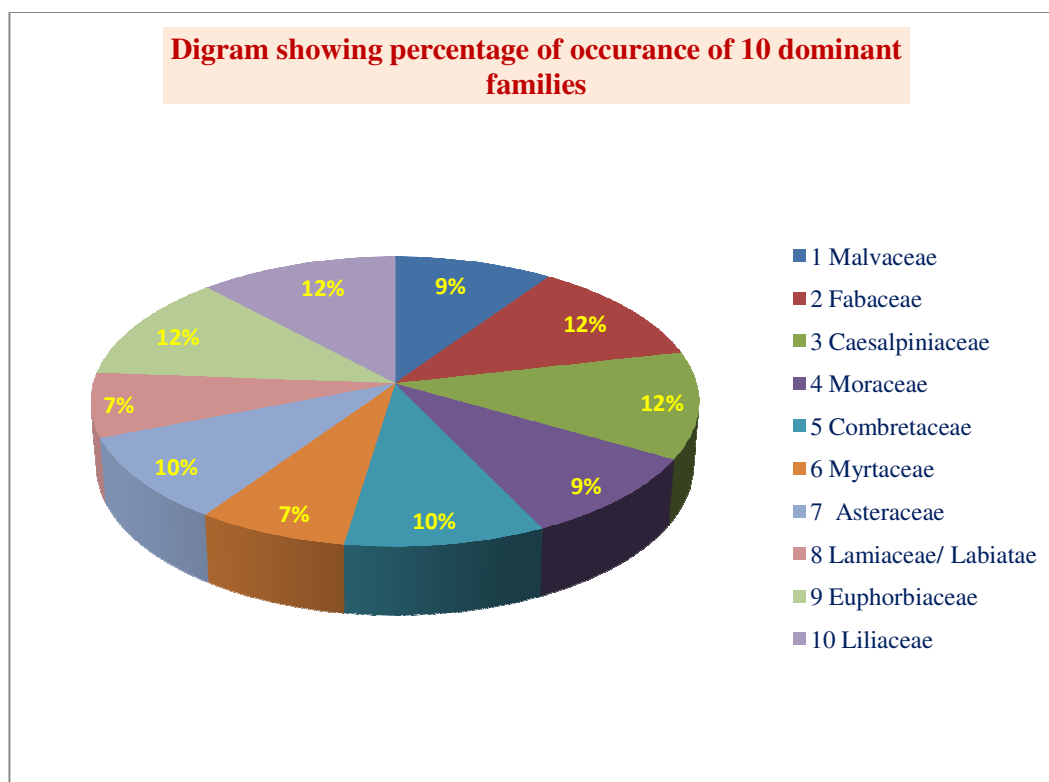
70	<i>Sida cordata</i> (Burm. f.) Borss.	Chikna	Roots, leaves	Malvaceae	Wound healing, leucorrhoea.
71	<i>Syzygium cumini</i> L. (Myrtus cumini Linn.)	Jambhul	Leaves, fruits	Myrtaceae	Epilepsy, dyspepsia, ulcer, scorpion sting, promotes hair growth, dysentery, rheumatism.
72	<i>Tamarindus indica</i> L.	Chinch	Leaves, fruits	Cesalpiniaceae	Antibacterial, antifungal, antimalarial properties, laxative. skin diseases.
73	<i>Tectona grandis</i> L. F	Sagwan	Bark, seeds	Verbinaceae	Economically important
74	<i>Terminalia bellirica</i> ( Gaertn.) Roxb.	Beheda	Fruits	Combretaceae	Jaundice, diarrhoea, dropsy, bronchitis, asthma, laxative.
75	<i>Terminalia chebula</i> Retz.	Hirda	Fruits	Combretaceae	Diarrhoea, dropsy, bronchitis, asthma, laxative, diarrhoea, dropsy, ulceration of gums, tonic, flatulence, bronchitis, asthma, laxative.
76	<i>Terminalia cuneata</i> ( Roxb. ex DC.) W& A.	Argun	Leaves, bark	Combretaceae	Astringent, Febrifuge, cardiac disorders, ulcers, fatigue, bronchitis, expectorant
77	<i>Thespepsia lampas</i> ( Cav.) Dalz.& Gibs	Jangali kapas	Roots, leaves, seeds	Malvaceae	Acidity, stomach problem.
78	<i>Tinospora cordifolia</i> (Willd.) Miers. Ex. Tik. F.& Thoms.	Gulvel	Roots, leaves,	Menispermiceae	Anti periodic, tonic, hepatic stimulant, diuretic, urinary diseases, debility, dyspepsia, piles, skin diseases, bronchitis, jaundice.

79	<i>Tridax procumbens</i> L.	Ekdandi	Leaves,	Asteraceae	Wound healing, expectorant.
80	<i>Typha angustifolia</i> L.	Pankanis	Roots,	Typhaceae	Skin diseases.
81	<i>Vitex negundo</i> L.	Nirgundi	Leaves, bark	Verbinaceae	Stomach pain, toothache, ulcer, cold , cough, rheumatic pains.
82	<i>Withania somnifera</i> ( L.) Dunal.	Ashwagandha	Roots, leaves,	Solanacee	Wound healing, hypertension, ulcer, tonic.
83	<i>Xanthium indicum</i> Koen.	Kutri	Leaves	Asteraceae	Piles.
84	<i>Ziziphus mauritiana</i> Lam.	<i>Bor</i>	Roots, fruits, bark	Rhamnaceae	Aphrodisiac, digestive, sedative, typhoid, wound healing.
85	<i>Ziziphus xylopyra</i> (Retz)	Ghatbor	Bark , fruits	Rhamnaceae	Laxative, constipation, scurvy, diuretic, kills worms, toothache.

❖ Table 5.1 showing Ten dominant families (Genus wise)

Sr.No.	Name of families	Dominant Members
1	Malvaceae	4
2	Fabaceae	5
3	Caesalpinaceae	5
4	Moraceae	4
5	Combretaceae	4
6	Myrtaceae	3
7	Asteraceae	4
8	Lamiaceae/ Labiatae	3
9	Euphorbiaceae	5
10	Liliaceae	5

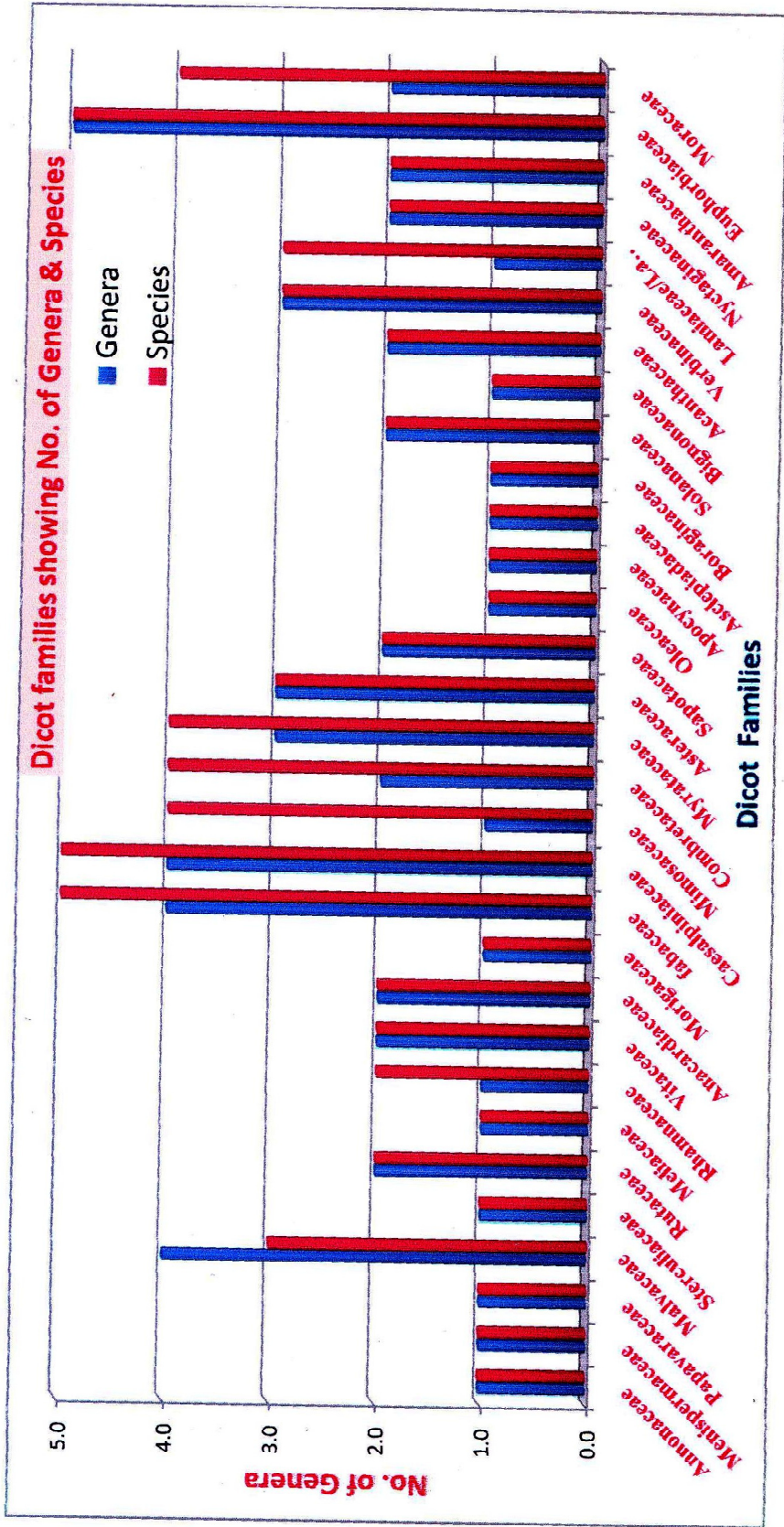
Fig. 5.1 showing Ten dominant families (Genus wise)



❖ Table 5.2 Dicot families showing No. of genera and Species

Sr.No.	Name of families	Genera	Species
1	Annonaceae	1	1
2	Menispermaceae	1	1
3	Papavaraceae	1	1
4	Malvaceae	4	3
5	Sterculiaceae	1	1
6	Rutaceae	2	2
7	Meliaceae	1	1
8	Rhamnaceae	1	2
9	Vitaceae	2	2
10	Anacardiaceae	2	2
11	Morigaceae	1	1
12	fabaceae	4	5
13	Caesalpiniaceae	4	5
14	Mimosaceae	1	4
15	Combretaceae	2	4
16	Myrtaaceae	3	4
17	Asteraceae	3	3
18	Sapotaceae	2	2
19	Oleaceae	1	1
20	Apocynaceae	1	1
21	Asclepiadaceae	1	1
22	Boraginaceae	1	1
23	Solanaceae	2	2
24	Bignonaceae	1	1
25	Acanthaceae	2	2
26	Verbinaceae	3	3
27	Lamiaceae/ Labiatae	1	3
28	Nyctaginaceae	2	2
29	Amaranthaceae	2	2
30	Euphorbiaceae	5	5
31	Moraceae	2	4

❖ Graph 5.2 Dicot families showing No. of Genera and Species

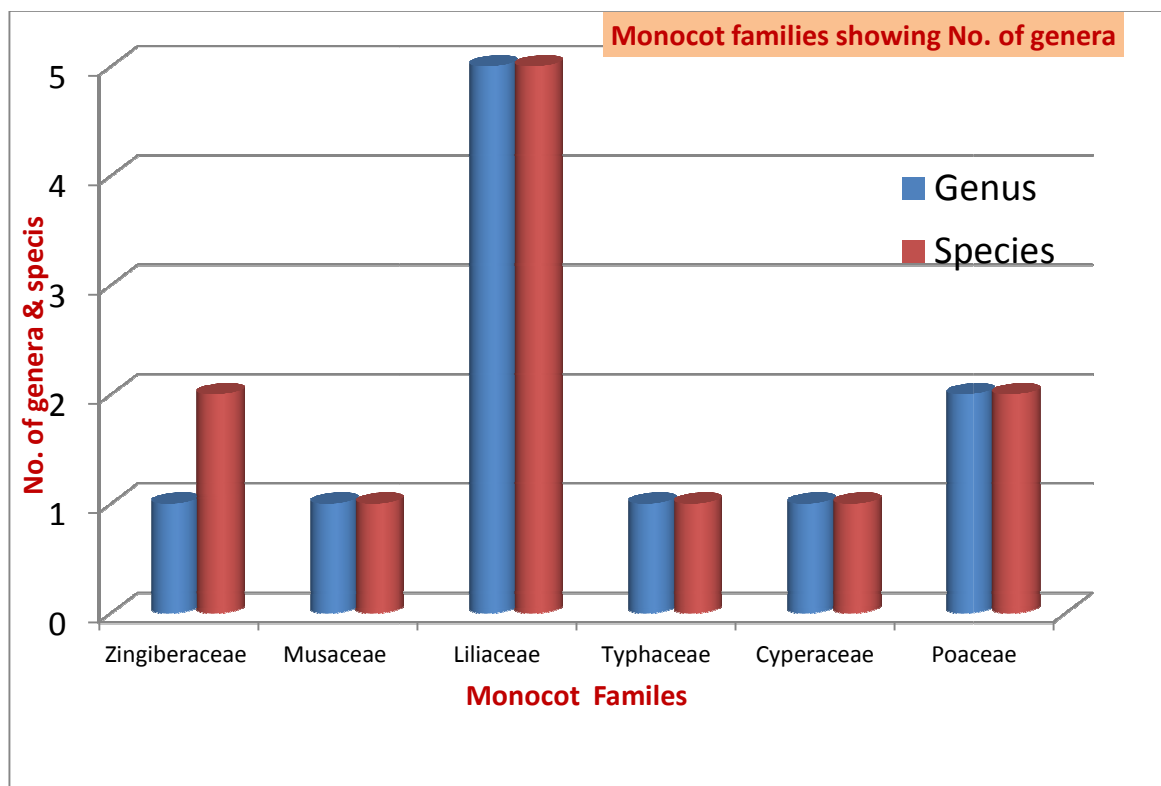




❖ Table 5.3 Monocot families showing No. of Genera and Species

Sr.No.	Name of families	Genera	Species
1	Zingiberaceae	1	2
2	Musaceae	1	1
3	Liliaceae	5	5
4	Typhaceae	1	1
5	Cyperaceae	1	1
6	Poaceae	2	2

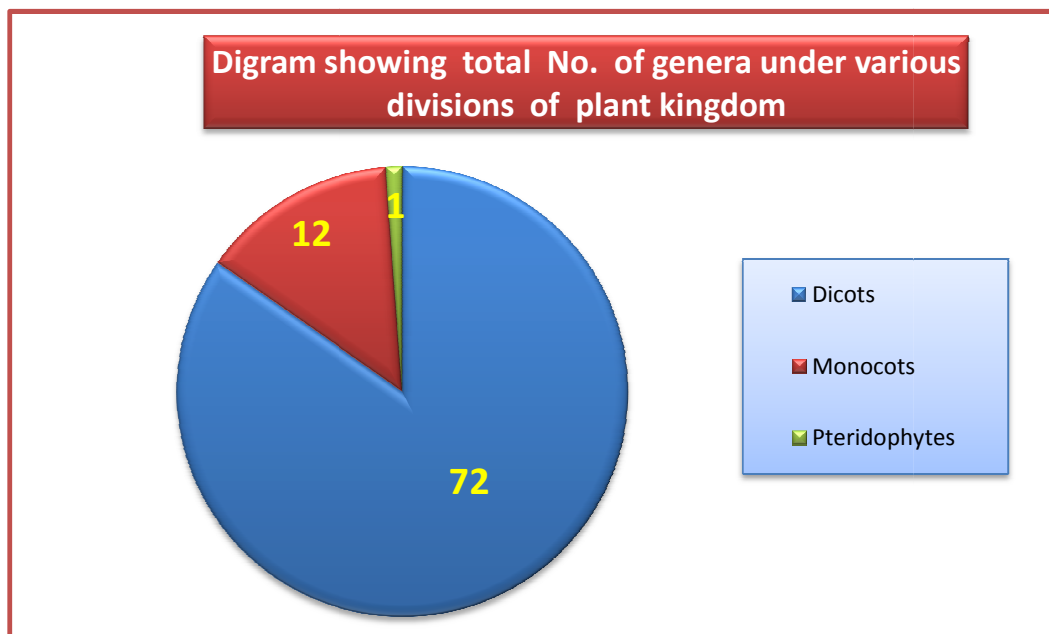
❖ Graph 5.3 Monocot families showing No. of Genera and Species



❖ Table 5.4 Showing Total No. of genera under divisions of plant kingdom

Sr.No.	Name of families	Genera
1	Pteridophytes	1
2	Monocots	12
3	Dicots	72

❖ Fig. 5.4 Showing Total No. of genera under divisions of plant kingdom



**Plate No.1**



*Ricinus Communis* Linn.

**Plate No.2**



*Justicia adhatoda* L.

**Plate No.3**



*Mirabilis jalapa L.*

**Plate No.4**



*Vitex nirgundo L.*

**Plate No.5**



*Helicteris isora* L.

**Plate No.6**



*Ensete superbum* (Roxb.) Cheesm.

**Plate No.7**



*Marselia quadrifolia* L.

**Plate No.8**



*Morus alba* Linn.

**Plate No.9**



*Bauhinia verigata* L.

**Plate No.10**



*Curcuma* species

**Plate No. 11**



*Acacia catechu* (L.F.) wild

**Plate No. 12**



**Vadoda Forest Area**



**Plate No. 13**



***Drimia indica* Jessop**

**Plate No. 14**



**Forest Area-Vadoda forest  
Conservation Kuti Dolakheda**

**Plate No. 15**



***Clitorea biflora* Dalz.**

**Plate No. 16**



***Ocimum americanum* L.**

## 6.1- Discussion and conclusion

Yawal and Vadoda forest area from Jalgaon district is the store house of numerous medicinal plants, these species have been distributed within different life forms i.e. trees, shrubs, herbs and climbers. Various parts such as roots, tubers, rhizome, bark, leaves, flowers, seeds, and whole plant are used for the treatment of various disorders for example, the decoction of flowers of *Butea monosperma* is used as a blood purifier, seeds are used as anthelmintic, and gum is used as tonic.

The forest play important role in the environmental management. India is the richest source of economically, medicinally important flora. Indian has rich heritage of traditional knowledge of plants. Most of the medicinal plants are being extracted for drug by pharmaceutical industries from wild species. This has adversely affected the very existence of a number of plants of high commercial value.

It is ideal time for Ayurveda to emerge as a boon for Indians, in other parts of the world. In today's perspective when US companies are filing patents for turmeric, Tulsi, Neem, Jamoon, which are very well described in our ancient literature, we think that it is right time to focus on our own heritage and propagate the National wealth of herbs and medicinal plants through different scientific techniques.

The study of certain medicinal plants in the forest of Jalgaon district reveals that, there is enormous plant diversity. The data is very useful to the botanists, agriculturist, farmers pharmacists, plant chemists & researchers and workers working in multidisciplinary projects. The information regarding region, geography, geology, flora is useful to layman. This contribution will meet the need of suitable alternative source of medicinal plants. The phytochemical screening and other potential should be extended to identify the active principles, their effect and microbial activity.

The major health problem experienced by tribal people are affected by infectious diseases, skin diseases like scabies, eczema, elephantiasis, dysentery, amoebiosis, ascariasis, malaria. Hair problem like folliculites, typhoid, jaundice. Vitamin deficiency diseases etc. are the common health. problem. These people used traditional medicinal

drugs administered by T.M.Ps, Bhagat, Vaidu. Some Pawara used to go at P.H.C. or Rural hospital for treatment.

Present study reveals about total 85 medicinal plants and their uses.

Pteridophyte - 01

Dicotyledons - 72

Monocotyledons - 12

Wild plants have been an important component of healthcare throughout human history. Medicinal plants continue to make important contribution to healthcare and livelihoods, and recently were identified by FAO as being among the most valuable non wood forest products(1999), Unfortunately, harvests to meet the demand for a growing number of medicinal species are in many cases exceeding sustainable levels. Wild medicinal plant populations and the benefits derived there from are coming under threat as a result. Therefore conservation of such biodiversity is essential.

There are two types of methods for conservation of medicinal plants.

a) **In situ conservation**-It includes on spot methods, which protect preserve and restore medicinal plant species in their own habitats.

1) In protected areas. Prohibition of grazing ,cultivation and collection of products from the forest.

2)Maintenance of protected areas such as national parks, wild life sanctuaries and biosphere reserve.

b) **Ex situ conservation** The conservation of medicinal plants outside their natural habitat is known as ex situ conservation It is done by

1) Conservation at botanical gardens, culture collections.

2) Preservation of gene pool cells, tissue etc.

3) Domestication of species in protected areas and introduction to their natural habitats.

#### **Conservation strategies-**

1) Stop over grazing by domestic animals that convert the area into deserts.

- 2) Agricultural area should not be permitted for non agricultural area.
- 3) Try to build natural habitats for plants and animals.
- 4) Preserve and multiply the economically important and rare ,endangered plant species by tissue culture techniques.
- 5) Forest fire should be controlled.
- 6) Reforestation and aforestation should be promoted .A tree removed from the forest must by replaced by new tree. Van Mahostav Programme must be implemented every year. Restoration of forest cover by social forestry, agro forestry etc.
- 7) Economical use of timber and fuel wood wastage should be avoided alternative sources of energy such as biogas ,biodiesel should supplement fuel.
- 8) Human population should be controlled.
- 9) Pest and diseases of forest should be controlled. Adopt biological methods of pest control.
- 10) Use of modern techniques of forestry like irrigation ,use of fertilizers inoculation of seedlings with symbiotic bacteria and mycorrhizae etc.
- 11) Forest conservation and management programme should ensure sustainable supply of tree. Products and services to people and industry and maintenance of long term ecological balance through protection restoration and conservation of forest cover. Thus conservation of forest is required to maintain ecological balance and to meet increasing demands of increasing population.

Government should established the necessary institutional and financial support to promote the role of herbal medicine in Primary Health Care. Priority should be given to the development of herbal medicine by means of inventing, documenting various medicinal plants and herbs which are used to treat common diseases in each region. Establishment of local botanical Gardens for preservation of essential medicinal herbs , in order to ensure a sustainable supply of safe , effective ,affordable medicinal herbs

.Setting up testing laboratories with adequate facilities for assessment of efficacy of medicinal herbs and establishing dosage norms for the most efficacious use of herbal extracts ,tablets capsule ,syrup liquid or other forms.

**“Save the trees that saves us”**

## **7.1- Glossary of Medical and Pharmacological Terms**

1. Abortifacient- A drug that promotes abortion.
2. Analgesic- An agent to dispel pain.
3. Anorexia – loss of appetite
4. Anthelmintic- A medicine which is used for combating intestinal worms.
5. Antidiabetic- A medicine used for treating diabetes.
6. Anti scorbutic-A drug which cures scurvy.
7. Antispasmodic-A drug which relieves muscular contraction.
8. Antiperiodic- Destroying the periodicity of diseases.
9. Antipyretic- An agent that relieves or reduces a fever.
10. Antiseptic-An agent that prevents infection by destroying bacteria.
11. Aphrodisiac – A drug which arouses or promote sexual desire.
12. Asthasma – A chronic inflammation of the bronchial tubes due to autoimmune disorder.
13. Bronchitis- An inflammation of the air passages by viscous or bacteria.
14. Carminative – An agent or drug that promotes expulsion of gas.
15. Conjunctivitis- Inflammation of conjunctiva ( A part of eye).
16. Constipation – An irregular and insufficient action of bowels.
17. Dandruff – An inflamed condition of scalp characterized by the presence of white scales in the hair due to exfoliation of the horny cells of the scalp.
18. Debility –Refers to physical weakness.
19. Demulcent – An agent or a drug having soothing action on the skin and mucus membranes.
20. Diabetes- Endocrinal disorder from abnormal activities in side the pancreas.
21. Diarrhea – Refers to abnormal frequency and fluidity of fecal discharge due to viral, Bacterial infection.
22. Diuretic – A drug that increases the secretion of micturition of urine.
23. Dropsy – A disease marked by an excessive collection of water fluid in the body tissue or cavities.
24. Dyspepsia – The impaired digestion of a food or indigestion.

25. Eczema- A skin disease accompanied by swelling, redness and exudation of lymph.
26. Elephantiasis- A disease consisting of an overgrowth of skin and connective tissue of the  
Parts affected with occasional attacks of inflammation.
27. Emmenagogue- A drug that improves eye vision.
28. Epilepsy- Abnormal muscular contraction of the body due to abnormal nervous discharge  
leading to convulsion and unconsciousness.
29. Expectorant – A drug which promotes expectoration.
30. Febrifuge – A agent which reduces fever.
31. Flatulence – Excessive accumulation of gas in alimentary canal.
32. Galactagogue – An agent inducing flow of milk.
33. Goitre – A chronic enlargement of thyroid gland.
34. Gonorrhoea – A specific contagious inflammatory discharge from urethra or vagina due to  
Infection.
35. Hemorrhage – Bleeding from any part of body.
36. Hypertension - Central abnormal vasoconstriction leading high blood pressure.
37. Hysteria – Pseudo intensity, false madness.
38. Itching – Uneasy irritation, sensation in the skin.
39. Jaundice- A condition characterized by a raised level of bilirubin in the serum.
40. Laxative – A mild purgative.
41. Leprosy – Cutaneous disease of skin.
42. Leucoderma – Abnormal white patch on skin.
43. Leucorrhoea - An abnormal mucus or muco-pyurulent discharge from vagina.
44. Lubricant – To supply with oil to make smooth.
45. Nausea – A feeling of vomiting.
46. Piles – Stagnant blood in the veins in the region of rectum.
47. Pneumonia – Lung disease.
48. Purgative – An agent that stimulates peristaltic action and bowel evacuation.



49. Rheumatism – A term used for pain in the muscles and joints.
50. Scabies – An itching skin disease caused by mite, sarcople scabies.
51. Scurvy - A deficiency disease caused by lack of vitamin C in the diet.
52. Sedative – A drug that reduces irritation and pain and brings sleep.
53. Sprain- Stretching of tendons or ligaments parts either with or without rupture of some fibre.
54. Vermifuge – Drug that expels intestinal worms.

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