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## STUDY OF TREE DIVERSITY OF VAHERA VILLAGE AND ADJOINING IN BORSAD TALUKA, OF ANAND DISTRICT (GUJARAT)

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### ABSTRACT:

Borsad is located at 22°25'N 72°54'E / 22.42°N 72.9°E. It has an average elevation of 30 meters (98 feet). It is located around 17 km from Anand. Vahera is five kilometers far from Borsad. In Vahera total geographic area is 733-85-46, agriculture use land is 62-31-91 while non agriculture land 46-01-32, total growing area 615-50-71. From the ancient time plants remain have played an important role in human civilization they played varied role ranging from food to Medicines the present study was carried out during 2010-11 Frequent study trips were arranged in selected area of Vahera village of Borsad Taluka and on roadside of Vahera to santokpura. The present study deals with tree species only. The present taxonomic account is based on field survey in the Borsad taluka particular Vahera village. The entire floristic survey of Borsad is not reported earlier. The present paper deals with total 75 angiosperm tree species belonging to 63 genera and 35 families. Among them some important species like *Ailanthus excelsa* Roxb., *Moringa olefera* Lam., *Syzgium cumini* L. Skeels., *Punica granatum* L., *Carica papaya* L., *Manilkara zapota* L., *Gmelina arborea* Roxb., *Tectona grandis* L., etc. In present study diversity of woody plant sp. found in different study sites like farm hedges, roadside, residential gardner boundary of farm etc. The dominant tree species from the locality on road side incudes *Azadirachta indica* A. Juss., *Mangifera indica* L., *Acacia nilotica* L. Del., *Terminalia arjuna* (Roxb.) W. & A., *Eucalyptus globulus* Labill., *Alstonia scholris* (L) R. Br., *Kigelia pinnata* (Lam.) benth., *Holoptelea integrifolia* Roxb. Planch., *Ficus racemosa* L., *Ficus religiosa* L., etc. was found. *Zizyphus mauritana* Latn. while only *Erythrina suberosa* Roxb. was found on road side of Vahera health was rich in they planted. Dominant families were Caesalpiniaceae, Mimosaceae, Myrtaceae, Apocynaceae. In Vahera roadside situated Primary health center is stuated In Vahera roadside. One

Ecogarden and school ground both are rich biodiversity last but not least one important observation in Vahera *Ficus benghalensis* situated entrance of this village.

**KEY WORDS:** *Tree diversity, Floristic, Vahera village, Agriculture.*

### **INTRODUCTION:**

From the ancient time plants remain have played an important role in human civilization. They played varied role. Tree in India known for their grandeur and majesty are like the green pearl in the India crown. Even tree play a very important role in the environment. Tree occupy the important place in the history of India. In ancient time Kadam tree is popular for Lord Krishna. Banyan tree is the National tree of India. There are about 2198 flowering plants belonging to 902 genera and 155 families so far recorded from Gujarat. Gujarat state is endowed with a great diversity of natural ecosystem. The Gujarat state has largest number of big geographically zones amongst the state of India. In Gujarat the centre district Anand. Borsad is one of the taluka of Anand is non-forest area. Have 64 villages. In this study area Vahera village is 5 kilometer far from Borsad. Borsad is located at 22°25'N 72°54'E / 22.42°N 72.9°E. It is around 17 kilometer far from Anand. Vahera total geographic area is 733-85-46, agriculture use land is 62-31-91, total growing area 615-50-716. This work was carried out during 2010. Different tree sp. Present here were recorded in this paper.

### **MATERIALS AND METHOD:**

Frequent trips were made to every region during all three season. Vahera village roughly divided in to smaller regions for study purpose. The identification of plants was done with the help of flora (Cooke 1968 and Shah 1978) and plants were recorded. Photographs of some plant sp. were also taken during the field trip. The plants were recorded and arranged in a table in accordance with the Bentham & Hookers classification system.

### **RESULTS AND DISCUSSION:**

During the present research work different area of Vahera and adjoining place were frequently visited and specimen were collected and identified with the help of literature and flora. Field note were also given below. A total of 75 tree sp. belonging to 63 genera and 35 families were recorded from the study area. Table: 1 show the Sr. no., Botanical name, Family and Common Name. Table :2 provides the number of tree sp. belongs to dicot and monocot out of the total 35 families with a 34 families, 62 genera and 74 species and 01 families, 01 genera and 01 species belongs to monocot. The major families are found to be Moraceae, Mimosaceae, Rutaceae and Caesalpiniaceae. Some of the common tree sp. of this area is *Acacia nilotica* (L.) Del. Subsp. Indica (Bth.) Brenan, *Azadirachta indica* A. Juss., *Mangifera indica* L., *Ficus benghalensis* L.,

*Prosopis juliflora* (Sw.) DC., etc. Whereas some sp. like *Xeromphis uliginosa* (Ritz.), *Erythrina suberosa* Roxb., *Spathodea campanulata* Beauv. , *Bombax ceiba* L., *Grewia subinequalis* DC., *Thespesia populneae* Soland. are found rare in the study area. In future I will try to survey floristic study of Borsad taluka. Result of the work will be published in local language. It will be benefit for society.

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Table :- 1 Check List

| No. | Botanical Name   | Family                   | Common name      |
|-----|--|--------------------------|------------------|
| 1   | <i>Annona reticulata</i> L.                                    | Annonaceae               | Ramphal          |
| 2   | <i>Annona squamosa</i> L.                                      | Annonaceae               | Sitaphal         |
| 3   | <i>Polyalthia longifolia</i> (Sonn.) Thw.                      | Annonaceae               | Asopalav         |
| 4   | <i>Crateva nurvala</i> Buch.                                   | Capparidaceae            | Vay Varno        |
| 5   | <i>Thespesia populneae</i> Soland.                             | Malvaceae                | Paras Piplo      |
| 6   | <i>Bombax ceiba</i> L.   | Bombacaceae              | Simlo            |
| 7   | <i>Ceiba pentandra</i> (L.) Gaertn.                            | Bombacaceae              | ----             |
| 8   | <i>Grewia subinequalis</i> DC.                                 | Tiliaceae                | Phalsa           |
| 9   | <i>Aegle marmelos</i> (L.) Con.                                | Rutaceae                 | Bili             |
| 10  | <i>Limonia acidissima</i> L.                                   | Rutaceae                 | Kothi            |
| 11  | <i>Murraya koenigii</i> (L.) Spreng.                           | Rutaceae                 | Mitho Limdo      |
| 12  | <i>Murraya paniculata</i> Jack.                                | Rutaceae                 | Kamini           |
| 13  | <i>Citrus limon</i> Burm.                                      | Rutaceae                 | Mota Limbu       |
| 14  | <i>Ailanthus excelsa</i> Roxb.                                 | Simaroubaceae            | Moto Arduso      |
| 15  | <i>Azadirachta indica</i> A. Juss.                             | Meliaceae                | Limdo            |
| 16  | <i>Melia azedarach</i> L.                                      | Meliaceae                | Bakanlimdo       |
| 17  | <i>Zizyphus mauritiana</i> latn.                               | Rhamnaceae               | Bordi            |
| 18  | <i>Sapindus laurifolius</i> Vah.                               | Sapindaceae              | Aritha           |
| 19  | <i>Mangifera indica</i> L.                                     | Anacardiaceae            | Ambo             |
| 20  | <i>Moringa oleifera</i> Lamk.                                  | Moringaceae              | Sargvo           |
| 21  | <i>Butea monosperma</i> (Lam.) Taub.                           | Papilionaceae (Fabaceae) | Khakhro          |
| 22  | <i>Erythrina suberosa</i> Roxb.                                | Papilionaceae (Fabaceae) | Jagraiyo-Khakhro |
| 23  | <i>Dalbergia sissoo</i> Roxb.                                  | Papilionaceae (Fabaceae) | Sisam            |
| 24  | <i>Derris indica</i> (Lam.)                                    | Papilionaceae (Fabaceae) | Karanj           |
| 25  | <i>Caesalpinia pulcherrima</i> (L) Sw                          | Caesalpinaceae           | Galtoro          |
| 26  | <i>Cassia fistula</i> L.                                       | Caesalpinaceae           | Garmalo          |
| 27  | <i>Cassia siamea</i> Lam                                       | Caesalpinaceae           | Kashid           |
| 28  | <i>Peltophorum pterocarpum</i> (DC.) Backer.                   | Caesalpinaceae           | Tamrafali        |
| 29  | <i>Delonix regia</i> Rafi.                                     | Caesalpinaceae           | Gulmahor         |
| 30  | <i>Acacia auriculiformis</i> A. Cunn. Ex Benth.                | Mimosaceae               | Australian Baval |
| 31  | <i>Acacia nilotica</i> (L.) Del. Subsp. Indica (Bth.) Brenan   | Mimosaceae               | Baval            |
| 32  | <i>Albizia lebbek</i> Benth.                                   | Mimosaceae               | Shirish          |
| 33  | <i>Pithecellobium dulce</i> (Roxb.) Bth.                       | Mimosaceae               | Gorasamli        |
| 34  | <i>Prosopis juliflora</i> (Sw.) DC.                            | Mimosaceae               | Gando Baval      |
| 35  | <i>Prosopis cineraria</i> (L.)                                 | Mimosaceae               | ----             |
| 36  | <i>Terminalia arjuna</i> (Roxb.) W. & A.                       | Combretaceae             | Arjunsadad       |
| 37  | <i>Terminalia catappa</i> L.                                   | Combretaceae             | Deshi Badam      |
| 38  | <i>Callistemon lanceolatus</i> D.C.                            | Myrtaceae                | Bottel brush     |
| 39  | <i>Eucalyptus globulus</i> Labill.                             | Myrtaceae                | Nilgiri          |
| 40  | <i>Psidium gurjava</i> L.                                      | Myrtaceae                | Jamphal          |
| 41  | <i>Syzygium cumini</i> (L.) Skeels                             | Myrtaceae                | Jambu            |
| 42  | <i>Lagerstroemia indica</i> L.                                 | Lythraceae               | Chinai Mahendi   |
| 43  | <i>Punica granatum</i> L.                                      | Lythraceae               | Dadam            |
| 44  | <i>Carica papaya</i> L.  | Passifloraceae           | Papaiya          |
| 45  | <i>Alangium salvifolium</i> (L.f.) Wang.                       | Alangiaceae              | Ankol            |
| 46  | <i>Anthocephalus indicus</i> A. Rich.                          | Rubiaceae                | Kadamb           |
| 47  | <i>Xeromphis uliginosa</i> (Ritz.)                             | Rubiaceae                | Gangeti          |
| 48  | <i>Mimusops elengi</i> L.                                      | Sapotaceae               | Bakul            |
| 49  | <i>Manilkara hexandra</i> Dub.                                 | Sapotaceae               | Rayan            |
| 50  | <i>Manilkara zapota</i> L.                                     | Sapotaceae               | Chikoo           |
| 51  | <i>Diospyros cordifolia</i> Roxb.                              | Ebenaceae                | Dheki            |
| 52  | <i>Nyctanthes arbortristis</i> L.                              | Oleaceae                 | Parijatak        |
| 53  | <i>Salvadora persica</i> L.                                    | Salvadoraceae            | Piludi           |
| 54  | <i>Alstonia scholaris</i> (L.) R.Br.                           | Apocynaceae              | Saptparni        |
| 55  | <i>Plumeria rubra</i> forma <i>tricolour</i> (R. & S.) Woodrow | Apocynaceae              | Champa           |
| 56  | <i>Thevetia peruviana</i> (Pers.) Merrill                      | Apocynaceae              | Pilikaren        |
| 57  | <i>Cordia dichotoma</i> Fprst.                                 | Ehretiaceae              | Gundo            |

| No. | Botanical Name                                 | Family        | Common name |
|-----|--|---------------|-------------|
| 1   | <i>Annona reticulata</i> L.                    | Annonaceae    | Ramphal     |
| 58  | <i>Cordia gharaf</i> (Forsk.) Ehrenb. & Asch.  | Ehretiaceae   | Nani Gundi  |
| 59  | <i>Spathodea campanulata</i> Beauv.            | Bignoniaceae  | ----        |
| 60  | <i>Tecoma stanus</i> (L.) Hb & K.              | Bignoniaceae  | Pili Limbdi |
| 61  | <i>Gmelina arborea</i> Roxb.                   | Verbenaceae   | Sevan       |
| 62  | <i>Tectona grandis</i> L.f.                    | Verbenaceae   | Saag        |
| 63  | <i>Vitex negundo</i> L.                        | Verbenaceae   | Nagod       |
| 64  | <i>Santalum album</i> L.                       | Santalaceae   | Chandan     |
| 65  | <i>Emblica officinalis</i> Gaertn.             | Euphorbiaceae | Amla        |
| 66  | <i>Holoptelea integrifolia</i> (Roxb.) Planch. | Ulmaceae      | Kanji       |
| 67  | <i>Ficus benghalensis</i> L.                   | Moraceae      | Vad         |
| 68  | <i>Ficus carica</i> L.                         | Moraceae      | Anjir       |
| 69  | <i>Ficus racemosa</i> L.                       | Moraceae      | Umardo      |
| 70  | <i>Ficus religiosa</i> L.                      | Moraceae      | Piplo       |
| 71  | <i>Ficus elastica</i> Roxb.                    | Moraceae      | Rabar tree  |
| 72  | <i>Morus alba</i> L.                           | Moraceae      | Shetur      |
| 73  | <i>Streblus asper</i> Lous.                    | Moraceae      | Sarero      |
| 74  | <i>Casuarina equisetifolia</i> L.              | Casuarinaceae | Sharu       |
| 75  | <i>Caryota urens</i> L.                        | Arecaceae     | Sivjata     |

Table :- 2 Total Number of Tree species of dicot and monocot

| Class        | Family    | Genera    | Species   |
|--------------|-----------|-----------|-----------|
| Dicot        | 34        | 62        | 74        |
| Monocot      | 1         | 1         | 1         |
| <b>Total</b> | <b>35</b> | <b>63</b> | <b>75</b> |

Table :- 3 Dominating top four families with highest number of species

| Sr. No. | Family          | Species |
|---------|-----------------|---------|
| 1       | Moraceae        | 7       |
| 2       | Mimosaceae      | 6       |
| 3       | Rutaceae        | 5       |
| 4       | Caesalpiniaceae | 5       |