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STUDY OF ETHNOBOTANICAL PLANTS OF DADRA AND NAGAR HAVELI AND THEIR SIGNIFICANCE TO THE TRIBES

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ABSTRACT:

The total geographical area of Dadra & Nagar Haveli is 491 Sq.Kms. Of this 40% is covered by forests. The forests here are classified as Group 3 B C 2, South Indian Tropical Moist (Mixed) Deciduous Forest. Union Territory of Dadra and Nagar Haveli is rich in vegetation and has predominance of tribal forming a major chunk of 62% of the total population. The study was carried out in the entire territory. In this study it was observed that even though modern facilities are available in the territory but still the tribal's are dependent on plants and use the plant products (as medicine, firewood, dyes, timber, etc) more frequently as they are cheap and easily available. The major reasons that the tribes use plants may be that they want to be in association with their nature which perhaps gives them a feeling that nature will never betray them. The ethno botanical study of this area has been done by Subnis and Bedi (1983) who made a list of about 25 species used by adivasis from Dadra, Nagar Haveli and Daman. It is evident from this that the area has remained botanically virgin and not explored extensively and intensively even though rich in vegetation.

KEY WORDS: Dadra and Nagar Haveli, Firewood, Medicine, Tribal.

INTRODUCTION:

Human beings are influenced directly or indirectly by the non-living and other living components which we collectively call **'environment'**. From the beginning of civilization one can find that man has been dependent on plants. People used the traditional knowledge of uses of plants for various purposes. Indigenous communities living in the forest derive food, medicine, fuel wood, timber etc from plants. Man has managed to achieve several heights but plants are not in the picture anywhere.

The present area of Dadra and Nagar Haveli is selected for the floristic studies because it has not been given attention despite of its luxuriant vegetation by Rao (1986) in his flora of Goa, Diu, Daman and Dadra and Nagar Haveli. and T.G. Gohil (1996) in his work done in Floristic studies of the Bonta Round Forest, Dadra and Nagar Haveli. The ethno botanical study of this area has been done by Subnis and Bedi (1983) who made a list of about 25 species used by adivasis from Dadra, Nagar Haveli and Daman. It is evident from this that the area has remained botanically virgin and not explored extensively and intensively even though rich in vegetation.

OBJECTIVES

- Documenting current ecological status of plant species and to study habitat diversity: two of the silent features of biodiversity.
- Preparing a thorough database on the wild cultivars/cultivar diversity of the area.
- Documenting effect of biotic and a-biotic factors on flora and vegetation of the area.
- Documentation of ethno botanical data, since area has a good ethnic and cultural diversity.

The Union Territory of Dadra & Nagar Haveli is known for its lush green forests. Its capital Silvassa has been derived from the Portuguese word **SILVA** meaning **WOOD**. The Portuguese occupied Nagar Haveli on 10th June 1783 and Dadra on 22nd July 1785 on the basis of Friendship Treaty executed on 17th Dec.1779 as compensation towards damage to the Portuguese frigate by Maratha Navy. The area was full of Forests and Wildlife. The Union Territory got liberated on 2nd August 1954 by the local people with the help of "Azad Gomantak Dal" ending 175 years of Portuguese Rule.

The Union Territory of Dadra and Nagar Haveli is situated on the western coast of India between the parallels of 20^{o} and 20^{o}25' of latitude north and between the meridian 72^{o}50' and 73^{o}15' of longitude. The territory is surrounded on the west, north and east by Valsad district of Gujarat and in the south, and south east by Thana and Nasik districts of Maharashtra. The district has a hilly terrain specially towards the north-east where it is surrounded by the ranges of Sahyadri mountains (western ghats). The central region of the land is almost plain and the soil is rich and fertile. The terrain is intersected by the river Daman - Ganga and its tributaries like Dongavkhadi, Sakaltod, Kenai, Ambabari, Piparia, Nar and Kolak. Most of these tributaries are ephemerals. The river Daman - Ganga rises in the ghat 64km from the coast and discharges itself in the Arabian Sea at the port of Daman.

CLIMATE: The climate of the area due to proximity to sea is warm and humid. Though three distinct seasons viz. monsoon, winter and summer are visible in a year, the dry period is felt for a long period. The average maximum temperature is 33.5°C and the average minimum temperature is 20.8°C. The average annual rainfall of the area is 2346mm which is received on an average of

73 days. The maximum rainfall is received in the month of July. The humidity varies from 30% to 85% in the months of May and August respectively.

The total geographical area of Dadra & Nagar Haveli is 491 Sq.Kms. Of this 40% is covered by forests. The forests here are classified as Group 3 B C 2, South Indian Tropical Moist (Mixed) Deciduous Forest. The forests of Dadra & Nagar Haveli have been most significant to its rulers and dwellers. Majority of the tribes are dependent on forests for their domestic needs. The people in the UT utilize many plant species which are used for various purposes. The plants belong to various families. The various plants which are used by the people of the UT include the trees, shrubs, herbs and climbers. Most of the plants are having medicinal value, some are used as fuel wood, and others are used for making furniture, dyes, and agricultural implements. People use different plant parts for this purpose.

- Before the liberation of UT, forests were managed by Portuguese rulers for revenue. They exploited the forests by cutting trees for commercial purposes. Urbanization, industrialization and over population also led to further destruction of forests. Less forest cover in the adjoining states is also a cause of destruction of forests in this area.

Tribals: The 62 % of the total population of Dadra and Nagar Haveli belongs to the tribals who include diverse communities like Dhodia, Koli Dhor, Dubla, Kathodi, Kokna, Nayka and Varli. For day to day basic needs, the tribals depend on the forest. The tribals being cultivators cultivate various crops in the open forest area. The modern civilization has proved to be a threat to their rich culture. We are well acquainted with the folk medicines but no one has tried to understand this medicine system in order to develop it. On the other hand the tribals are dragged towards the allopathic medicine system.

Though the tribal's belong to the different communities, they have similar character, practices, beliefs and rituals. The staple food of the tribal's includes rice and ragi (nagli). They also consume kodra and bajra. Wheat is consumed infrequently. The tribals mostly depend on their kitchen gardens for vegetables which include bhindi, papdi, ambadi and various cucurbits. The tribal's mostly depend for fire wood on the forest. Maduca flower collection is another prominent activity among the tribals. Liquor is prepared out of these flowers and consumed everyday.

MATERIALS AND METHODS:

The methods which has been used in this research are –

- **Participant observation**: Survey of the different areas was done. **Soil** of the different areas were evaluated for the properties like pH, conductivity, radicals like sulphate, chloride etc.
- Data regarding the average **rainfall** for the past five years was considered.
- The collection of the plants were done season wise and on the basis of ethno botanical use.
- By interviewing local people, the local name of plants and their usage were documented.

- Collection of the plants & making of herbarium.
- Photography of the plants & forest cover
- The plants were collected, identified, and preserved in the form of **Herbarium** and **Photographs**

RESULTS & DISCUSSION:

Over 800 plants belonging to more than 100 families were studied. In this study it was observed that even though modern facilities are available in the territory but still the tribal's are dependent on plants and use the plant products (as medicine, firewood, dyes, timber, etc) more frequently as they are cheap and easily available.

Tribals use the plants for the following purposes:

- FOOD
- FISH HUNTING
- FIBERS
- FARMING HOUSEHOLD - IMPLEMENTS AND FUEL
- OIL YIELDING
- BREWING ALCOHOLIC BEVERAGE
- GUM YIELDING
- DYE YIELDING
- SACRED
- SKIN DISEASES
- ANTIDYSENTERIC OR - PURGATIVE
- FEMININE DISEASES
- FEVER BRONCHITIS AND - ASTHAMA
- EAR ACHE
- STOMACH ACHE
- URINARY DISEASES
- SNAKE AND SCORPION BITE
- RABIES (HYDROPHOBIA)
- VETERINARY / POULTRY - DISEASES

Enumeration of Ethno botanical plants

1. ***Achyranthes aspera*** Linn. (Amaranthaceae): Locally called as "Aghedo". The plantation of the plant near human settlements keep's away the scorpion. Roots are also administered as a remedy for curing piles. Ashes are used against deafness.
2. ***Abrus precatorius*** Linn. (Fabaceae): Locally called as "Chanothi". The paste of the root applied on wounds and sores of cattle. Seed paste mixed with goat's milk is administered for menstrual disorders. Seed paste is applied for curing baldness. The roots are crushed and mixed with water and from this water 2-3 drops is administered through nostrils as a remedy of migraine. The fruits are crushed to powder and mixed with water and stored in copper vessels overnight applied externally on skin diseases.

3. ***Albizzia lebbeck*** (L.) Bth. (Mimosaceae): Locally called as "Siris". The bark decoction is used in toothache. The seeds are powdered and mix with turmeric to remove local swellings and inflammations. The bark is a potential remedy for eczematous swellings.
4. ***Bombax ceiba*** Linn. (Bombacaceae): Locally called as "Shimlo". The bark spines are powdered and mixed with milk to remove black spots locally called as "Kalo kodh". The bark mixed with camphor is used to cure sorefoot.
5. ***Cassia tora*** Linn. (Caesalpiniaceae): Locally called as "Kunvadio". Leaves and seeds are used to cure skin diseases especially eczema. Tender leaves are used as vegetables.
6. ***Euphorbia hirta*** Linn. (Euphorbiaceae): Locally called as "Dudheli". The extract of the young leaves is used for dysentery and colic. Latex is applied externally on cuts and wounds. The leaves mixed with water and warm gently is a good remedy for renal stones.
7. ***Ficus racemosa*** Linn. (Moraceae): Locally called as "Umbaro". Tender fruits are used or rather cooked as vegetables. Latex from the fruit mixed with turmeric is given to cure diabetes. Root bark crushed with turmeric is used orally for diarrhoea.
8. ***Flacourtia indica*** (Burm. f.) Merr. (Flacourtiaceae): Juice of the fresh leaves is used to cure jaundice. Fruits edible.
9. ***Hemidesmus indicus*** (L.) R. Br. (Periplocaceae): Locally called as "Anantmul". The roots are chewed in toothache. The roots are also used to relieve muscular pains. Ethno veterinary uses are mainly confined to clean wounds in cattles. (External application).
10. ***Pongamia pinnata*** (L.) Pierre. (Fabaceae): Locally called as "Karanj". The oil extracted from leaves is used to cure skin diseases and tender twigs are chewed for the cure of pyrrohoea.
11. ***Solanum surratense*** Burm. f. (Solanaceae): Locally called as "Bhoyringni". The smoke of the seeds when burnt is used as remedy for dental problems. The leaf juice is administered in poultry diseases.
12. ***Tinospora cordifolia*** (Willd.) Miers ex Hk. f. & Th. (Menispermaceae) : Locally called as "Galo". The whole plant is utilized as a general tonic.
13. ***Vernonia cineria*** (L.) Less. (Asteraceae): Locally called as "Sahadevi". The leaf juice is administered in the treatment of kidney stones.
14. ***Vitex negundo*** (Verbenaceae): Locally called as "Nagod". The leaves are used during bath as a remedy to overcome general body weakness and fatigue. Useful in curing rheumatism. The roots are applied during teething period in children. Roots are administered in the treatment of rheumatism, stomach disorders and muscular pains.
15. ***Wrightia tinctoria*** (Apocynaceae)Locally called as "Dudhkadi". The plant is used as tonic while seeds are used in seminal weakness. Bark, stem and root is used in snake bites.

CONCLUSION:

The influence of industrialization, over population, loss of potential habitat, climatic changes etc., have altered the vegetation pattern of the area. This has definitely affected flora adversely. It is sincerely hoped that this piece of work will be useful while revising the work of Flora of Dadra and Nagar Haveli and for those working on biodiversity, ecology, taxonomy and ethno botanical aspects.

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