

Ethno-medicinal plant of Saputara Hill, Dang District, Gujarat.

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Abstract :

Some plant used by human community to cure diseases and health related problems from long period of time are called ethno-medicinal plants. Saputara hill Dang forest is administered by Gujarat state forest Department (GSFD). The area lies between 20°30' N latitude and 73°15' longitude. Saputara forest (120sq. km) is moist deciduous tropical type with an average rainfall 1200-1500mm. The mean temperature varies from about 8°C in winter to about 34°C in summer, with 30-80% humidity. The vegetation of this study area is of purely moist deciduous type with natural plants like *Tectona grandis*, *Dendrocalamus strictus*, *Terminalia crenulata*, *T.bellerica*, *T.arjuna*, *Carrisa congesta* and *Accasia catechu* in successive pattern. In conclusion, the medicinal species require special attention to conserve and documentation of their medicinal uses local people.

Keywords: Flora, Ethenomedicine, Pawara, Saputara

1 Introduction:

India is one among the 12 mega biodiversity countries and having 3 out of 25 Hot spots of origins and diversity of several plant species in the world. The 17,000 sq km long strip of forests along the sea word side of Western Ghats in enriched with 4050 plant species, of which nearly 40% are endemic. Gujarat state harbors nearly 4,320 plant species which account for almost 9.33% of the total floral wealth of India. The tribal in the state use about 750 medicinally important and 450 economically important plant species. The floristic diversity of Gujarat shows 2,198 species of higher plants including 27 species of mangroves. However, the Western Ghats today is one of most significant repositories of biodiversity of India.

More than 61 million people of different ethnic group following varied religious beliefs live in Gujarat state, which accounts for 14% of state population Tribal population of Bhil, Dhodhiya,

Kolcha, koli, Gond, Gamit, Rathava, Siddi, valvi, talvi, pateliya, Waghari, pawara etc. spread over 8 districts predominantly inhabit the forest are all along its southeastern boundary. These tribal people mainly depend on forest for their shelter, housing materials, fuel and food dependence on tribal on forest is almost total and inspirable presently these forest are degrading to a large extent in the country and various parts of the Gujarat. The degradation of forest and hilly habitat many medicinal species are facing threats for their existence. Along with the medicinal species of plants, the knowledge of ethno-medicinal practices is also losing in the local community. The documentation and integration of local indigenous knowledge receives recognition to sustainable management and conservation of natural resources. So, this study was made to document the medicinal plants of this hilly range and its associated knowledge is for developing future conservation measures.

2 Methodology:

survey of this area would facilitate to determine the sampling locations, numbers and techniques to be adopted to quantify the parameter specific to the scope of works. Status of floral species will be assessed in the representative habitats covering wetland, forest, grassland, scrubland and wastelands around project site. Quantitative data will be collected using Standard Quadrature Sampling Methods followed by Mueller-Dombois and Ellenberg [8], Kershaw and Wright [9]. Status of tree, shrub, grass, creepers and herbs will be quantified using square shaped plot of size 10m, 1m, 25cm respectively. Plant density was calculated according to Misra [10]. A total of 134 quadrates were laid to enumerate for trees, shrubs, climbers and twiners, and 268 quadrates were laid within major quadrates to enumerate herbaceous species. A questionnaire survey, interviews and focus group discussion were made to collect information on present and past status of medicinal plants and their traditional uses by the community.

Twelve field trips were conducted in study areas throughout the study period March 2014 to January 2015. Local names and usages of ethno-medicinal and economically important plants were collected through interviewing village headman, sarpanch, vaidya, hakims and elder persons. Bhil, Dhodiya, Koli, Konkni and Pateliya tribes in Saputara forest, while Gond, Gamit, Valvi, Talvi, Rathava. The identification of the plants was made from flora of Gujarat state [2], The Flora of Indian Desert [11] and Flora of the Presidency Bombay [12].

3 Result and Discussion:

3.1 Taxonomic status of flora:

A total no of 40 ethno-botanically use plant species belonging 40 genera under 28 families are identify and record in the study area. Among the recorded species of plant, and are dicot and monocot respectively. Herb are the most dominant plant from in the study area represented by species. It is follow by shrubs (4), trees (31), herb

(4), And Climbers (1). Combretaceae is the most dominant family with 5 species from the area. This is follow by Apocynaceae, papillionacece, Mimosacece 4 species each and verbenacece and Moraceae 3 species of each families found in study area respectively.

During the present study, a less number of herb (4) and shrub (4) species compare to number of tree species (31) are record Tribal people use different plant parts for various ethnobotanical purposes. Of which, 82 % of the plant species are being used for its wood in making of agriculture implements, buildings construction, cart making, furniture, firewood, rafters, making and selling of bidis, cups, handles, matchsticks, matchboxes, packing cases, plates, ropes, shafts, walking sticks, etc. Nearly 54 % of the plant species are being used for medicinal purpose. Plantlet species are used as traditional medicine for various ailments. Sometimes paste is also prepared from plant parts and is applied to cure various skin diseases, inflammation, swellings, insect bites, snakebites, etc. The tribal people usually live a semi-nomadic life in various forested pockets in hamlets or huts, which vary according to the prevailing conditions of the climate of the particular region and duration of their stay. In villages, the huts are mainly made up of bamboos and mud walls to maintain cool environment. Tectona grandis (Sag) was found to be the major construction materials for huts. The local people normally used these ethno-medicines in a fresh condition. The plant parts or product are uses by the local community after various types of preparation and application in different types of diseases. Most of the preparations of these medicinal plants are in powder, pest, and juice. The data collected on the use of medicinal plants showed that majority of the preparation of curing diseases from single plant mixture of plant part uses rarely.

3.2 Important plant species and the medicinal uses by local people recorded plant.

1 *Abutilon indicum(L)SW.*

local name: Kanski

Family: Malvace

Habit: small shrub

Uses: Crushed leaves cure Boils, Decoction of seed is energetic, decoction of root diuretic.

2 *Acacia chundra* Roxb. (Ex.Rott.)

Local name: Kher

Family: Mimosaceae

Habit: Tree

Uses: Inner wood is used in preparation of 'katho'. It is use in made up of 'pan'. Katho is also use in mouth ulser.

3 *Acacia nilotica*(L)Del

Local name: kalo baval

Family: Mimosaceae

Habit: Tree

Uses: Weak stem use as brush. Gum arebic is obtained from this plant use in disease of women.

4 *Achyranthus aspera* L

Local name : Aghedo

Family: Amaranthaceae

Habit: Herb

Medicinal uses: crushed leaves are apply on scorpion bite. Decoction of root is diuretic. Decoction of leaf and root cure child abdominal problems.

5 *Adina cordifolia* Roxb.

Local name: Haldu

Family: Rubiaceae

Habit: Tree

Medicinal Uses: Use in treatment of skin diseases, wound, vomiting, Intestinal worms, Indigestion and diseases of liver.

6 *Agave americana* L

Local name: ketki

Family: Agavaceae

Habit: Herb

Medicinal uses : Sap is antiseptic, diaphoretic, Diuretic and laxative. Gum obtained from root and leaf is use in toothache.

7 *Albizia lebbek*(L)Bth

Local name: Kala siris

Family: Mimosaceae

Habit: Tree

Medicinal uses: It is use in cultures to treat boils. Cough, eye problems, use as tonic. It is antibacterial.

8 *Albizia procera*(Roxb)Bth

Local name: Kelai

Family :Mimosaceae

Habit: Tree

Medicinal uses: Decoction of bark is given for cure Rheumatism. Problems of pregnancy and cure stomach ache.

9 *Anogeissus latifolia* Roxb.

Local name: Dhavdo

Family: Combretaceae

Habit: Tree

Medicinal uses: Bark is effective in anemic condition and urinary discharge, piles, snake bite. Pawara tribes of saptara hills, use gum with water during early morning for lactation.

10 *Blumea lacera*(Brumf) DC

Local name; kapuriyo

Family: Asteraceae

- Habit: Herb
- Medicinal uses: Leaves are use in preparation of oil. Oil is effective on chest pain, cold. Decoction of root cure fever.
- 11 *Bombex cieba L.*
- Local name: Simdo
- Family: Bombacaceae
- Habit: Tree
- Medicinal uses: leaves juice is good blood purifire, paste of root is apply on acne, skin blemish and burns.
- 12 *Butea monosperma Lam.*
- Local name: Khakhro
- Family: Papillionaceae
- Habit: Tree
- Medicinal uses: hot poultice of leaves effect on boils Skin ulcers,swelling and piles.
- 13 *cordia dichotoma Forst*
- Local name: Gunda
- Family: Ehretiaceae
- Habit:Tree
- Medicinal uses: leaves and stem bark are use in treatment of dyspepsia, fever, diarrhea, and burning sensation.
- 14 *Dalbergia latifolia Roxb*
- Local name: sisam
- Family: papillionaceae
- Habit: Tree
- Medicinal uses: tannins obtained from bark is useful to produce medicines for the treatment of diarrhoea, worms and leprocy.
- 15 *Dendrocalamus stictus Nees*
- Local name: vans
- Family: poaceae
- Habit: Tree
- Medicinal use: leaf juice is diuretic and use in chest head colds. Juice of stem is sadative, antipyretic.
- 16 *Diospyros melanoxyton Roxb*
- Local name: Timru
- Family: Ebenaceae
- Habit: Tree
- Medicinal uses: seeds can be intoxicating cure mental disorders. Dried flower apply on skin and urinary diseases.
- 17 *Eucalyptus globulus Labill*
- Local name: Nilgiri
- Family: Myrtaceae
- Habit: Tree
- Medicinal uses: oil obtained from leaves is use in cold and rheumaism.
- 18 *Ficus rumphii Bl*
- Local name: payar Family: Moraceae Habit: Tree
- Medicinal uses: Juice of leaf is mixed with Tulsi,castor, moringa,musterd,vasaka are boild in mud pot
- 19 *Ficus religiosa L*
- Local name: pipado
- Family: Moraceae
- Habit: Tree
- Medicinal uses: Decoction of bark is use to cure

jaundice. Leaf juice is used in asthma and cough.

20 *Gmelina arborea* L.

Local name: *sevan* Family: *Verbenaceae*

Habit: Tree

Medicinal uses: Root and bark of are claimed to be stomachic, piles, burning, fevers. crushed leaves is applied to headache.

21 *Helicteris isora* L.

Local name: Atai

Family: *Sterculiaceae*

Habit: Shrub

Medicinal uses: Extract of seeds cures dysentery and stomach pain, stem bark is use in Diarrhoea.

22 *Holarrhena antidysentrica* hyne Ex Roth

Local name: *Indrajavo*

Family: *Apocynaceae*

Habit: small tree

Medicinal uses: Powdered seeds mixed with honey in chronic chest affection, asthma.

23 *Lagerstomia parviflora* Roxb.

Local name: *Bondaro*

Family: *Lythraceae*

Habit: Tree

Medicinal uses: Extract of leaves is antibacterial.

24 *Madhuca indica* J. F. Gmel

Local name: *Mahudo*

Family: *sapotaceae*

Habit: Tree

Medicinal uses: Flower and seeds are edible. Fruit is used as vegetables. Seed oil are use as hair oil, skin care, snake away.

25 *Mangifera indica* L.

Local name: Ambo

Family: *Anacardiaceae*

Habit: Tree

Medicinal uses: Juice of tree is restorative tonic and relive heat stroke. All part of tree are use in rabid dog, tumor, snake bite and wound.

26 *Mitragyna parvifoliac*(Roxb)Korth

Local name: *Kadamb*

Family: *Rubiaceae*

Habit: Tree

Medicinal uses: Fresh leaves sap is use by tribals to care jaundice.

27 *Melia azadirachta* L.

Local name: Bakan limdo

Family: *Meliaceae*

Habit: Tree

Medicinal uses: Leaves, inner bark and seed are bitter cure fever, skin diseases, antibacterial. Seed oil is use in pest control and apply rheumatism.

28 *Ocimum canum* sims

Local name: Rantulsi

Family: *Lamiaceae*

Habit: Herb

Medicinal uses: Decoction of bark is use as an antifertility drug for male and female. Leaves juice is use in cold.

29 *pavonia zeylanica* Cav.

Local name: Sungandhi bel

Family: *Malvaceae*

Habit: Tree

Medicinal uses: Root have nice fragrance so used in hair oil. Leaf vermifuge.

30 *Pongamia pinnata L.*

Local name: Karanj

Family: Papilionaceae

Habit: Tree

Medicinal uses: Dried root powder is useful in toothache. Root is effective on gonorrhoea, ulcer and skin diseases.

31 *Pterocarpus marsupium Roxb.*

Local name: Biyo

Family: Papilionaceae

Habit: Tree

Medicinal uses: Bark is used for bleeding and toothache. Leaves are externally as a remedy for skin diseases.

32 *Sterculia urens Roxb.*

Local name: Kadiyo

Family: Sterculiaceae

Habit: Tree

Medicinal uses: gum is used as a bulk laxative and throat infection.

33 *Tectona grandis L.*

Local name: Sag

Family: Verbenaceae

Habit: Tree

Medicinal uses: Wood tar paste is made from the powdered wood by putting it into hot water. Flowers are diuretic.

34 *Terminalia arjuna Roxb.*

Local name: Arjunsadad

Family: Combretaceae

Habit: Tree

Medicinal uses: It is used to balance the cough, abdominal disorders. It is widely used for cardiovascular diseases.

35 *Terminalia bellerica Roxb.*

Local name: Baheda

Family: Combretaceae

Habit: Tree

Medicinal uses: It is promoted for hair growth. Paste of fruit is applied to the swollen skin.

36 *Terminalia chebula Retz.*

Local name: Harde

Family: Combretaceae

Habit: Tree

Medicinal uses: It is used for asthma, bile duct disorders, scorpion stings and poisoning.

37 *Terminalia crenulata Roth*

Local name: Sadad

Family: Combretaceae

Habit: Tree

Medicinal uses: stem bark decoction is given once daily to women in anaemia.

38 *Vitex negundo L.*

Local name: Nirgundi

Family: Verbenaceae

Habit: shrub

Medicinal uses: sun dried powdered leaves after overnight soaking in water is prescribed once in the morning for a month cure rheumatism and

body pain.

39 *Wrightia tinctoria* R. Br.

Local name: *Dudhi*

Family: Apocynaceae

Habit: climber

Medicinal uses: Bark is diarrhoea, piles, ringworm and skin diseases.

40 *Zizyphus mauritiana* Lam.

Local name: *Bordi*

Family: Mimosaceae

Habit: shrub

Medicinal uses: Pounded roots are added to drinking water and used to treat indigestion.

4 Conclusion:

Medicinal plant like *Terminalia chebula*, *T. bellerica*, *T. crenulata* and *Phyllanthus officinalis* are sold to market so it is useful for tribal economically. The present study reveals and significance of plant species used by tribal people of Saputara forest. The current findings will contribute to understand the community structure, composition of wild as well as cultivated species in forested pockets. It not only helps to evaluate commonly used plant species by tribals for economic utilization of various plants in terms of construction material, cash crops and making of agricultural tools and implements, but also to enumerate various plants for fuel wood, fodder, fiber and forage.

The study will also emphasize the use of plant wealth to the human need of the regions, and assist in appraisal of various medicinal uses.

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