

Conservation and Cultivation of Medicinal Plants in the Gandhinagar District of Gujarat

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Abstract: This study deals with the ethno- medico- botany of plants species of Gandhinagar district, North Gujarat. **Aim and Objective:** The people live in remote areas and in villages which remain cut off from main cities and have to depend on local products for the primitive needs especially like food and medicines. The people are having knowledge about the uses of plants against various diseases. The villagers use the plants in a different illness in effective manners. Scientific investigations of use of herbal medicines would open new area of knowledge. Here, in this paper list of medicinal plants have been given, which are growing traditionally and utilizing through local health care system for a long time. **Material Methods:** The information of conservation, cultivation methods has been gathered and documented by visiting the local area, communities and farmers by interviewed them. The inputs are taken about traditional way of treatments for the common diseases. In this paper about 30 species have been acknowledge, which are being commercially extracted and traded. Most of the species are found wildly while some are farmed as per their season. **Conclusion:** Gandhinagar district is blessed with many of species of medicinal plants. The villagers are having good practical knowledge regarding herbal value of local species. The farmers are not getting proper market value for the medicinal plants and some time they do not get the return of their products timely and adequately. It is therefore, the pace of cultivating medicinal plants is very low which need to implement in the knowledge of common people.

Keywords: Ethno-medico-botany, Traditional, Medicinal Plants, North Gujarat

1. Introduction

Ethno botany is a new branch which deals with the traditional folk treatment. North Gujarat, depend on the some important medicinal plants for their conservation and cultivation for various diseases. Many of North Gujarat communities are mainly depend on herbal treatment, suggested by experienced herbal practitioner [1], [2], [3]. In order to get information regarding study, I have visited different part of Gandhinagar district of Gujarat. Ethno medicinal data have been recorded by interacting with herbal practitioners of the village. Interviews were held in the villages and the derived information was recorded. In this study 30 plant species have been identified which the farmers are cultivating it according to its season. The species are arranged alphabetically. The medicinal value of each species is given in result with its cultivation season, Family and Botanical Name. In spite of this, the medicinal plant biodiversity is being depleted due to man-made and natural calamities. The fact that medicinal plants could be used as sources of revenue for farmers, and for the same The Institute of **Biodiversity Conservation (IBC)** has initiated the development of a project on **Conservation and Sustainable Use of Medicinal Plants (CSMPP)** [4].

2. Materials and Methods

During present study regular field trips were arranged in different places of the area. The ethno medicinal information were gathered through interviews and discussion with local informants like elderly villagers, sarpanchs (Head of Village), non-allopathic practitioners and farmers. Data were recorded on the bases of, plants parts which are used as medicines, local name(s), and process of preparation method of cultivation. The investigation have revealed the following 30 species of plants, being used by the farmers for cultivation and conservation process to cure different diseases, infection and food deficiency. The plant species are arranged alphabetically followed by the medicinal value of each species is given in result with its cultivation season, Family and Botanical Name.

3. Results and Discussion

A list of cultivating plants was prepared by getting information from local community of Gandhinagar district. The species which are found in this region have been recorded here in given Table- 1 with its Botanical name, Vernacular name, Family, cultivation season and conservative parts. As well Table-2 is indicating its uses and way of application.

Table 1

Sr. No	Botanical Name	Family	Vernacular name	Cultivation Season	Conservative part
1	<i>Adhatodavasica</i>	Acanthaceae	Araduso	Throughout the year	Leaf Powder
2	<i>Aloe barbadensis</i> Mill.	Liliaceae	Kunvarphtho	Throughout the year	Dry & Fresh Leaves
3	<i>Anethumgravcolens</i> L.	Apiaceae	Sawa	September to December	Dry Seeds
4	<i>Annona squamosal</i> L.	Annonaceae	Sitaphal	Throughout the year; Fruits during September to March.	Dry Root Powder, Dry Leaves, Fresh Fruits, Dry Seeds
5	<i>Azadirachtaindica</i> A. Juss.	Meliaceae	Limdo	Throughout the year	Dry Leaves, Dry Fruits
6	<i>Brassica juncea</i>	Cruciferae	Rai	September to March	Dry Seeds, Fresh Leaves

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7	<i>Buteamonosperma</i> (L.) Taub.	Papilionaceae	Khakhro/ Kesudo	Throughout the year; Flowering in February to May	Dry Leaves, Dry & Fresh Flowers
8	<i>Capparis decidua</i> (Forsk) Edgew.	Capparaceae	Kerdado	Throughout the year, Fruiting in January to June	Fresh & Dry Fruits
9	<i>Carica papaya</i> L.	Caricaceae	Papaya	Throughout the year	Fresh Fruits, Fresh & Dry Leaves
10	<i>Cassia fistula</i> L.	Cesalpiniaceae	Garmalo	Evergreen plant; Fruits in March to September	Fresh Fruits
11	<i>Centellaasiatica</i> (L.) Urb.	Apiaceae	Brahmi	Throughout the year	Fresh & Dry Leaves
12	<i>Citrus lemon</i>	Rutaceae	Limbu	Throughout the year	Fresh Fruits, & Juice
13	<i>Cuminumcyminum</i> L.	Apiaceae	Kothmir	Throughout the year	Fresh Leave, Dry Seeds
14	<i>Curcma longa</i>	Zingiberaceae	Haldar	September to March	Fresh & Dry Rhizome Powder
15	<i>Emblicaofficinalis</i> Gaertn.	Euphobiaceae	Ambala	October to March	Fresh & Dry Fruits
16	<i>Gossypiumherbecium</i> L.	Malvaceae	Kapas	June to December	Dry Seed Oil
17	<i>Hibiscsrosasinensis</i> L.	Malvaceae	Jasud	Throughout the year	Dry Flowers, Fresh & Dry Leaves
18	<i>Lagenarialeucantha</i> (Duch) Rusby.	Cucurbitaceae	Dudhie	Throughout the year	Fresh Fruits; Dry Seeds
19	<i>Lawsoniainermis</i> Linn.	Lythraceae	Mendi	Throughout the year	Fresh & Dry Leaves
20	<i>Mangiferaindica</i> L.	Anacardiaceae	Ambo	Throughout the year, Fruiting in March to July	Fruits, Dry Leaves
21	<i>Momordicacharantia</i> L.	Cucurbitaceae	Karela	Throughout the year	Fresh Fruits
22	<i>Moringaoleifera</i> L.	Moringaceae	Sargavo	Throughout the year, Flowering and fruiting during September to March	Fresh & Dry Fruits, Dry Flowers, Green Leaves
23	<i>Raphanuscaudatus</i> L.	Cruciferae	Mogri	September to March	Fresh Seed, Fruits
24	<i>Ricinuscommunis</i> L.	Euphorbiaceae	Erandi	June to December	Dry Seed Oil And Paste
25	<i>Sesamumindicum</i>	Pedaliaceae	Til	June to December	Dry Seed Oil
26	<i>Sorghambicolor</i> (L.) Moench.	Poaceae	Juwari	June to December	Dry Seeds, Whole Plants
27	<i>TeraminaliaIndica</i> L.	Cesalpiniaceae	Amla	Evergreen tree, Throughout the year	Dry & Fresh Fruits, Wood
28	<i>Trigonellafoenumgreacum</i> L.	Papilionaceae	Methi	Throughout the year; September to March	Dry & Fresh Leaves, Dry Seeds
29	<i>Vitexnegundo</i>	Verbenaceae	Nagol	Throughout the year, Evergreen plant	Fresh & Dry Leaf Powder
30	<i>Zingiberofficinale</i> Rosc.	Zingiberaceae	Aadu	Throughout the year; Flowering in September to December	Dry & Fresh Rhizoid

Table 2

Sr. No	Botanical Name	Uses and application of Conservative parts
1	<i>Adhatodavastica</i>	Leaves in Cold & cough, Rheumatism, Fever, Ulcer and Diabetes; Fruits use in Malignant tumour, burning sensation[5]
2	<i>Aloe barbadensis</i> Mill.	Whole plant as a pulp is use in piles, skin diseases, cold, rheumatism, fever, uterus stimulant, constipation, in menstrual disorder [6].
3	<i>Anethumgravcolens</i> L.	Fruit and seed oil is given in abdominal pain during pregnancy time for women, paste of leaves are applied on boil [7].
4	<i>Annona squamosal</i> L.	Leaves are use in ulcer, diabetes, and Rheumatism; Fruits are high source of phosphors while paste of seed is used in abortion in some villages.
5	<i>Azadirachtaindica</i> A. Juss.	Whole plant is useful in fever, Rheumatism, Toothache, anti-fungal and anti-bacterial, in liver disorders, acidity, cough, jaundice, in ring worm, boils, etc.
6	<i>Brassica juncea</i>	Seeds are use in Increasing appetizer, Used in cough and cold, Worm infection, Leprosy and in dental disorder[6]
7	<i>Buteamonosperma</i> (L.) Taub.	Leaves paste applied on boils, piles and for stop bleeding; flowers use in burning urination, as a dye to colour the objects; Roots are paste and use in Vaginal infection, Bark is on fracture.
8	<i>Capparis decidua</i> (Forsk) Edgew.	Root paste is applied on scorpion sting; leaves juice is use in diabetes, on wounds; Fruits are use in cough and in increasing appetizing [5].
9	<i>Carica papaya</i> L.	Whole plant is useful in chronic ulcer, tuberculosis, in skin diseases, in viral fever, jaundice, and leprosy.
10	<i>Cassia fistula</i> L.	Pulp of fruit is used in throat diseases, liver stimulant, swelling on wounds, skin diseases, burning, fever and in diabetes,
11	<i>Centellaasiatica</i> (L.) Urb.	Leaves paste are applied on boils, brahmi dry leaves are use in hair treatment and in skin diseases [7].
12	<i>Citrus lemon</i>	Fruits is important in Lever problems, in vomiting, burning sensation, in cough and fever, Diarrhoea, throat infections, having high amount of Vitamin C.
13	<i>Cuminumcyminum</i> L.	Seeds are useful in cough, vomiting, in morning sickness, is energy drink, paste of seeds are used in swelling and vaginal infection as it is anti-fungal [8].
14	<i>Curcma longa</i>	Rhizome is use in cold, cough, skin diseases, in worm infection, swelling, ulcer, Anaemia, Jaundice, Blood purification, and as a liver tonic.
15	<i>Emblicaofficinalis</i> Gaertn.	Leaf juice is used as eye drops; Fruits are used in Cough, Diabetes, and fever, is a good source of vitamin C, in Scurvy, and as cardiac tonic [5].
16	<i>Gossypiumherbecium</i> L.	Roots are used for Uterus contraction and menstruation; Seeds use in dysentery and as low fat food [6]

17	<i>Hibiscusrosasinensis</i> L.	Whole plant Use in cough, fever, is anti-inflammatory, muscles relaxant, anti-fungal and anti-bacterial useful in piles and in hair treatments [8].
18	<i>Lagenarialeucantha</i> (Duch) Rusby.	Seed oil is applied in headache, for hair fall as well; Fruits are used as vegetable, in heart diseases, jaundice, and constipation and providing minerals to the body.
19	<i>Lawsoniainermis</i> Linn.	Leaves are helpful in head ache, colouring dye, Hair growth, skin diseases, heat absorbent from body, and in cough and bronchitis problems [3].
20	<i>Mangiferaindica</i> L.	In throat infection, gastric stimulant, inflammation, in asthma and diarrhoea, good source of Vitamin A, as a good appetizer [1].
21	<i>Momordicacharantia</i> L.	Whole plant useful in Asthma, Diabetes, liver diseases, Jaundice, in urinary infection, Inflammation, Fever, Skin diseases and in Anaemia [1].
22	<i>Moringaoleifera</i> L.	Roots are useful in inflammation, fever, paralysis; leaves are having high Vitamin A & C, Useful in scurry and wounds; Seeds: are used in fever and ophthalmology [8].
23	<i>Raphanuscaudatus</i> L.	Seeds are using in increase menses in women; Pods are used in rheumatism, sore throat, piles, anaemia, cough and bronchitis [9].
24	<i>Ricinuscommumis</i> L.	Leaves in cough, wound; Fruits (Pulp) in skin diseases, Jaundice, Nerve problems, Piles and in asthma Seeds: use as oil in rheumatism, back pain and sciatica [10].
25	<i>Sesamumindicum</i>	Seeds are used in skin diseases, urinary infections, in hair loss, wound healing, in bleeding piles, Arthritis [6].
26	<i>Sorghambicolor</i> (L.) Moench.	Seeds are given in cough, bronchitis, grain flour is applied on boils, and rich in fibres [4].
27	<i>TeraminaliaIndica</i> L.	Fruits are useful as liver tonic and as gastric stimulant; Leaves are use in piles, Stem and bark are antipyretic [4].
28	<i>Trigonellafoenumgreacum</i> L.	Seeds Useful in chronic cough, spinal injuries, backache, as a minerals, in anaemia, piles, diabetes, leaves paste apply on swelling and burns [3].
29	<i>Vitexnegundo</i>	Whole Plant is use in ulcer, cough and fever, in Acute rheumatism, in Never problems [8].
30	<i>Zingiberofficinale</i> Rosc.	Rhizomes is useful in anorexia, inflammations, dropsy, asthma, cough, cardiac problems, and vomiting, Gastrointestinal problems [7].

Certain chronic diseases in Allopathic have only palliative treatment available and required long term therapy. Such diseases are rheumatism, arthritis, asthma, diabetes and ulcerative colitis. Cost of long term allopathic treatment will be much higher than local herbal medicines which are easily available in day to day life and in local market as well. The farmers are growing such crops which are in demand at local market for domestic and medicinal purpose as they are cheap and effective.

4. Conclusion

The conclusion of the work is to initiate and support for conservation, and cultivation of important plants which are utilizing for its medicinal and health care value. Conservation of medicinal plants based on its cultivation and harvesting by implementing various conservation techniques [7]. The villagers and farmers are having good practical knowledge regarding herbal value of local farming species. They are implementing their knowledge in regular farming in growing plants. Then after the farmers are not getting proper market value for the medicinal plants and some time they do not get the return of their products timely and adequately [9]. It is therefore, the pace of cultivating medicinal plants is very low which need to implement in the knowledge of common people.

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