



Study of plant diversity in Megharj range forest District Sabarkantha, North Gujarat, India

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Abstract

Biodiversity Conservation is major problem of the day. We are trying to establishment of natural habitat for plant in Megharj forest is the part of Arravalli mountains, so it is unique example from floristic point of view. In present study, a total of 186 plant species belonging to 84 families have been recorded from Megharj range forest in particular zone Isari of district Sabarkantha. North Gujarat during December 2008. The investigation also reveals the ecological balance is being upset due to rapid rise of human population and their increased demand for more utilization of natural resources.

Key-Words: Megharj range forest, Plant diversity, Natural habitat, Ecological balance.

Introduction

Floristic diversity means floristic variety of plant forms rich diversity suggests a great many kinds of plants species and conversely poor diversity indicates flower types of living species. On this diversity hinges the future, health and beauty of the living planet habitat of floristic diversity contain wild species and genetic variation within, it is useful in the development of agriculture, medicines and industry. The present study aims to highlight the biodiversity of herbs, shrub and trees of Megharj forest range of Sabarkantha district, North Gujarat.¹⁻²

The Sabarkantha district is situated in the North West part of Gujarat between latitudes 20 13' 15" and 24 34' 30" North and Longitudes 72 47' 0" and 73 37' 30" east. Part of the western Aravallis in Sabarkantha. The Megharj forest is situated on latitude 23 30' 40" North and Longitude 73 30' 40" North and Longitude 73 30' 40" east. The total forest area 9722.08 hector, 4234.28 hector is reserved forest and 5487.80 hector is un class forest.

The great floristic diversity of Megharj forest range of Sabarkantha district has contributed to the expression of very rich culture diversity one of the major component in knowledge of natural resources as an integral part of its culture and which reveals not only in the systematic knowledge the native tribal people of this region with regard to native flora and fauna, and but also the development of large group of cultivated plants of taxoethno-botanical value. The main aim of present study was to study the diversified composition of flora in Megharj forest range of Sabarkantha district, North Gujarat.

Material and Methods

To carry out work on floral diversity in Megharj forest range Sabarkantha district, first of all, the study area was selected and divided into different regions for the sake of convenience and systematic study. To study the floristic diversity in different forest area Megharj range forest, the frequent visits were made to the study area in the different seasons, so that seasonal variation could be studied.

A general survey of the vegetation was made and observed different plants such as herbs, shrubs and trees. The general associations of plants were observed in all the unprotected areas. Apart from the study of vegetation, plant species are collected and Herbarium sheets are prepared, and also to take photograph of particular species³⁻⁴. Frequency percentage of each species was calculated by the method⁵.

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Results and Conclusion

The present study shows that the floral diversity in the Megharj range forest district Sabarkantha is now decreasing to loss and less as compare to earlier studies which was noted through density, abundance and important value indices indication loss in floristic diversity. The loss of floristic diversity is not only an ethical tragedy but also a great social, economical and cultural loss.

During the present works we have noted 212 plant species and 66 families have been reported in that particular zone Isari which have been reported in this paper. Number of plant species lost is often most widely used measures of diversity depletion. The over all causes of diversity loss are the same as those responsible for land use and surface of land changed. The study also reveals that the ecological balance is being upset by rapid rise of human population with their increased demand for more utilization of natural

resources. The existing natural forests were protecting our living environment.

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Table 1: Plant diversity of the study area

S/No	Botanical name	Family	V.N.	Habit
1.	<i>Annona squamosa</i> L.	Annonaceae	Sitaphal	T
2.	<i>Cocculus hirsutus</i> (L.) Diels	"	Vevdi	Cl
3.	<i>Cocculus villosus</i> DC.	"	Vevdi	Cl
4.	<i>Argemone mexicana</i> L.	Papaveraceae	Darudi	H
5.	<i>Lepidium sativum</i> L.	Brassicaceae	Asalio	H
6.	<i>Capparis decidua</i> (Forsk.) Edgew.	"	Kerado	S
7.	<i>Capparis sepiaria</i> L.	"	Kanther	S
8.	<i>Capparis spinosa</i> L.	Capparaceae	Kantalo kanther	S
9.	<i>Cleome simplicifolia</i> (Camb.) HK. & Th.	Capparaceae		H
10.	<i>Cleome viscosa</i> L.	"	Pilitilvan	H
11.	<i>Crateva nurvala</i> Buch.	"	Vayvarno	T
12.	<i>Maerua oblongifolia</i> (Forsk.) A.Rich.	"	Hemkand	S
13.	<i>Portulaca oleracea</i> L.	Violaceae	Motiluni	H
14.	<i>Azanza lampas</i> (Cav.) Aleo.	"	Jangli bhindi	S
15.	<i>Gossypium arboreum</i> L. var. <i>Neglectum</i> L.	Malvaceae	Deshi kapas	S
16.	<i>Hibiscus rosa-sinensis</i> L.	"	Jasud	S
17.	<i>Sida cordifolia</i> L.	"	Bala	H
18.	<i>Sida ovata</i> Forsk.	Malvaceae	Bala	H
19.	<i>Thespesia populnea</i> (L.) Soland.	"	Paras piplo	T
20.	<i>Bombax ceiba</i> L.	"	Shimlo	T
21.	<i>Helicteres isora</i> L.	Sterculiaceae	Mardasing	Us
22.	<i>Melhaniania futyporensis</i> Munro.	"	Vagadau Khapat	S
23.	<i>Sterculia urenus</i> Roxb.	"	Kadayo	T
24.	<i>Triumfetta rhomboidea</i> Jacq.	Tiliaceae	Zipti	H
25.	<i>Triumfetta pentandra</i> A.	"	Zipti	H
26.	<i>Triumfetta rotundifolia</i> Lam.	"	Zipto	H

27.	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Gokhru	H
28.	<i>Oxalis latifolia</i> Humb.	“	“	H
29.	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	Bili	T
30.	<i>Citrus limon</i> (L.) Burm.	“	Limbu	T
31.	<i>Limonia acidissima</i> L.	Rutaceae	Kotha	T
32.	<i>Murraya koenigii</i> (L.) Spr.	“	Mitho limdo	S
33.	<i>Murraya paniculata</i> (L.) Jacq.	“	Kamini	S
34.	<i>Ailanthus excelsa</i> Roxb.	Simaroubaceae	Moto arduso	T
35.	<i>Balanites aegyptiaca</i> (L.) Del.	Balanitaceae	Ingoriyo	S
36.	<i>Boswellia serrata</i> Roxb.	Burseraceae	Haleri	T
37.	<i>Azadirachta indica</i> A.Juss.	Meliaceae	Limdo	T
38.	<i>Melia azedarach</i> L.	“	Bakam limdo	T
39.	<i>Maytenus emarginata</i> (Willd.) D.Hou.	Celastraceae	Vico	S
40.	<i>Zizyphus nummularia</i> (Burm.f.) W.&A.	Rhamnaceae	Chanibor	S
41.	<i>Zizyphus mauritiana</i> Lam.	“	Mota bor	T
42.	<i>Cissus quadrangulare</i> L.	Vitaceae	Had sankal	Cl
43.	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Kagdolio	Cl
44.	<i>Dodonaea viscosa</i> (L.) Jacq.	“	Jakhami	S
45.	<i>Sapindus laurifolius</i> Vahl. Symb.	“	Aritha	T
46.	<i>Lannea coromandelica</i> (Houtt.) Merrill.	Anacardiaceae	Moyno	T
47.	<i>Mangifera indica</i> L.	“	Ambo	T
48.	<i>Moringa oleifera</i> L.	Moringaceae	Sargavo	T
49.	<i>Abrus precatorius</i> L.	Fabaceae	Chanothi	Cl
50.	<i>Alysicarpus monilifer</i> (L.) DC.	“	Samervo	H
51.	<i>Arachis hypogaea</i> L.	“	Magfali	H
52.	<i>Butea monosperma</i> (Lam.) Taub.	“	Khakhro / Kesudo	T
53.	<i>Dalbergia latifolia</i> Roxb.	“	Sisam	T
54.	<i>Dalbergia sissoo</i> Roxb.	“	Moto sisam	T
55.	<i>Mucana prurita</i> HK.f.	“	Kuvech	Cl
56.	<i>Pisum sativum</i> L.	“	Vatana	Cl
57.	<i>Sesbania grandiflora</i> (L.) Poiret.	Fabaceae	Agathio	T
58.	<i>Sesbania sesban</i> (L.) Merr. Sub. Sp. <i>sesban</i> var. <i>Sesban</i> Gill.	“	Shevari	S
59.	<i>Bauhinia acuminata</i> L.	Caesalpiniaceae	Kanchan	S
60.	<i>Bauhinia racemosa</i> Lamk.	“	Kanchanar	T
61.	<i>Cassia auriculata</i> L.	“	Aval	S
62.	<i>Cassia fistula</i> L.	“	Garmalo	T
63.	<i>Cassia occidentalis</i> L.	“	Kasundro	H
64.	<i>Cassia tora</i> L.	“	Kuvandio	H
65.	<i>Cassia pumila</i> Lam.	“	Bethi chimed	H
66.	<i>Delonix elata</i> (L.) Gamble.	“	Sandsro	T
67.	<i>Delonix regia</i> (Boj.) Raf.	“	Gulmohar	T
68.	<i>Parkinsonia aculeata</i> L.	“	Rambaval	S
69.	<i>Tamarindus indica</i> L.	Caesalpiniaceae	Amlı	T
70.	<i>Acacia auriculiformis</i> A.Cunn.	Mimosaceae	Australian baval	T
71.	<i>Acacia chundra</i> (Roxb. Ex. Rottl.) Willd.	“	Khair	T
72.	<i>Acacia leucophloea</i> (Roxb.) Willd.	Mimosaceae	Hermo baval	T
73.	<i>Acacia nilotica</i> (L.) Del.	“	Baval	T
74.	<i>Albizia lebbek</i> (L.) Bth.	“	Siris	T
75.	<i>Mimosa hamata</i> Willd.	“	Kaibaval	Us
76.	<i>Mimosa pudica</i> L.	Mimosaceae	Lajamani	H

77.	<i>Pithecellobium dulce</i> (Roxb.) Bth.	“	Gorasamli	T
78.	<i>Prosopis chilensis</i> (Molina) Stun.	Mimosaceae	Gando bavai	T
79.	<i>Prosopis cineraria</i> (L.) Druce.	“	Khijado	T
80.	<i>Anogeissus latifolia</i> (Roxb.) Wall.	Combretaceae	Dhav	T
81.	<i>Quisqualis indica</i> L.	“	Madhumalti	Cl
82.	<i>Terminalia arjuna</i> (Roxb.) W. & A.	“	Arjunsadad	T
83.	<i>Terminalia bellerica</i> (Gaertn.) Roxb.	“	Baheda	T
84.	<i>Terminalia catappa</i> L.	Combretaceae	Badam	T
85.	<i>Terminalia chebula</i> Retz.	“	Harde	T
86.	<i>Terminalia crenulata</i> Roth.	“	Sadad	T
87.	<i>Callistemon lanceolatus</i> DC.	Myrtaceae	Bottle brush	T
88.	<i>Eucalyptus citriodora</i> HK.f.	“	Neelgiri	T
89.	<i>Syzygium cumini</i> (L.) Skeels.	“	Jambu	T
90.	<i>Lawsonia inermis</i> L.	“	Mendhi	S
91.	<i>Woodfordia fruticosa</i> (L.) Kurtz.	“	Dhavdi	S
92.	<i>Opuntia elatior</i> Mill.	Cactaceae	Fafdo thor	S
93.	<i>Trianthema portulacastrum</i> L.	Aizoaceae	Satodo	H
94.	<i>Alangium salvifolium</i> (L.f.) Wang.	Alangiaceae	Ankol	T
95.	<i>Adina cordifolia</i> (Roxb.) Bth. & HK.f.	Rubiaceae	Haldarvo	T
96.	<i>Anthocephalus indicus</i> A.Rich.	“	Kadamba	T
97.	<i>Borreria stricta</i> (L.f.) Schum.	“		H
98.	<i>Hamelia patens</i> Jacq.	“		H
99.	<i>Ixora arborea</i> Roxb.	“	Naveri	S
100.	<i>Ixora coccinea</i> L.	“	Rati nevari	H
101.	<i>Mitragyna parvifolia</i> (Roxb.) Korth.	“	Kadamb	T
102.	<i>Morinda tomentosa</i> Heyne. ex Roth.	“	Aal	T
103.	<i>Mussaenda luteola</i> L.	Rubiaceae		S
104.	<i>Oldenlandia corymbosa</i> L.	“	Pitpapdo	H
105.	<i>Echinops echinatus</i> Roxb.	Asteraceae	Utkanto	H
106.	<i>Eclipta prostrata</i> (L.) L.Mant.	“	Bhangro	H
107.	<i>Launaea procumbens</i> (Roxb.) R. & R.	“	Moti bhopatri	H
108.	<i>Launaea sarmentosa</i> (Willd.) Alst.	“	Nani bhopatri	H
109.	<i>Parthenium hysterophorus</i> L.	Asteraceae		H
110.	<i>Sonchus oleraceus</i> L.	“	Dudheli sonki	H
111.	<i>Spilanthes calva</i> DC.	“	Akkalgaro	H
112.	<i>Sphaeranthus indicus</i> L.	“	Gorakhmundi	H
113.	<i>Synedrella nodiflora</i> (L. ex Willd.) Gaertn.	“		H
114.	<i>Tridax procumbens</i> L.	“	Pardesi bhangro	H
115.	<i>Vernonia cinerea</i> (L.) Less.	Asteraceae	Shadevi	H
116.	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Safed chitrak	H
117.	<i>Madhuca indica</i> J.F.	Sapotaceae	Mahudo	T
118.	<i>Manilkara zapota</i> (L.) Van.	“	Chikoo	T
119.	<i>Mimusops elengi</i> L.	“	Bakul	T
120.	<i>Diospyros melanoxylon</i> Roxb.	Ebenaceae	Timbru	T
121.	<i>Nyctanthes arbortristis</i> L.	Oleaceae	Parijatak	T
122.	<i>Salvadora persica</i> L.	Salvadoraceae	Varakhado, Nanu piludi	T
123.	<i>Alstonia scholaris</i> (L.) R.Br.	Apocynaceae	Saptaparni	T
124.	<i>Carissa congesta</i> Wt. Icon. T.	“	Karamda	S
125.	<i>Ervatamia divaricata</i> (L.) Burkill.	Apocynaceae	Taggar	S
126.	<i>Holarrhena antidysenterica</i> (L.) Wall.	“	Kadvo indrajav	T
127.	<i>Calotropis gigantea</i> (L.) R.Br.	Asclepiadaceae	Moto akdo	S

128.	<i>Calotropis procera</i> (Ait.) R.Br.	“	Nano akdo	S
129.	<i>Dregea volubilis</i> (L.f.) Bth.	“	Moti dodi	Cl
130.	<i>Gymnema sylvestre</i> (Retz.) Schult.	Asclepiadaceae	Madhunasinini	Cl
131.	<i>Leptadenia pyrotechnica</i> (Forsk) Decne.	“	Khip	H
132.	<i>Leptadenia reticulata</i> (Retz.) W. & A.	“	Nani dodi	Cl
133.	<i>Pergularia daemia</i> (Forsk.) Chiov.	“	Chamar dudheli	Cl
134.	<i>Hemidesmus indicus</i> (L.) R.Br.	“	Dudhi	Cl
135.	<i>Cordia sebestena</i> L.	Ehretiaceae	Gunda	S
136.	<i>Coldenia procumbens</i> L.	Boraginaceae	Okhrad	H
137.	<i>Heliotropium indicum</i> L.	Boraginaceae	Hathi sundho	H
138.	<i>Ipomoea eriocarpa</i> R.Br.	Convolvulaceae	Bodi fudardi	Cl
139.	<i>Ipomoea fistulosa</i> Mart.	“	Besharmi	Cl
140.	<i>Merremia dissecta</i> (Jacq.) Hall f.	Convolvulaceae	Underkani	Cl
141.	<i>Merremia gangetica</i> (L.) Cufod.	“	Underkani	Cl
142.	<i>Cuscuta chinensis</i> Lam.	Cuscutaceae	Amarvel	P
143.	<i>Cuscuta reflexa</i> Roxb.	“	Amarvel	P
144.	<i>Physalis minima</i> L.	Solanaceae	Popti	H
145.	<i>Solanum nigrum</i> L.	“	Piludi	H
146.	<i>Solanum surattense</i> Burm.f.	“	Bho ringni	H
147.	<i>Withania somnifera</i> (L.) Dunal.	“	Ashvagandha	Us
148.	<i>Kickxia ramossissima</i> (Wall.) Janch.	Scrofulriaceae	Bhintghilodi	H
149.	<i>Lindernia ciliata</i> (Colsm.) Pennell.	“	Bhit chalti	H
150.	<i>Striga angustifolia</i> (D.Don). Saldhana.	“	Dholo agio	P
151.	<i>Striga gesneroides</i> (Willd.) Vatke.	“	Rato agio	P
152.	<i>Bignonia unguis</i> Cati Rehd.	Bignoniaceae	Nakhvel	Cl
153.	<i>Jacaranda mimusifolia</i> D.Don.	“		T
154.	<i>Tecomella undulata</i> (Sm.) Sean.	“	Ragat rohido	S
155.	<i>Martynia annum</i> L.	Martyniaceae	Vinchhudo	H
156.	<i>Adhatoda vasica</i> (L.) Nees.	Acanthaceae	Arduso	Us
157.	<i>Andrographis echiioides</i> (L.)	“	Kariyatu	H
158.	<i>Hygrophila auriculata</i> (Schum.) Heine.	“	Kantashelio	H
159.	<i>Lapdagathis trinervis</i> Wall.	“	Harancharo	H
160.	<i>Rungia pectinata</i> (L.) Nees.	“	Khadselio	H
161.	<i>Clerodendrum inerme</i> (L.) Gaertn.	Verbenaceae	Vad Mendi	S
162.	<i>Clerodendrum multiflorum</i> (Burm.f.) O.Ktze.	“	Arni	S
163.	<i>Duranta repens</i> L.	“	Damyanti	S
164.	<i>Gmelina arborea</i> Roxb.	“	Saven	T
165.	<i>Lantana camara</i> L.	“	Indradhanu	S
166.	<i>Lantana salvifolia</i> Jacq. Hort.	“		S
167.	<i>Tectona grandis</i> L.	“	Sag	T
168.	<i>Stachytarpheta indica</i> Vahl.	“		H
169.	<i>Vitex negundo</i> L.	Verbenaceae	Nagod	T
170.	<i>Anisomeles indica</i> (L.) O.Ktze.	“	Chodharo	H
171.	<i>Ocimum sanctum</i> L.	Lamiaceae	Tulsi	H
172.	<i>Salvia officinalis</i> L.	“		H
173.	<i>Boerhavia chinensis</i> (L.) Druce	Nyctaginaceae	Satodi	H
174.	<i>Boerhavia diffusa</i> L.	“	Satodi	H
175.	<i>Boerhavia verticillata</i> Poir.	“	Punarnava	H
176.	<i>Bougainvillea glabra</i> DC.	“	Boganvel	S
177.	<i>Bougainvillea spectabilis</i> Willd.	“	“	S
178.	<i>Digera muricata</i> (L.) Mant.	“	Kanegro	H

179.	<i>Chenopodium album</i> L.	Chenopodiaceae	Chilni bhagi	H
180.	<i>Basella rubra</i> L.	Basellaceae	Poi	Cl
181.	<i>Santalum album</i> L.	Santalaceae	Chandan	T
182.	<i>Acalypha indica</i> L.	“	Vaichikanto	H
183.	<i>Breynia retusa</i> (Dennst.) Alst.	Euphorbiaceae	Kamboi	S
184.	<i>Drypetes roxburghii</i> (Wall.) Hurus.	“	Putranjivi	T
185.	<i>Emblica officinalis</i> Gaertn.	“	Amla	T
186.	<i>Euphorbia nerifolia</i> L.	“	Thor	S
187.	<i>Euphorbia tiruculli</i> L.	Euphorbiaceae	Kharsani	S
188.	<i>Euphorbia nivulia</i> .Buch- Ham.	“	Thor	S
189.	<i>Jatropha curcus</i> L.	“	Ratanjot	S
190.	<i>Jatropha multifida</i> L.	“		S
191.	<i>Holoptelia integrifolia</i> (Roxb.) Planch.	Ulmaceae	Kanjo	T
192.	<i>Morus alba</i> L.	Moraceae	Shetur	T
193.	<i>Vanda roxburghii</i> R.Br.	Orchidaceae		P
194.	<i>Agave americana</i> L.	Agavaceae	Ramban	H
195.	<i>Asphodelus tenuifolius</i> Cav.	Liliaceae	Dungro	H
196.	<i>Asparagus racemosus</i> Willd.	“	Satavari	Cl
197.	<i>Asparagus sarmentosus</i>	“	Maha satavari	Cl
198.	<i>Chlorophytum bonvillianum</i> Sant. & Fernand.	“	Karli	H
199.	<i>Commelina bengalensis</i> L.	Commelinaceae	Motu sismuliu	H
200.	<i>Commelina diffusa</i> Burm.f.	“	Nanu sismuliu	H
201.	<i>Commelina erecta</i> L.	“	Sismuliu	H
202.	<i>Phoenix sylvestris</i> (L.) Roxb.	Arecaceae	Khajuri	T
203.	<i>Scripus lateriflorus</i> Gmel.	Cyperaceae		H
204.	<i>Cenchrus ciliaris</i> L.	Poaceae	Jhino dhamramnu	H
205.	<i>Cenchrus setigenus</i> Vahl.	“	Dhaman ghas	H
206.	<i>Cynodon dactylon</i> Pers.	“	Dharo	H
207.	<i>Dactyloctenium aegyptiacum</i> (L.) P.Beauv.	“		H
208.	<i>Desmostachya bipinnata</i> (L.) Stapf.	“	Dabhado	H
209.	<i>Eleusine indica</i> (L.) Gaertn.	“	Ukdo	H
210.	<i>Setaria glauca</i> Beauv.	“	Ziptagrass	H
211.	<i>Setaria tomentosa</i> (Roxb.) Kunth.	“	Kutra grass	H