

## Plants used as fencing in Porbandar district of Gujarat

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### ABSTRACT

Tribals of district Porbandar, are mostly involved in agricultural practices which play a significant role in their economy. The fields are protected by permanent or temporary boundaries made from different plant species. The plant species used as fence have sharp pointed structures, large foliage, profuse and short branches which prevent entry of human beings and grazing and other wild animals. The fence they construct is very economical. It is supplemented by many Climbers of families like Convolvulaceae and Cucurbitaceae. The present paper deals with 49 plants species which are used by the tribals and rural people of district Porbandar, for the purpose of fencing.

**Key words :** Ethnobotany, Fencing, Porbandar district, Gujarat

### INTRODUCTION

Porbandar district of Gujarat state is harbour, of vast diversity of vegetation. It include dry deciduous forest. Porbandar district occupies the western part of Gujarat lies between 21° 15 and 21° 50 east-longitude. The geographic area of this district is about 2272 sq. Km. The atmosphere of this district is temperate and humid in seashore area. Rural folk are composed of Maher, Kharva, Rabari, Charan, Lohana, Brahmin, Rajpoot, Ahir, Bhatia, Baniya, who exchange their traditional views and ideas through a common Gujarati dialect. They possess vast indigenous knowledge in relation to natural resource management that has been passed orally from generation to generation from time immemorial.

Agriculture is the mainstay of the people of Porbandar district. They practise sedentary terrace cultivation of cereals, pulses, oilseeds and vegetable. The farmland is kept under cultivation throughout the year by regular growth of summer and winter crops one after another. They make their cropland well protected from external damage by raising fences of biological origin in live or dried conditions, which now included some recently introduced species also. Such fences are of two types: homogeneous and

heterogeneous. Homogeneous fence is composed of only one species, shrub, undershrub, of herb, whereas, heterogeneous fence is composed of more than one species. The fences may be temporary or permanent. Temporary fences are renovated every two years.

### MATERIALS AND METHODS

Ethnobotanical surveys were conduct in various part of Porbandar district (Kutiyana, Ranavav, Porbandar), etc. During field survey we observed certain plants which are used in preparation of field and house fencing. We collected the voucher specimens and took photographs and properly identified and compared with standered herbarium. The author came across a large number of tribal and rural people.

### RESULTS AND DISCUSSION

Presence of thorns, spines, prickles, stinging hair and profuse branching make field fences very effective in preventing the entry of both human beings and animals into the cropland. Plants in live field fences have strong soil-binding roots that are very efficient in strengthening mud boundaries of the field (Punjani 1998, Ant and Patel 2002).

Table 1 : List of plants used as fence

S. No.	Scientific Name	Local Name	Family	Condition	Parts used	Purpose
1	<i>Acacia jaquemontii</i> Bth.	Bavali	Mimosaceae	Live	Dry branches	Plants having spines, act as field fence.
2	<i>Acacia senegal</i> (L.) Willd.	Gordiu baval	Mimosaceae	Live	Dry branches	Plants having spines act as field fence
3	<i>Acacia arabica</i> (Lam.) Willd.	Dheshi baval	Mimosaceae	Live/Dried	Dry branches	Act as a field fence.
4	<i>Adhatoda vasica</i> (L) Nees.	Ardusi	Acanthaceae	Live	Whole plant	Act as a house fence plants have dense foliage.
5	<i>Agave americana</i> L.	Ramban	Agavaceae	Live	Whole plant	Act as a field fence.
6	<i>Aloe barbadensis</i> Mill	Kunvarpato	Lilliaceae	Live	Whole plant	Act as a field fence.
7	<i>Alangium salviflorum</i> (L.f.) Wang.	Ankol	Alangiaceae	Live	Whole plant	Act as a field fence & having spines.
8	<i>Balanites aegyptiaca</i> (L) Del.	Ingoriyo	Balanitaceae	Live	Branches	Act as a field fence, barrier against animal.

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Table 1 contd....

9	<i>Breynia retusa</i> (Dennst.) Alst.	Kamboi	Euphorbiaceae	Live	Whole plant	Act as a barrier & have dense foliage.
10	<i>Calotropis procera</i> (Ait.) R. Br.	Nanoakado	Asclepiadaceae	Live	Whole plant	Act as a sand binder & unpalatability taste to animal.
11	<i>Caesalpinia crista</i> L.	Karkas	Caesalpinaceae	Live	Whole plant	Act as a field fence & have dense foliage.
12	<i>Cissampelos pareira</i> L.	Venivel	Menispermaceae	Live	Whole plant	Act as a field fence.
13	<i>Capparis decidua</i> (Forsk.) Edgew.	Kerado	Capparaceae	Live/Dried	Whole plant & dry branches	Act as a field fence & havig spine like projection.
14	<i>Capparis sepiaria</i> L.	Kanther	Capparaceae	Live/Dried	Whole plant & dry branches	Act as a field fence & having spine like projection.
15	<i>Clerodendrum multiflorum</i> (Burm. f.) Kunt syn.	Arni	Verbenaceae	Live	Whole plant	Act as a barrier & having dense foliage.
16	<i>Cestrum nocturnum</i> L.	Hoshina	Solanaceae	Live	Whole plant	Act as a field fence & having spine like projection.
17	<i>Celastrus paniculatus</i> Willd.	Malkan kani	Celastraceae	Live	Whole plant	Act as a barrier & have dense foliage.
18	<i>Dichrostachys cinerea</i> (L.) W. & A.	Mor dhundhiyu	Mimosaceae	Live	Whole plant & dry branches	Act as a field fence & have dense foliage.
19	<i>Dendrocalamus strictus</i> Nees.	Vans	Poaceae	Live/Dried	Whole plant	Act as a field fence & having spine like projection.
20	<i>Delonix elata</i> (L.) Gamble.	Sandesro	Caesalpinaceae	Live	Whole plant	Act as a wind breaker & house fence.
21	<i>Duranta repens</i> L.	Nilkanta	Verbenaceae	Live	Whole plant	Act as a field fence.
22	<i>Euphorbia nerifolia</i> L.	Thor	Euphorbiaceae	Live	Whole plant	Act as field fence & having spine like projection.
23	<i>Euphorbia antiquorum</i> L.	Tridharo thor	Euphorbiaceae	Live	Whole plant	Act as field fence & having spine like projection.
24	<i>Euphorbia nerifolia</i> L.	Vad thor	Euphorbiaceae	Live	Whole plant	Act as field fence & having spine like projection.
25	<i>Euphorbia tirucalli</i> L.	Kharsani thor	Euphorbiaceae	Live	Whole plant	Act as field fence & having spine like projection.
26	<i>Euphorbia nivulia</i> Bach.	Ham	Euphorbiaceae	Live	Whole plant	Act as a field fence.
27	<i>Euphorbia</i> Mill	Lalikante	Euphorbiaceae	Live	Whole plant	Act as a field fence.
28	<i>Ficus hispida</i> L. f.	Dhed umro	Moraceae	Live	Whole plant	Plants having spines, act as field fence
29	<i>Ipomoea fistulosa</i> Mart. ex. Choisy	Besharmi	Convolvulaceae	Live	Whole plant	Act as a field fence.
30	<i>Ipomoea pes-tigridis</i> L.	Vagh padinivel	Convolvulaceae	Live	Whole plant	Act as a field fence & having spine like projection.
31	<i>Jatropha curcas</i> L.	Ratanjot	Euphorbiaceae	Live	Whole plant	Act as a field fence.
32	<i>Lantana camara</i> L.	Gandhari	Verbenaceae	Live	Whole plant	Act as a field fence & dense foliage & unpalatability taste.
33	<i>Lawsonia inermis</i> L.	Mehndi	Lythraceae	Live	Whole plant	Act as a field fence & dense foliage.

Table 1 contd....

34	<i>Maytenus emarginata</i> (willd.) D. Hou.	Vikro	Euphorbiaceae	Live/Dried	Whole plant & dry branches	& Act as a field fence & having spine like projection.
35	<i>Maeraa oblongifolia</i> (forsk.) A. Rich	Hem kand	Capparaceae	Live	Whole plant	Act as a field fence.
36	<i>Mucuna prurita</i> HK. f.	Kavach	Fabaceae	Live	Whole plant	Act as a field fence.
37	<i>Nyctanthes arbortristis</i> L.	Tarbat/ Parijatak	Oleaceae	Live/Dried	Whole plant	Act as field fence & having spine like projection.
38	<i>Opuntia elatior</i> Mill	Phaphdo thor	Cactaceae	Live	Whole plant	Act as field fence & having spine like projection.
39	<i>Prosopis chilensis</i> (Molina) Stun.	Gando baval	Mimosaceae	Live/Dried	Whole plant & dry branches	& Act as a field fence & having spines.
40	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Goras aml	Mimosaceae	Live	Whole plant	Act as a field fence.
41	<i>Rivea hypocrateriformis</i> Choisy.	Fang no velo	Convelnlaceae	Live	Whole plant	Act as a field fence & having spines.
42	<i>Ricinus communis</i> L.	Ander	Euphorbiaceae	Live	Whole plant	Act as a field fence.
43	<i>Saccharum bengalense</i> Retz.	Munjali	Poaceae	Live	Whole plant	Act as a field fence.
44	<i>Solanum nigrum</i> L.	Piludi	Solanaceae	Live	Whole plant	Act as a field fence & having spine like projection.
45	<i>Urtica dioica</i> L.	Sishnu	Urticaceae	Live	Whole plant	Act as a field fence.
46	<i>Vitex negundo</i> L.	Simali	Verbenaceae	Live	Whole plant	Act as a field fence.
47	<i>Xanthium strumarium</i> L.	Gadariyu	Asteraceae	Live	Whole plant	Act as a field fence & having spines.
48	<i>Zizyphus nummularia</i> (Burm. f.) W. & A.	Chani bor	Rhamnaceae	Live/Dried	Whole plant & dry branches	& Act as a field fence & having spines.
49	<i>Zizyphus oenoplea</i> (L.) Mill.	Gutbor	Rhamnaceae	Live	Whole plant & dry branches	& Act as a field fence & having spines.

These fences being good wind breakers, prevent wind erosion of surface soil of the field. The contour fences are found to be strong to control run off of water in the rainy days. Farmers are happy to obtain full crop yield without any damage by external agents. *Agave americana*, *Lantana camara*, *Duranta repens*, *Saccharum spontaneum* are generally planted to raise both homogeneous and heterogeneous fences. *Euphorbia milli* is grown to construct homogeneous fences. Some are even used as food, medicine, fish poison, tooth brush, fodder or fuel wood. House fencing is prepared from dried long stems of different species supplemented with some climbers of *Cucurbitaceae* family whose fruits are used as vegetables by rural people of Porbandar district seem to have a deep traditional lore of biological fences implemented in the recently introduced exotic species are also being used for fencing.

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