



ANGIOSPERMIC MEDICINAL PLANTS DIVERSITY OF GRAMBHARTI (AMARAPUR) VILLAGE, MANSA TALUKA, GANDHINAGAR DISTRICT, GUJARAT, INDIA

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ABSTRACT

The present study deals with the diversity of Angiospermic medicinal plants of Grambharti (Amarapur) village, in Gandhinagar district during January 2023 to March 2023. Information regarding medicinal uses and local name of plants was collected through direct field survey and personal interview with the locals and knowledgeable persons and cultivators. Then identify the plant species and arranged according to Bentham and hooker's classification system and prepare herbarium sheets. A total 96 Angiosperm plant species belonging to 46 families are recorded, in which 38 species belonging to 23 families are medicinal plant species. They are used in different disease. The study indicates that the area is very rich in traditional knowledge and a great diversity of medicinal plants which are offer a convenient strategy for promoting cultivation and conservation of variety of Angiosperm medicinal plants.

Key words: Angiosperm plants, Medicinal plants, Diversity, Grambharti (Amrapur).

INTRODUCTION:

plants are essential for life, and people are dependent on them for medicine, oxygen, food and forage.

Angiosperm or flowering plants display a huge variety of life forms including trees, herbs, submerged aquatics and epiphytes. And are found in every where. (Keya et al., 2017) Angiosperms are the largest group of plants with 300 families, 8000 genera and 300000 species. Indian has 45000 plant species and Gujarat has 2198 plant species. (Vyas and Jadeja, 2018) The botanical name and families are arranged according to the classification system of Bentham and hooker. Angiosperm plants used by people for such a various purposes. Certain Angiosperm are also used as a source to create medicines. The contribution of angiosperms to biodiversity and habitat is so extremely important to human life they totally depend on it. (Rahman et al., 2017) The world is rich with natural and unique medicinal plants (krishnaiah et al., 2008) most of plant species and plant parts have been used in different kind of diseases like cough and cold, diabetes, fever, skin disease etc. (Patel et al., 2010)

Indians have an incredible knowledge of traditional use of medicinal plants and india has the exclusive distinction of its own recognised traditional medicine, ayurveda, siddha, unani, yoga and naturopathy, and homeopathy. Today according to world health organization about 70 – 80 % of the world's people depends on traditional medicine. (Kumar et al., 2014) India is largest producer of medicinal herbs and is appropriate called the botanical garden of the world (jadeja et al., 2006) cultivation of medicinal plants is an important way to make sustainable use of medicinal plants. Medicinal plants study focus on understand the plant importance and it provide data of medicinal usage and it's diversity.

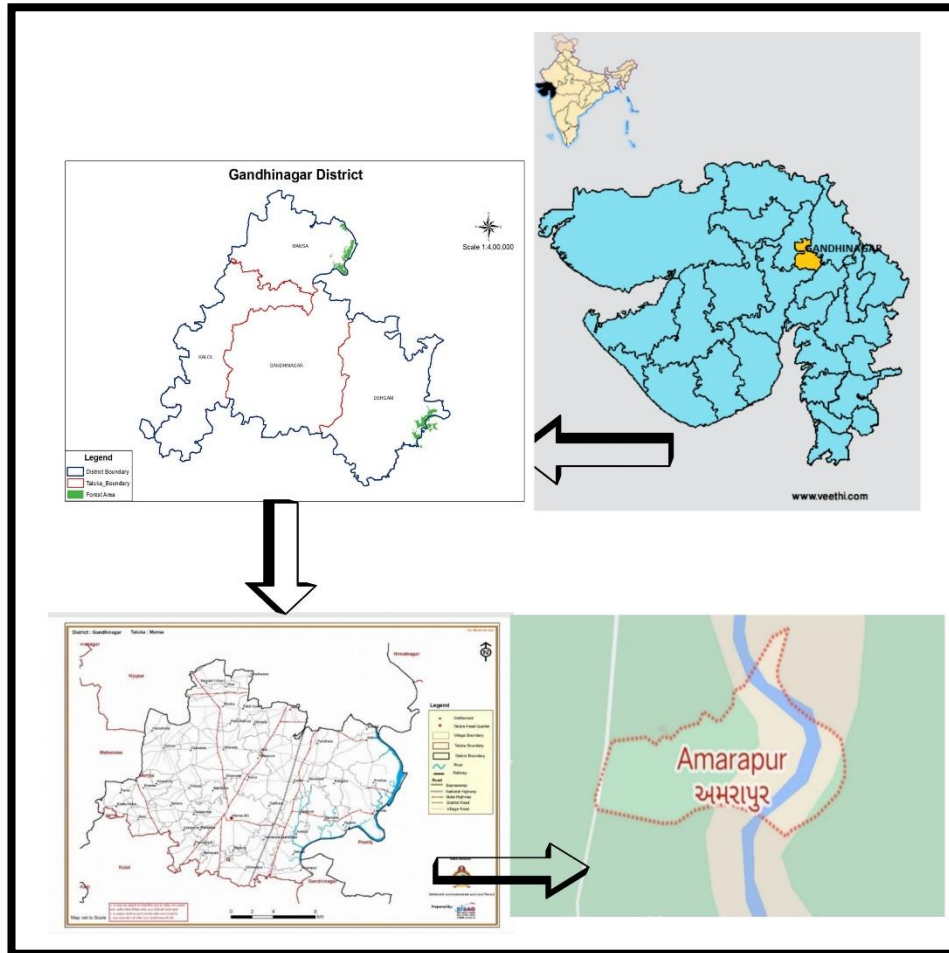
The present paper deals with the survey and documentation of Angiosperm medicinal plants and their importance of Grambharti (Amarapur) village, Gandhinagar district, Gujarat. The main occupation of the Grambharti is agriculture, animal husbandry and organic farming. It's also including important medicinal plants cultivation.

METHODOLOGY:

STUDY AREA:

Grambharti (amarapur) village is located in mansa taluka of Gandhinagar district. It is 19 km towards north from state capital gandhinagar. And it sits on the banks of Sabarmati river. It is situated between 23.22° north latitude and 72.68° Este longitude. It is a tropical wet and dry climate with three main seasons.

Figure-1. Map of the study area



The study was carried out during January 2023 to March 2023. Such a region were visited to collect the information about angiospermic medicinal plants Species. Personal interview helped to identify plants local name and their uses for convenience, the botanical name and families are arranged according to the classification system of Bentham and hooker. During field work, specimens of each medicinally important plant were collected and prepare herbarium.

RESULT AND CONSERVATION:

The study area of the Grambharti (amrapur) vilage show the many Angiosperm plants and medicinal plants were listout and arranged according to Bentham and hooker’s classification system.

Table-1. Check list of Angiosperm plants

Sr. No.	Scientific Name	Common Name	Family	Habit
1	Santalum album	Chandan	Santalaceae	Tree
2	Acassia fistula	Garmalo	Caesalpinaceae	Tree
3	Bombax ceiba	Shimalo	Malvaceae	Tree
4	Tecoma Stans	Trumpet flower	Bignoniaceae	Shrub



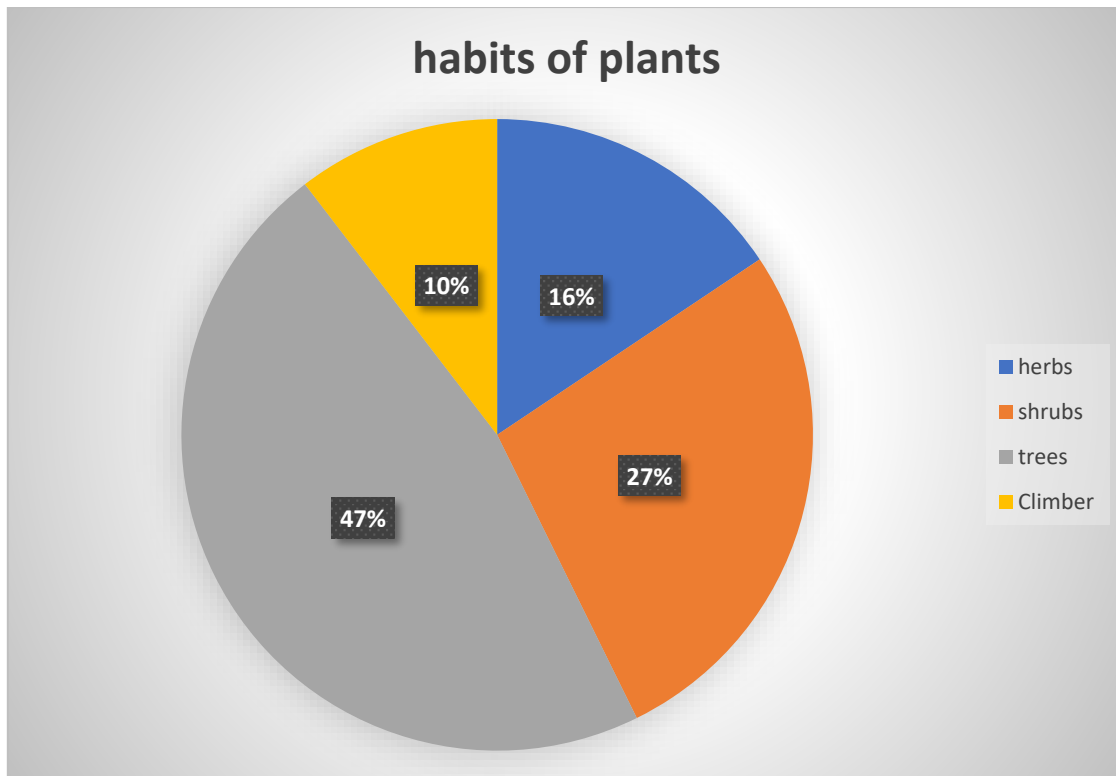
5	<i>Caesalpinia pulcherrima</i>	Gulmahor	Caesalpinaceae	Tree
6	<i>Tabernaemontana divaricata</i>	Tagar	Myrtaceae	Shrub
7	<i>Phyllanthus emblica</i>	Amala	Euphorbiaceae	Tree
8	<i>Putranjiva roxburghii</i>	Putranjiva	Putranjivaceae	Tree
9	<i>Moringaoleifera lam</i>	Saragvo	Anacardiaceae	Tree
10	<i>Infigofera caerulea</i>	Indigo(gali)	Fabaceae	Shrub
11	<i>Tephrosia purpurea</i>	Sarpankho	Fabaceae	Shrub
12	<i>Bambuda arundinace</i>	Bamboo	Poaceae	Shrub
13	<i>Annona reticulate</i>	Custard apple	Annonaceae	Shrub
14	<i>Citrus aurantum</i>	Orange	Rutaceae	Shrub
15	<i>Morus alba</i>	Shetur	Moraceae	Shrub
16	<i>Ficus racemosa</i>	Umara	Moraceae	Tree
17	<i>Carissa carandas</i>	Karamda	Apocynaceae	Tree
18	<i>Coleus aromaticus</i>	Ajama pan	Laminaceae	Herb
19	<i>Mimosa pudica</i>	Lajamani	Mimosaceae	Herb
20	<i>Mimusops lengi</i>	Borsalli	Sapotaceae	Tree
21	<i>Barleria prionitis</i>	Vajradanti	Acanthaceae	Shrub
22	<i>Alangium salviifolium</i>	Ankol	Cornaceae	Tree
23	<i>Pleurolobus gangeticus</i>	Shalparni	Fabaceae	Shrub
24	<i>Cajanus cajan</i>	Tuver	Fabaceae	Shrub
25	<i>Calotropis procera</i>	Ankdo	Asclepiadaceae	Shrub
26	<i>Carica pappaya</i>	Pappaya	Cariaceae	Shrub
27	<i>Clitoria ternatea</i>	Aparajita	Fabaceae	Climber
28	<i>Scindap officinalis</i>	Gaj pipper	Araceae	Herb
29	<i>Ficus carica</i>	Anjeer	Moraceae	Shrub
30	<i>Lagerstroemia speciosa</i>	Jarul	Lythraceae	Tree
31	<i>Vitex negundo</i>	Nirgundi	Laminaceae	Tree
32	<i>Terminalia arjuna</i>	Arjun	Combretaceae	Tree
33	<i>Bauhinia variegata</i>	Kachnar	Fabaceae	Tree
34	<i>Piper amalago</i>	Pepper elder	Piperaceae	Shrub
35	<i>Solanum virginium</i>	Bhoy ringani	Solanaceae	Herb
36	<i>Jetropha gossypifolia, curcas</i>	Ratan jyot	Euphorbiaceae	Shrub
37	<i>Withania somnifera</i>	Ashvagandha	Solanaceae	Shrub
38	<i>Cuscuta reflexa</i>	Amarvel	Cuscutaceae	Climber
39	<i>Terminalia catappa</i>	Badam	Combretaceae	Tree
40	<i>Nyctanthes arbor</i>	Night Jasmine	Oleaceae	Shrub
41	<i>Punica granatum</i>	Dadam	Punicaceae	Shrub
42	<i>Bryophyllum calycinum</i>	Parn phuti	Crassulaceae	Herb
43	<i>Thespesia populnea</i>	Paras pipal	Malvaceae	Tree
44	<i>Cordia sebestena</i>	Lal lasora	Boraginaceae	Tree
45	<i>Helicteres isora</i>	Marorphali	Malvaceae	Tree
46	<i>Murraya paniculata</i>	Orange Jasmine	Rutaceae	Shrub
47	<i>Erythrina suberosa</i>	Jahangiriyo	Fabaceae	Tree
48	<i>Ricinus communis</i>	Castor	Euphorbiaceae	Shrub
49	<i>Butea monospermaceae</i>	Khakhro	Fabaceae	Tree
50	<i>Halianthus annuus</i>	Sun flower	Asteraceae	Herb
51	<i>Ficus relligiosa</i>	Pipal	Moraceae	Tree
52	<i>Sycygium</i>	Jamun	Myrtaceae	Tree
53	<i>Gaillardia pulchella</i>	Indian blanket	Asteraceae	Herb
54	<i>Zinnia elegans</i>	Common zinnia	Asteraceae	Herb
55	<i>Sapindus mukorossi</i>	Ritha	Sapindaceae	Tree
56	<i>Neolamarckia cadamba</i>	Kadamb	Rubiaceae	Tree
57	<i>Santalum album</i>	Swet chandan	Santalaceae	Tree
58	<i>Antigonon leptopus</i>	Ice cream vel	Polygonaceae	Climber
59	<i>Taelmounia elliptica</i>	Parda bel	Asteraceae	Climber
60	<i>Psidium guajava</i>	Jamfal	Myrtaceae	Tree

61	<i>Zizipus Mauritania</i>	Bor	Rhamnaceae	Tree
62	<i>Solanumtorvum swartz</i>	Ubhi ringani	Solanaceae	Herb
63	<i>Sesbania grandiflora</i>	Agathiyo	Fabaceae	Tree
64	<i>Ailanthus excelsa Roxb</i>	Arduso	Simaroubaceae	Tree
65	<i>Asparagus racemosus</i>	Satavari	Asparagaceae	Herb
66	<i>Lantana camara</i>	Gandhati	Verbenaceae	Shrub
67	<i>Leptadeni articulate</i>	Jeevant(Dodi)	Asclepiadaceae	Climber
68	<i>Phyllanthus amarus schum</i>	Bhoy amla	Euphorbiaceae	Herb
69	<i>Piper betle</i>	Nagar vel	Piperaceae	Climber
70	<i>Oroxylum indicum vent</i>	Tetu	Bignoniaceae	Tree
71	<i>Madhuca indica</i>	Mahudo	Sapotaceae	Tree
72	<i>Citrus Limon</i>	Limbu	Rutaceae	Tree
73	<i>Tarminidus indica</i>	Amali	Caesalpinaceae	Tree
74	<i>Mangifera indica</i>	Mango tree	Anacardiaceae	Tree
75	<i>Annonas quamosa</i>	Sitafal	Annonaceae	Tree
76	<i>Vallisneria spiralis</i>	Bread flower	Apocynaceae	Climber
77	<i>Physalis peruviana</i>	Cape gooseberry	Solanaceae	Herb
78	<i>Argyrelia speciosa</i>	Samudra shaokha	Convolvulaceae	Climber
79	<i>Monoon longifolia</i>	Asopala	Annonaceae	Tree
80	<i>Phoenix dactylifera</i>	Khajuri	Arecaceae	Tree
81	<i>Eucalyptus obliqua</i>	Nilgiri	Myrtaceae	Tree
82	<i>Phyllanthus reticulatus</i>	Kamboi	Phyllanthaceae	Shrub
83	<i>Holoptelea integrifolia</i>	Kanaji	Ulmaceae	Tree
84	<i>Jacaranda mimosifolia</i>	Nili gulmohar	Bignoniaceae	Tree
85	<i>Aloe Vera</i>	Kuvarpathu	Asphodelaceae	Herb
86	<i>Manilkara zapota</i>	Chikoo	Sapotaceae	Tree
87	<i>Alstonia scholaris</i>	Saptarni	Apocynaceae	Tree
88	<i>Aegle marmelos</i>	Bili	Rutaceae	Tree
89	<i>Ocimum basilicum</i>	Damaro	Lamiaceae	Herb
90	<i>Celisia cristata</i>	Kockscomb	Amaranthaceae	Shrub
91	<i>Celisia spicata</i>	Kanajaro	Amaranthaceae	Shrub
92	<i>Cicer arietinum</i>	Chana	Fabaceae	Herb
93	<i>Justicia adhatoda</i>	Ardusi	Acanthaceae	Shrub
94	<i>Citrus reticulata</i>	Mandarin orange	Rutaceae	Tree
95	<i>Tinospora cordifolia</i>	Galo	Menispermaceae	Climber
96	<i>Aburus precatorius</i>	Chanothi	Fabaceae	Climber

A total 96 Angiosperm plants belonging to 46 families documented from the study area. Most dominant plant family were fabaceae with 11 species, followed by Rutaceae (5 Species); myrtaceae, euphorbiaceae, moraceae, solanaceae, asteraceae (4 Species); saesalpinaceae, malvaceae, bignoniaceae, annonaceae, apocynaceae, laminaceae, sapotaceae (3 species); santalaceae, anacardiaceae, acanthaceae, asclepiadaceae, combretaceae, piperaceae, amaranthaceae (2 species); putranjivaceae, poaceae, mimosaceae, cariaceae, araceae, lythraceae, cuscutaceae, oleaceae, puniceae, crassulaceae, boraginaceae, phyllanthaceae, ulmaceae, sapindaceae, rubiaceae, polygonaceae, rhamnaceae, simaroubaceae, asparagaceae, verbenaceae, convolvulaceae, arecaceae, asphodelaceae, menispermaceae etc and single species of remaining families.

In which 15 herbs, 25 shrubs, 45 trees, and 10 climbers species has been observed.

Figure -1. Habits of plants.


MEDICINAL PLANTS:

There are all Angiosperm plants have been some medicinal properties and they are used medicinally but some angiospermic plants have more quantity of medicinal properties and are mostly used as medicinal plant are below (table 2)

Table – 2. Check list of Medicinal plants out of 96 Angiosperm plants

Sr. No	Scientific Name	Common Name	Family	Useful part	Helpful of disease
1	Tabernaemontana divaricata	Tagar	Apocynaceae	Roots, leaves, flowers	Eye disorder, headache, hypertension, migration.
2	Pleurolobus gangeticus	Shalparni	Fabaceae	Panchang, root, bark	Asthma, diabetes, edema
3	Phyllanthus emblica	Amla	Euphorbiaceae	Fruit, seeds	Arthritis, bleeding disorder, cancer, diabetes, liver disorders
4	Bauhinia variegata	Kachnar	Fabaceae	Bark, roots,	Diabetes, hypertension, immunomodulatory
5	Butea monosperma	Kesudo	Fabaceae	Flowers	Dysentery, astringent, remove blood impurities
6	Sesbania grandiflora	Agathiyo	Fabaceae	Bark, leaves, flowers	Enteric fever
7	Calotropis procera	Ankdo	Asclepiadaceae	Roots, leaves, flowers	Pumps, burn injuries, body pain, antidote for snake bite.
8	Leptadenia articulata	Jeevanti	Asclepiadaceae	Roots, shoot tip, leaves	Tuberculosis, cough, fever, cancer, leucoma



9	<i>Withania somnifera</i>	Ashvagandha	Solanaceae	Roots, leaves	Leucoderma, Constipation, insomnia, stimulant, diuretic
10	<i>Solanum torvum swartz</i>	Ubhi ringani	Solanaceae	Berries, seeds	Anti-inflammatory, antiarthritic and hormonal.
11	<i>Physalis peruvian</i>	Cape gooseberry	Solanaceae	Leaves, berries	Diabetes, mellitus
12	<i>Solanum virginium</i>	Bhoy ringani	Solanaceae	Fruit, roots	Jaundice, cough, asthma, swelling
13	<i>Piper amalago</i>	Pepper elder	Piperaceae	Leaves, roots, stem	Arthritis, cholera, constipation
14	<i>Piper betle</i>	Nagar vel	Piperaceae	Leaves	Cancer, breath freshener
15	<i>Justicia adhatoda</i>	Ardusi	Acanthaceae	Leaves	Cough, cold, asthma
16	<i>Barleria prionitis</i>	Vajradanti	Acanthaceae	Whole plant	Fever, jaundice, toothache
17	<i>Santalum album</i>	Chandan	Santalaceae	Bark, wood	Anti inflammatory, skin care
18	<i>Putranjiva roxburghii</i>	Putranjiva	Putranjivaceae	Leaves, stem, seeds	Burning sensation, infertility, skin disorders
19	<i>Carissa carandas</i>	Karamda	Apocynaceae	Root, fruit, leaves	Diarrhoea, anorexia, skin, disease
20	<i>Coleus aromaticus</i>	Ajama pan	Lamiaceae	Leaves	Gastric problems, digestive, cough, liver disorders.
21	<i>Scindap officinalis</i>	Gaj pipper	Araceae	Bark, oil	Pruritus, adenitis, malaria,
22	<i>Lagerstroemia speciosa</i>	Jarul	Lythraceae	Whole plant	Narcotics, fever, apathy of the mouth
23	<i>Vitex negundo</i>	Nirgundi	Lamiaceae	Whole plant	Motility of sperm, polycystic ovary disease
24	<i>Jatropha curcas</i>	Ratan jyot	Euphorbiaceae	Whole plant	Toothache, fever, jaundice, malaria
25	<i>Cuscuta reflexa</i>	Amar vel	Cuscutaceae	Whole plant	Jaundice, myalgia, bronchitis, strangury
26	<i>Bryophyllum calycinum</i>	Parn phuti	Apocynaceae	Leaves	Vomiting of blood, menorrhagia, diarrhoea
27	<i>Helicteres isora</i>	Marorphali	Malvaceae	Root, bark, fruit	Diarrhoea, scabies, snake bite
28	<i>Thespesia populnea</i>	Paras pipal	Malvaceae	Bark	Antifertility, antibacterial
29	<i>Neolamarckia cadamba</i>	Kadamb	Rubiaceae	Flowers	Anaemia, blood purifier, diuretic
30	<i>Santalum album</i>	Swet chandan	Santalaceae	Bark, stem	Bronchitis, sore mouth and throat.
31	<i>Asparagus racemosus</i>	Satavari	Asparagaceae	Roots	Hormone imbalance, infertility

32	Citrus Limon	Limbu	Rutaceae	Flowers, fruit	Support immune system, high blood pressure, chest pain
33	Argyrelia speciosa	Samudra shaokha	Convolvulaceae	Roots, leaves, fruit, seeds	Ulcer, anorexia, skin disease, anemia, diabetes, tuberculosis.
34	Aloe Vera	Kuvarpathu	Asphodelaceae	Leaves	Eye affections and internally in piles, skin disorders, burning sensation
35	Alangium salviifolium	Ankol	Cornaceae	Whole plant	Diabetes, dog bite, gonorrhoea, rheumatism
36	Tinospora cordifolia	Galo	Menispermaceae	Stem, roots	Malarial fever, diabetes, skin disease, anemia, cough, asthma
37	Aburus precatorius	Chanothi	Fabaceae	Roots, leaves, seeds	Nervous debility, alopecia, sciatic, stiff joints, paralysis

Out of 96 Angiosperm plants belonging to 46 families, in which 38 medicinal plants belonging to 23 families shown in the above table 4.4, and different plant parts are used in medicine like leaves, stem, roots, flowers, fruits, seeds, bark, shoot tip, wood, and whole plant. All plants species are used in different human disease like cough, fever cancer, leucoma, eye disorder, headache, ulcer, blood purifier, High blood pressure, migration, diabetes, burning sensation, skin disorder, bronchitis, jaundice, snake bite, hormonal balance, dog bite, body pain etc.

CONCLUSION

The Grambharti (Amrapur) village is rich in Angiosperm medicinal plants, and villagers and farmers are dependent on them for their primary health care. It is important to protect and conserve these plants, as they are essential for human life and herbal medicine. It is also important to document and preserve this knowledge for future generations. The village is well developed to protect and conserve the plants through local people.

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