



# ETHNOBOTANY AND MEDICINAL PLANT IN THE DHANDHUKA TALUKA OF GUJARAT

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## ABSTRACT

Across the world, medicinal plants have been used for thousands of years to cure and prevent a wide range of illnesses. The koli and bharvad peoples of the kotda village in dhandhuka continue to rely on medicinal plants, and the most of them have a general understanding of the plants' uses as first aid treatments for treating common illnesses including coughs, colds, fevers, headaches, and venomous bites. There hasn't been till now a systematic record of dhandhuka's ethnobotany or the plants that the rural peoples use for their daily needs. A lot of work in the field of ethnobotany has been done in the north and south Gujarat, but the central part of Gujarat contains less documentation of the ethnomedicinal plants. Dhandhuka is a totally unexplored region in the field of ethnobotany. 83 plant species related to ethnobotany had been reported belonging to 47 families from dhandhuka. Most of the material that is now available is concentrated on medicinal herbs utilized by conventional healers. This study's objective was to precisely document the existing indigenous knowledge of local people of the region of the most significant and practical flora.

**Keywords:** Folk medicinal plants, Koli and Bharwad community, Dhandhuka

## 1. INTRODUCTION:

In botany, it is customary to record the usage of common and local plants. Such information is frequently found on the voucher herbarium specimens of numerous early explorers, biologists, botanists, geographers, anthropologists, and ethnologists (e.g., von Humboldt, 1849, Schultes, 1983)

Due to poverty and limited access to modern medicine, the World Health Organization (WHO) estimates that 65–80% of the world's population lives in underdeveloped nations and relies primarily on plants for healthcare (Calixto, 2005). Use of ethnobotanical data in research on medicinal plants has received a lot of interest recently in several areas of the scientific community (Heinrich, 2000). The rising cost of prescription medications for maintaining personal well-being and health as well as the bioprospecting of new plant-derived medications have stoked interest in medicinal plants (Hoareau and Silva, 1999).

In the past, plants were the source of all therapeutic remedies, whether they were in the straightforward form of plant parts or in the more sophisticated form of crude extracts, mixes, etc. The main advantages of adopting plant-derived medications are that they have deep therapeutic benefits, are relatively safer than synthetic alternatives, and cost less to treat (Iwu et al., 1999).

## 2. METHODS AND METHODOLOGY:

The area selected for the study was dhandhuka taluka (22.37°N 71.98°E.) of Gujarat located in the Ahmedabad district. Ethnomedicinal plants were collected from this site. A herbarium is a collection of dried plants that have been meticulously labelled and organised for simple access and study. To create a specimen for the herbarium, the plant is collected, and details about it are noted. After that, the plant is mounted on an herbarium sheet with the proper label and dried between blotters that absorb moisture. It is a useful tool for the preservation and identification of plants.

The region has been explored on foot daily in each of its regions, with visits increasing in frequency in February. Plants were gathered during the fruiting and blooming stages. They

were recognised right away, and those that were difficult to identify were transferred to the department of botany where Dr. Hitesh Solanki sir identified them. Useful information is gathered by carefully examining serially numbered labels.

### 2.1 Questionnaire for documentation of the ethnomedicinal plants of kotda village

Part 1: The information about the traditional knowledge holder included His / Her Name, Tribe, Age, Education, Gender, Occupation and Village Name.

Part 2: The information about the Traditional Knowledge of medicinal plants included Local name, Habitat and which Plant part use for disease curing.

### 3. RESULT AND DISCUSSION:

Listed a total of 83 kinds of plants spread across Dhandhuka belonging to 47 families as regularly utilized ethnomedicinal plants for the treatment of many different diseases. The most often used plant parts were leaves, and the majority of medications were made as pastes and used orally.

The plants of the region have a rich variety of plants that offer strong phytotherapeutic treatments. In the area, people have access to pharmacies and medical facilities. Nonetheless, because of a lack of resources and the isolation of some regions, plants continue to play a significant role. The treatment by healers is affordable, and herbal treatments are widely accessible.

Sr No.	Scientific Name	Family	Local Name	Plant Part Used	Uses
1.	<i>Abrus precatorius</i> L.	Papilionaceae	Chanothi	Leaves	Leaves are chewed to treat mouth ulcers, used in treatment of fever, cold, cough, digestive problems
2.	<i>Acacia nilotica</i> L.	Mimosaceae	Desi bawal	Tree	Young twigs are chewed, as toothbrushes, leaves are chewed for better digestion, gum reduces vata and pitta dosha
3.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Anghedi	Leaves,seed	Leaves are used as antidote, diuretic, rheumatic, Unripe seeds are anti-aging
4.	<i>Aegle marmelos</i> L.	Rutaceae	Bili	Leaves, fruit	Leaves are offered to lord Shiva; fruit is anti-diabetic
5	<i>Allium cepa</i> L.	Liliaceae	Dungali	Leaves	Green leaves are used to prepare garnish dishes, Leaf juice is applied to hair for dandruff treatment and hair growth
6	<i>Allium sativum</i> L.	Liliaceae	Lasan	Cloves	Oil is used to cure headache and cold



7	<i>Aloe barbadensis</i> Mill.	Liliaceae	Kuvarpathu	Leaves	Treatment of gastrointestinal and respiratory disorders, skin injuries, Anti-inflammatory, anti-tumour and antifungal
8	<i>Anethum graveolens</i> L.	Umbelliferae	Suva	Seed	Seeds are chewed as mouth freshener
9	<i>Annona reticulata</i> L.	Annonaceae	Sitafal	Leaves	Used for the treatment of epilepsy, worm infestation, cardiac problems, haemorrhage, antibacterial infection
10	<i>Azadirachta indica</i> A. Juss	Meliaceae	Limbdo	Leaves, stem, flower, bark, fruit	Young stem chewed as toothbrush, leaves are added in hot water and used in bathing, flower decoction used to avoid any viral fever, oil from ripened seeds is used to kill lice
11	<i>Bougainvillea spectabilis</i> Willd.	Nyctaginaceae	boganvel	Whole plant	For decoration and making fence
12	<i>Calotropis procera</i> Ait	Asclepiadaceae	Aankdo	Leaves, Flower	Leaves are used in joint pain; Flowers are offered in worshipping
13	<i>Capsicum annum</i> L.	Solanaceae	Marcha	Fruit	Spice
14	<i>Carica papaya</i> L.	Caricaceae	Papaiyu	Fruit, leaves	Leaf juice is used in fever, also increases WBC counting dengue and malaria, fruit is laxative in nature
15	<i>Cascabela thevetia</i> L.	Apocynaceae	Pili karen	Flower	Worshipping, decoration



16	Catharanthus trichophyllus L. G. Don	Apocynaceae	Barmasi	leaves	Used in medication of sexually transmitted disease, back pain, toothache, fever, dysentery, bleeding
17	Chenopodium album L.	Chenopodiaceae	Chil bhaji ni	Leaves	Anti-diabetic
18	Cicer arietinum L.	Papilionaceae	Chana	Seed	Seed flour mixed with milk and turmeric is used in beautification of the face
19	Citrus lemon L.	Rutaceae	Limbu	Fruit	Source of vitamin C, preserved as pickle, get rid of dandruff, Cure for vomiting
20	Cordia dichotoma Frost.	Boraginaceae	Gunda	Fruit	For making pickle and used as a vegetable
21	Coriandrum sativum L.	Apiaceae	Dhania	Seed	Relieves pain, inflammation and rheumatoid arthritis
22	Cuminum cyminum L.	Umbelliferae	Jeeru	Seed	Treat gastric problems, as a condiment
23	Cynodon dactylon L.	Poaceae	Dharo	Leaves, root	Check swelling, Offered to lord Ganesh
24	Datura metel L.	Solanaceae	Datura	Flower, fruit	Offered to Lord Shiva
25	Daucus carota L.	Umbelliferae	Gajar	Root, Leaves	Source of vitamin A, Leaves are used as fodder, Root improves eyesight
26	Eclipta prostate L.	Asteraceae	Bhrungraj	Leaves	To treat snake bites, jaundice, fever, asthma, bronchitis
27	Eucalyptus globules L.	Myrtaceae	Nilgiri	Leaf	Oil from leaves is used in headache and cold
28	Euphorbia hirta L.	Euphorbiaceae	Dudhi ghas	Whole plant	To treat worm infestation in children, digestive



					problems, tumours, pimples, dysentery
29	<i>Ficus benghalensis</i> L.	Urticaceae	Vad	Whole plant	Worshiped by married women for the wellbeing of their husband, a sacred plant
30	<i>Ficus racemosa</i> L.		Umro	Whole plant	Plant is sacred as it is connected to Lord Dattatreya
31	<i>Ficus religiosa</i> L.		Piplo	Whole plant	Anti-ulcer, antibacterial, in the treatment of gonorrhoea and skin
32	<i>Foeniculum vulgare</i> Mill.	Umbelliferae	Variyali	Seed	Used as galactagogue agent for lactating mothers, digestive problems, purifies blood
33	<i>Gossypium herbaceum</i> L.	Malvaceae	Kapas	Fruit, seed	Used after birth to expel placenta from the womb and to increase the quantity of lactation in lactating mothers, gastrointestinal issues
34	<i>Hibiscus rosainensis</i> L.		Jasud	Flower	Treating wounds, coughs, inflammation, hair loss, infections caused by bacteria and fungi
35	<i>Justicia adhatoda</i> L.	Acanthaceae	ardushi	Leaves	Treatment of cough, cold, tuberculosis, bronchitis, asthma
36	<i>Jasminum sambac</i> L.	Oleaceae	Mogro	Flower	To treat leprosy, skin disease, ringworm, amenorrhoea, antiseptic, antidepressant
37	<i>Kalanchoe pinnata</i>	Crassulaceae	Patther vel	Leaves	Leaf paste is applied externally



					to cure cuts, to alleviate headache
38	Lablab purpureus L.	Papilionaceae	Val	leaves	To treat cholera, colic, diarrhoea, sunstroke and rheumatism
39	Lagenaria siceraria (Molina) Standl	Cucurbitaceae	Dudhi	Fruit	Treatment of jaundice, cardiac failure, diabetes, piles, ulcer and skin diseases
40	Lawsonia inermis L.	Lythraceae	Mehendi	Leaves	Diuretic, wound healing, antioxidant, protects against fungal pathogens
41	Luffa echinata roxb.	Cucurbitaceae	Kukadvel	Fruit	Intestinal colic, Treats jaundice, bronchitis, piles, vaginal discharge
42	Mangifera indica	Anacardiaceae	Keri	Fruti, leaves	Treats asthma, dysentery, cough, rheumatism, insomnia, diarrhea
43	Manilkara hexandra (Roxb.)	Sapotaceae	Rayan	Seeds	Cures helminthiasis, burning sensation, fever, jaundice
44	Medicago sativa L.	Papilionaceae	Rajko	Whole plant	Fodder
45	Mentha spicata L.	Lamiaceae	Fudino	Leaves	Treats cold, cough, fever, obesity, digestive problems
46	Momordica charantia L.	Cucurbitaceae	Karela	fruit	Treats chickenpox, measles, scabies and malaria
47	Moringa oleifera Lam.	Moringaceae	Saragavo	Leaves, fruit	Increases protein content in liver, restores liver enzymes to normal level
48	Morus alba	Moraceae	Shetur	leaves	Gynaecological disorder
49	Murraya koenigii L.	Rutaceae	Mitho limdo	Leaves	Treating fresh cut, piles, itching, inflammation



50	<i>Nyctanthes arbor-tristis</i> L.	Oleaceae	Parijat	Leaves	Anti helminthic, used as laxative, skin ailments
51	<i>Ocimum sanctum</i> L.	Lamiaceae	Tulsi	Seed, Leaves	Cures cough, fever, digestive complaints, insecticidal activity against mosquito
52	<i>Opuntia elatior</i>	Cactaceae	Thor	Fruit	Juice taken to treat haemoglobin in the blood, treat anaemia
53	<i>Pedaliium murex</i> L.	Pedaliaceae	Gokhru	Whole plant	Body pain
54	<i>Pennisetum glaucum</i> LL.	Poaceae	Bajri	Seed	Fodder
55	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Amla	Fruit	Dried fruit powder is used to treat constipation, Fruits are preserved as pickles, candy, a good source of vitamin C, improves eyesight and controls hair fall
56	<i>Piper betel</i> L.	Piperaceae	Paan, Nagarvel na pan	Leaves	Leaves are chewed as mouth freshener, worshiping
57	<i>Plumeria rubra</i>	Apocynaceae	Safed Champo	Flower	Treats cardiovascular disorders
58	<i>Polyalthia longifolia</i> Sonn.	Annonaceae	Asopalav	Leaves, fruit	Gastrointestinal ulcer, rheumatic fever, body pain
59	<i>Pongamia pinnata</i> L.	Fabaceae	Kanji	Leaves	Skin disease
60	<i>Prosopis cineraria</i> L.		Khijdo	Wood	Wood is used in hawan, Plant has a religious importance
61	<i>Premna integrifolia</i> L.	Verbenaceae	Arani	Roots	Leprosy, skin disorders, diabetes, asthma, constipation





62	<i>Psidium guajava</i> L.	Myrtaceae	Jamphal	Leaves, Fruit	Dysentery, diabetes, cough, oral ulcers, hypertension
63	<i>Punica granatum</i> L.	Lythraceae	Dadam	Fruit, seed	Dried seed powder is used as a flavouring agent, fruit peel is used to cure cough, seeds are used in garnishing dishes, Fruit juice treats vitamin B12 deficiency and anaemia
64	<i>Raphanus sativus</i> L.	Brassicaceae	Mulo	Root	Roots are eaten as salad and preserved as pickle
65	<i>Ricinus communis</i> L.	Euphorbiaceae	Aerando	Seed	Cures gallbladder pain, menstrual cramps, period pain, backache
66	<i>Rosa indica</i>	Rosaceae	Gulab	Flower	Treats inflammation of mouth, asthma, leukoderma
67	<i>Saraca asoca</i>	Fabaceae	Ashoka	Leaves, seed, bark	Bark powder Helps in curing of menstruation bleeding and bloody diarrhoea
68	<i>Sesamum indicum</i>	Pedaliaceae	Tal	Seed	Oil is used in cooking and massaging the body, Seeds are a good source of calcium, mixed with jiggery to make chikki, used in hawan, chewed with fennel seeds as a mouth freshener
69	<i>Solanum xanthocarpum</i> Lam.	Solanaceae	Bhoy ringani	Seed	Arthritis, expelling insects out of ears, headache and toothache
70	<i>Spinacia oleracea</i> L.	Amaranthaceae	Palak	Leaves	Cures iron and mineral deficiency,





					improves eyesight, anti-oxidant
71	<i>Syzygium cumini</i> L.	Myrtaceae	Jambu	Fruit	Controls diabetes
72	<i>Tagetes erecta</i> L.	Asteraceae	Galgoto	Flower	Decoration, worshipping
73	<i>Tamarindus Indica</i> L.	Fabaceae	Amla	Fruit, seed	Used to make chutneys, dal, and sambhar, seeds are used as a blood thinner
74	<i>Tinospora cordifolia</i> Willd.	Menispermaceae	Galo	Stem	Boost immune system, control diabetes, treat jaundice and arthritis
75	<i>Trachyspermum ammi</i> L.	Umbelliferae	Ajmo	Seeds	Gastric problem, indigestion
76	<i>Trigonella foenum-gracum</i> L.	Fabaceae	Methi	Leaves, seeds	Leaves are cooked and eaten, seed paste applied in hair, soaked seeds used by diabetic patient, oil applied in hair
77	<i>Triticum aestivum</i> L.	Poaceae	Ghau	Whole plant	Staple food, the leftover is used as fodder after harvesting seeds
78	<i>Typha angustifolia</i>	Typhaceae	Ghabajriyu	Whole plant	Skin disease, cures wound
80	<i>Vitex negundo</i> L.	Verbenaceae	Nagod	Whole plant	Arthritis, rheumatism
81	<i>Zea mays</i> L.	Poaceae	Makai	Whole plant	Fodder
82	<i>Zingiber officinale</i> Roscoe	Zingiberaceae	Aadu	Rhizome	Dried rhizome powder used to cure acidity and aids in digestion, appetizer, fresh rhizome used to treat cough and cold
83	<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Bor	Leaves, fruits	Treats indigestion, fever, jaundice, wound healing, liver disease

Results from the current survey showed that there was widespread knowledge among people regarding the usage of plants to cure diabetes, fever, skin disease and jaundice. According to their value as a resource, the most significant species were *Azadirachta indica* A. Juss, *Kalanchoe pinnata*, *Mormodica charantia* L., *Syzygium cumini* L., *Vitex negundo* L. etc.

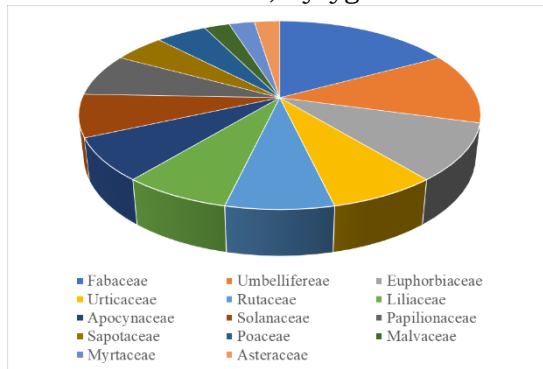


Fig1: Pie chart of the Family of plants which are used in disease treatment

## CONCLUSION

As a result of the present study certain plants can be recommended for further research in the field of Pharmacy for potential drug development by extracting the essential molecules from the medicinal plants. Plants such as *Abrus precatorius* L, *Achyranthes aspera* L., *Anethum graveolens* L., *Azadirachta indica* A. Juss, *Eucalyptus globules* L., *Kalanchoe pinnata*, *Luffa echinata roxb.*, *Mormodica charantia* L., *Moringa oleifera* Lam., *Pedaliu murex* L., *Premna integrifolia* L., *Solanum xanthocarpum* Lam. etc are very important from the medicinal point of view which could be explored further for ethnopharmacological studies.

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