

## Research Article



## A Note on Preparation and Assessment of People's Biodiversity Register (PBR) of Gargeyapuram Village, Kurnool District

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### ABSTRACT

The present study was an attempt to focus on initiatives relating to documentation, safeguarding, value addition and benefit sharing with respect to local knowledge. India is a land rich in diversity of life and associated knowledge, a heritage that is undergoing rapid erosion, as in much of the world. The Convention on Biological Diversity (CBD) is a significant international attempt to respond to this world-wide challenge. India's Biological Diversity Act, 2002 is a part of an attempt to create an institutional and legal framework to act on the provisions of the CBD. This Act proposes the establishment of a National Biodiversity Authority (NBA), State Biodiversity Boards (SBBs) and Biodiversity Management Committees (BMCs) at the level of Municipalities and Village Councils. The BMCs have been charged with the responsibility of documentation of biodiversity and associated knowledge within their jurisdiction in the form of People's Biodiversity Registers (PBR). BMCs will have the authority to levy charges on the biological material collected for commercial purposes.

**Keywords:** PBR, NBA, BMCS, Gargeyapuram Village, Kurnool.

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### Brief about People's Biodiversity Registers

A.P. State Biodiversity Board is a statutory and autonomous body corporate constituted by the State Government of A.P. under the provisions of Biological Diversity Act, 2002. The Board invites Expression of Interest for constitution of Technical Support Groups (TSGs) to support Biodiversity Management Committees (BMCs) at the field level and for preparation of People's Biodiversity Registers (PBRs) duly facilitated by BMCs with the financial support of A.P. State Biodiversity Board in the 50 selected BMC areas at Gram Sachivalayam level in the districts as stated below. S. No District No. of PBRs to be prepared

1. Anantapur 4
2. Chittoor 4
3. East Godavari 5
4. Guntur 7
5. Krishna 2
6. Kurnool 10
7. Prakasham 1
8. Nellore 1
9. Srikakulam 3
10. Visakhapatnam 3
11. Vizianagaram 4
12. West Godavari 2
13. Y.S.R. Kadapa 4

Total 50. The interested scientific institutions, universities, reputed non-government organizations (NGOs), community based organizations having knowledge and experience in the field of bio resources are requested to furnish their interest in the prescribed format.<sup>2,3</sup> The format of application, terms and conditions stipulated for the constitution of Technical Support Groups, duly highlighting the selection of the members of the TSG, eligibility criteria, their duties and responsibilities, mode of preparing the PBRs and other relevant information can be downloaded from the website of A.P. State Biodiversity Board <http://apbiodiversity.ap.nic.in>. The Board is implementing the Biological Diversity Act, 2002 and A.P. Biological Diversity Rules, 2009. As per the 22<sup>4</sup> of A.P. Biological Diversity Rules, 2009 the board shall provide guidance and technical support to the BMCs for preparing PBRs. Hence it is proposed to constitute technical support

### INTRODUCTION

The best way of making people aware of science is to get them to practice in it. An excellent opportunity of taking of practice of science right down to the grass roots has recently opened up with the passage of the Biological Diversity Act. This Act provides for the establishment of Biodiversity Management Committees in all local bodies, whether Grama Sachivalayam or Municipalities throughout the country. It stipulates that "the main function of the BMC is to prepare People's Biodiversity Register in consultation with local people. The Register shall contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them" Preparation of "People's Biodiversity Registers (PBR)" will be a rather unusual scientific activity. But it will be an activity that is very much appropriate to our biodiversity rich country and very much timely in the current area of rapid technological developments.<sup>1,2</sup>



groups (TSGs) to support biodiversity management committees (BMCs) at the field level for preparation of peoples biodiversity registers (PBRs) duly facilitated by BMCs with the financial support of A.P. State Biodiversity Board, in 50 selected BMC areas at Gram level in the districts as mentioned in the EOI notice.<sup>4,5</sup> The TSGs shall comprise experts in the field of biodiversity/ Agricultural/Botany/ Fisheries/ forestry/ wildlife/ Entomology/ Zoology/ Sociology, who have to take up the preparation of the peoples Biodiversity Register (PBR) Gram Sachivalayam duly conducting detailed survey of bio-resources and associated traditional knowledge as per the formats, methodology and suggestions prescribed by the A.P. State Biodiversity board from time to time.<sup>4,5</sup>

### Objectives Of The Present Study

- Collection and listing of information on Flora & Fauna of the study area.
- Soil & water resources of the study area.
- Socio-Economic, cultural resources.

### The Biological Diversity Act, 2002 & Rules, 2004

The Biological Diversity Act, 2002 (No. 18 of 2003) was notified by the government of India on 5<sup>th</sup> February, 2003. The Act extends to the whole of India and reaffirms the sovereign rights of the country over its biological resources. Subsequently, the government of India Published Biological Diversity Rules, 2004 (15<sup>th</sup> April, 2004). The rules under section 22 states that 'Every local body shall constitute a Biodiversity Management Committee (BMC's) within its area of jurisdiction.'<sup>5,6</sup>

### People's Biodiversity Registers and the role of the Biodiversity Management Committee

- The moderate of the biodiversity Management Committee has been clearly highlighted in the Biological Diversity Rules 2002 as follows:
- The main function of the BMC is to prepare People's Biodiversity Register in consultation with the local people. The Register shall contain comprehensive information on availability and knowledge of local resources, their medicinal or any other use.
- The other functions of the BMC are to advice on any matter referred to it by the state Biodiversity Board or Authority for granting approval, to maintain data about the local v aids and practitioners using the biological resources.
- The Authority shall take steps to specify the form of the People's Biodiversity Registers, and the particulars it shall contain and the format for electronic database.
- The Authority and the state Biodiversity Boards shall provide guidance and technical support to the Biodiversity Management Committee for preparing People's Biodiversity Registers.

- The People's Biodiversity Registers can be maintained and validated by the Biodiversity Management Committees.

### People's Biodiversity Registers and Role of the Technical Support Group

The Technical Support Group (TSG) will consists of experts from various disciplines and line departments, universities, research institutes, colleges and schools and non-governmental organization.<sup>7,8</sup> The Technical Support Group will provide technical inputs and advice to the BMCs on identification of plants and animals, monitor and evaluate the PBR exercise, examine confidential information and advice on legal protection, maintain a database of local and external experts on biodiversity.<sup>9,10,11</sup>

### PBR Format (National Biodiversity Authority, India, 2013 Revised Guidelines)

#### Peoples' Biodiversity Register (PBR): General Details

Name of the Panchayat Samity: Taluk: District: State: Geographical area of the Panchayat Samity: Population under the Panchayat Samity: Total Male Female Habitat and Topography: Climate (Rainfall, Temperature and other weather patterns) Land Use (Nine fold classification available with village records) Date, Month and Year of PBR preparation Management Regime: Reserve Forests (RF)/Joint Forest Management (JFM) / Protected Areas (PA) / Community Owned and Managed Forests (COM).<sup>9,12</sup>

#### Format- 1

Details of Biodiversity Management Committee (BMC) of the panchayat (One elected Chairperson and six persons nominated by the local body; not less than one third to be women and not less than 18% belonging to SC/ST)

1 .Name of the Chairperson: Age: Gender: Address: Area of specialization: (Chairperson & Persons in multiples in the given format)

#### Format- 2

List of Vaidyas, Hakims and Traditional health care (human and livestock) practitioners residing and or using biological resources occurring within the jurisdiction of the village

Name: Age: gender: Address: Area of Specialization: Location from which the person accesses biological material: Perception of the practitioner on the resource status: Medicinal use: ( individual records of each locality will be reported separately as per the format.)

#### Format- 3

List of individuals perceived by the villagers to possess Traditional Knowledge (TK) related to biodiversity in agriculture, fisheries, and forestry

Name: Age: Gender: Address: Area of specialization (the individuals of information and practices are to be recorded separately).

**Format- 4**

Details of schools /colleges/ departments/ universities/ government institutions/ non-govern-mental organization and individuals involved in the preparation of the PBR, as per the given format. in multiple records.

- 1) Contact person Name and Address: You may add names of more institutions / NGO/Individuals, etc. If necessary.

**Format-5**

Details of access to biological resources and traditional knowledge granted, details of the collection fee imposed and details of the benefits derived and the mode of their sharing

No. name and address of the person /institution/company/others Local and Scientific Name of the biological material accessed and quantity Date and resolution of the BMC and endorsement by the Grama Sachivalayam details of collection fee imposed Anticipated mode of sharing benefits or quantum of benefits shared.<sup>9,13</sup>

**MATERIALS AND METHODS**

The study area is located in Eastern part of Kurnool district. has an undulating and degraded topography. Gargeyapuram village present at Agricultural land area is the Kurnool Mandal of Kurnool district, Andhra Pradesh, India. The village consists of dominant people (languages for primary education: Telugu, spoken languages. This is also a hotspot for medicinal plants and home to several traditional healers.<sup>14,15</sup>

Present studies have been carried out for the duration five months from December to June 2020. Collection of seasonal plants and data belongs components as per formats suggested in PBR analysis studies.<sup>14,16</sup> After the selection of study area, field investigators were chosen from among degree college science teachers. Many of these people are from nearby localities and have considerable previous familiarity with the study sites. PBR of Gargeyapuram was established. The preparation of People's Biodiversity Registers (PBRs) involves the active support and cooperation of a large number of people, who need to share their common as well as specialized knowledge. One of the first steps for preparing a PBR is to organize a group meeting to explain the objectives and purpose of the exercise.<sup>17,18</sup> Different social groups in the village need to be identified for purpose of data collection from those groups.<sup>19,20</sup> The documentation process includes information gathered from individuals through detailed questionnaire, focused group discussion with persons having knowledge. The field investigating teams worked closely with, and often included some of the local residents. Collecting information on biodiversity and its uses from the local people in this area is a task that needs the person carrying out the documentation to be in the field for a long duration.<sup>21,22</sup> This is required to win the complete confidence of the local people.<sup>23,24</sup> Even the

most knowledgeable local informant would not be able to explain half his information unless one is out in the field with him and able to see things first hand. DOCUMENTATION OF TRADITIONAL KNOWLEDGE (TK) RELATED TO BIODIVERSITY. Documentation of knowledge of individuals with regard to biodiversity and its uses is an important part of PBR.<sup>24,25</sup>

**PBR preparation of study Area**

It is to be undertaken in a participatory mode involving varying sections of village society. While documenting, the knowledge and Views of both genders are to be recorded.

Periodical interactions are made with the local villagers, information provided by the people whereas collected, analysed and cross checked before documentation. The PBR is important base document in the legal arena as evidence of availability of resource and knowledge and hence careful documentation is necessary. The document should be endorsed by the BMC and later publicized in the Gram sabha Sachivalayam. The document can be a very useful tool in the management and sustainable use of bio resources the document can also be a very useful teaching tool for teaching environmental studies at schools, colleges and universities level. The document should be periodically updated with additional and new information as and when generated. The PBR will be deposited with State Biodiversity Board (SBB) according to some SBB Rules.<sup>24,26</sup>

**Flowsheet of contents in PBR preparation**

Step 1: Formation of Biodiversity Management Committee. (BMC)

Step 2: Sensitization of the public about the study, survey and possible Management

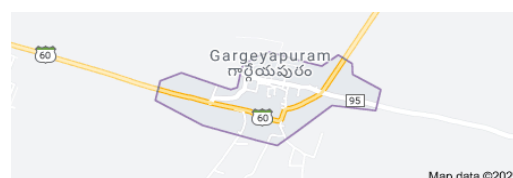
Step 3: Training of members in identification and collection of data on biological resources and traditional knowledge.

Step 4: Collection of data. Data collections includes review of literature on the natural resources of the districts, Participatory Rural Appraisal (PRAs) at village level, household interviews, individual interviews with village leaders and knowledgeable individuals, household heads, key actors of the panchayat raj institutions and NGOs and direct field observations.

Step 5: Analysis and validation of data in consultation with technical support group and BMC.

Step 6: Preparation of People's Biodiversity Register. (PBR)

Step 7: Computerization information and resources

**Village Details**

Gargeyapuram village, Kurnool



Gargeyapuram village Assembly constituency : Kodumur  
 Assembly MLA :Sri. J. Sudhakar Babu.

Lok sabha constituency: Kurnool Parliamentary Constituency.

Parliament MP: AYUSHMAN DOCTOR Sri. SANJEEV KUMAR.

Sarpanch Name : Sri.K.Koulutalaiah

**Location and Administration**

Gargeyapuram village Gram panchayath name is Gargeyapuram. Gargeyapuram is 12 km distance from sub District Head Quarter Kurnool. and it is 12 km distance from district Head Quarter Kurnool. Nearest statutory Town is Kurnool in 12km Distance. Gargeyapuram Total area is 3158. The Forest are covered under this locality 457 hectares Non -Agricultural area is 219 hectares and Total water fall area is "0" hectares and Total irrigated area is 2117 hectares.

Gargeyapuram is a village in Kurnool mandal in Kurnool district of Andhra Pradesh State, India. It belongs to Rayalaseema region. It is located 12 km towards East from District headquarters Kurnool.

Gargeyapuram is surrounded by Kurnool Mandal towards East, Kurnool Mandal towards North, Midthur Mandal towards East, Nandikotkur Mandal towards East.

Gargeyapuram Local Language is Telugu. Gargeyapuram village Total population is 7,568 and number of houses are 1,802.

**Population**

<u>Census parameter</u>	<u>Census Data</u>
Total Population	7,568
Total No of Houses	1,802
Female population	3,759
Male population	3,809
Child (0-6) population	485

How To Reach Gargeyapuram By Road

**Schools in Gargeyapuram village, Kurnool**



Kurnool is the Nearest Town to Gargeyapuram. Kurnool is 12 km from Gargeyapuram. Road Connectivity is there from Kurnool to Gargeyapuram.

**By Bus**

Road transportation is available from C. Camp/Kurnool APSRTC Bus Station, Santhosh nagar APSRTC Bus Station, Birla Gate APSRTC Bus Station are the nearby by Bus Stations to Gargeyapuram APSRTC runs Number of busses from major cities to here.

**Schools in Gargeyapuram, Kurnool**

- Z. P. High school : Gargeyapuram, 0.4 km -distance
- Govt Primary School, 1.6 km -distance
- Govt Urdu Elementry School, 0.9 km -distance
- Anganwadi kendram

**Temples in Gargeyapuram**

- Sri Chennakeshava Swamy Temple
- Sri Hanuman Temple
- Sri Veerabramendra Swamy Temple
- Sunkulamma Temple

**Mosques in Gargeyapuram**

- Masjid-E-Abdul Gafar Shaib
- Gargeyapuram Dargha
- Taher Ahmed masjid

**Churches in Gargeyapuram**

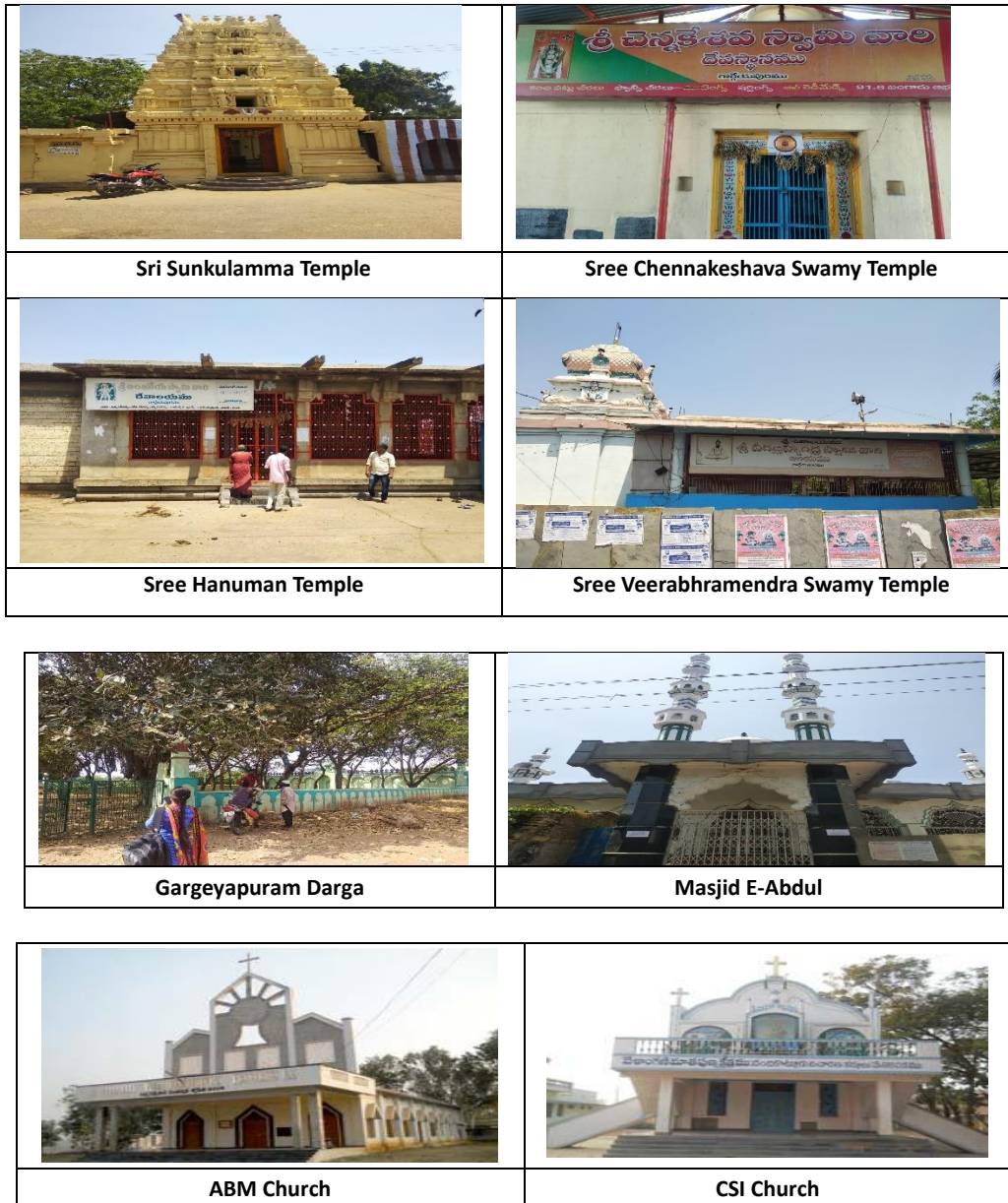
- CS I Church
- Yohanu Baptist Prardana Mandiram
- BM Church

**Hospitals in Gargeyapuram village**

- Veterinary hospital
- PHC Sub Centre



**Temples, Mosques and Churches in Gargeyapuram village, Kurnool**



**Hospitals in Gargeyapuram village, Kurnool**



## Physiological conditions and profiles of Gargeyapuram

### Temperature

Gargeyapuram climate comprises temperature falls into 35.4 °C to 45 °C. The winter season on the other hand is usually cold.

### Water

Gargeyapuram village water supply is hand pump and boreholes are other drinking water source.

### Soils

Gargeyapuram village consists of 2 different soil types, they are

1. Red soil
2. Black soil

### Crops

Gargeyapuram village people are cultivate the crops like Kandulu (*Pigeon pea*), Mokka Jonna (*Zea maiz*), Amudamu (*Ricinus communus*), Cotton (*Gossypium herbacium*), Red gram (*Cajans cajan*) Bengal gram (*Cicer arietinum*), Tobacco (*Nicotina tabacum*), Jowar ( *Sorghum vulgare*), Brinjal (*Solanum melongena*) are cultivated in the farm lands and agricultural fields.

### Geography of Gargeyapuram

The village is home to the Kurnool city forest A.P. Tourism Gargeyapuram cheruv Turist spot our village to just 5km summer full enjoy. It is always sections available boating and foot available.

- A.P. Tourism Kurnool city forest highlights.
- 5 km walking track
- Yoga centre
- Open air theatre
- Children's park.

### Local Knowledge of Biodiversity

The Convention on Biological Diversity (CBD) is a significant element of the international attempt to respond to these challenges. However, CBD's novel provisions of sovereign rights of countries of origin over genetic resources and of benefit sharing with holders of knowledge in the informal sector are in part in conflict with provisions of TRIPS Component of GATT, and the Contentious issues are yet to be resolved. The biological Diversity Act 2002 is a part of the Indian attempt to create an institutional and legal framework to act on the CBD provisions. This act provides the institutional mechanisms such as National Biodiversity Authority, State Biodiversity Boards Biodiversity Management Committee, Repository institutions for biological material and knowledge.

Government of India has established an autonomous society called the National Innovation Foundation (NIF) to

safeguard, reward and add value to traditional knowledge well as grass - roots innovations in the informal sector. NIF currently maintains a repository of the information thus collected as a national register (NR), part of this information is being treated as confidential. An indication of the content of the confidential component is provided as publicly accessible synoptic information. During the preparation of PBRs the local knowledge holders, either individually or as a community will have full discretion as to which information they would disclose, and which components will be treated as public or confidential. Further they will specify conditions under which the confidential information may be shared with third parties. In the place of a prior Informed Consent (PIC), NIF will execute a Memorandum of Agreement (MOA) with the concerned BMCs as well as Individual knowledge holders that will explicitly specify conditions under which NIF may share the confidential information with third parties. NIF will make publicly available the synoptic information.

### Secondary data collection

The project members (D. Dharani, K. Kavitha, C. Divya, A. Gangadhar goud A. Mahendra ) made interactions with the 20 members of local people. Students became close to many personalities and the teachers developed more and intimate and informal relationship with student community. This was highly appreciated by locals since new generation got exposed to various issues linked with nature and livelihood. Modern education system is inadequate to expose students to such understanding.

### Herbarium Preparation

#### Importance

Herbarium is a documentation of plant specimen processed sheets as per the standard procedures, are important tools for identification of plants species. Specimen can be kept for many years as herbarium sheet for future research.

Labelling of specimen after fixing specimens on herbarium sheet the following information is entered at right side of the lower corner of herbarium sheet.

- a) Serial number; b) Botanical/Scientific name; c) Local name; d) Family; e) Habitat & Habit; f) Date of collection; g) Place of collection & collected by etc.

### CONCLUSIONS

Gargeyapuram village, PBR analysis has been conducted for the duration five months from December to June 2020. collecting the data belongs to geographical, physiological and socio-economic and natural vegetation & cultivation practices are reported. The data comprises both secondary and first-hand information while interacting with villagers and other stakeholders is presented results in annexures (1 to 6). Gargeyapuram village total population and Biodiversity details:

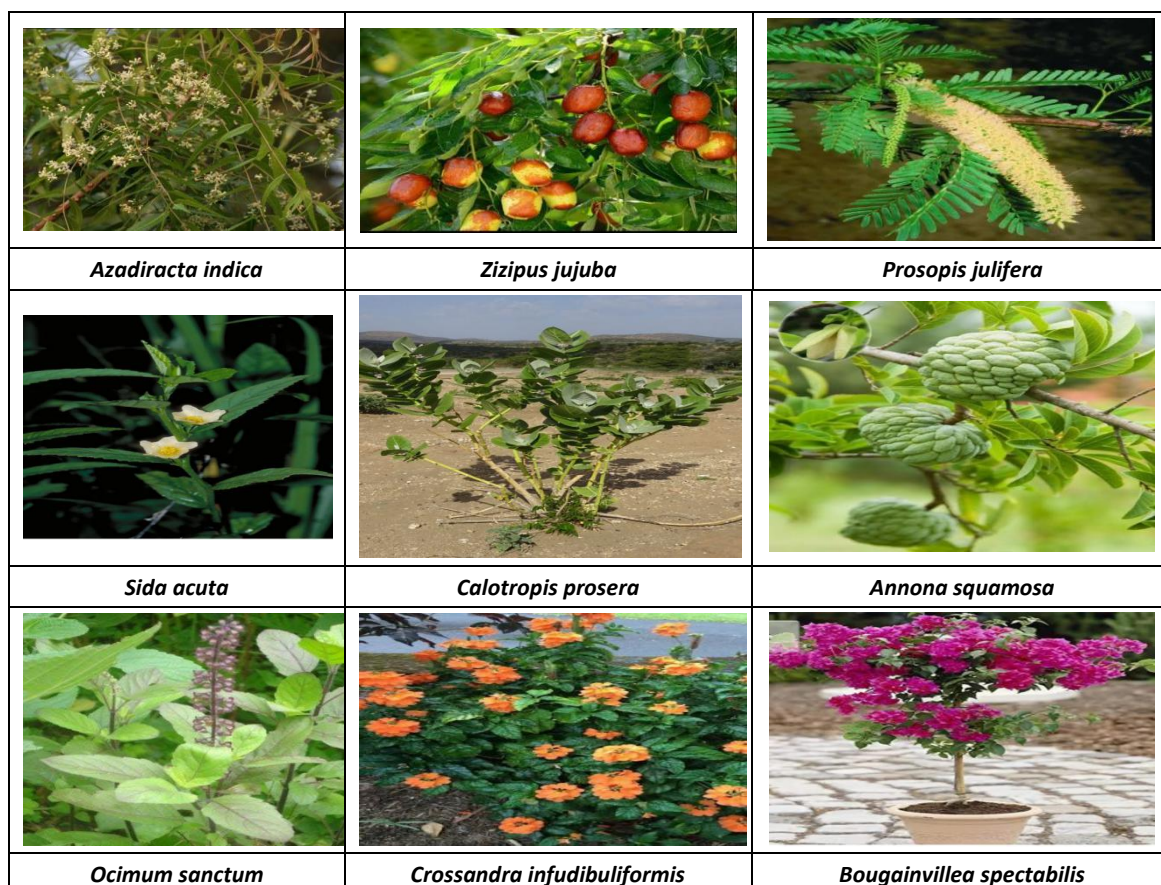
Village total population: 7,568.



**A Note on Preparation and Assessment of People's Biodiversity Register (PBR) of Gargeyapuram village, Kurnool District.****Annexure-1****List of the Plant species reported at Gargeyapuram village**

S. No.	Scientific Name	Common Name	Family
1	<i>Azadirachta indica</i> A. Juss.	Vepa / Neem	Meliaceae
2	<i>Digera muricata</i> (Linn.) Mart.	Chenchalaku	Rhamnaceae
3	<i>Ziziphus jujuba</i> Mill.	Regu	Rhamnaceae
4	<i>Prosopis julifera</i> (Sw.) DC.	Kampa Chettu	Fabaceae
5	<i>Calotropis gigantean</i> (L.) Dryand.	Jilledu	Asclepiadaceae
6	<i>Sida acuta</i> Burm.f	Poraka pulla	Malvaceae
7	<i>Annona squamosa</i> L.	Seethaphalam	Annonaceae
8	<i>Parthenium hysterophorus</i> L.	Congress weed	Asteraceae
9	<i>Ocimum sanctum</i> L.	Tulasi	Lamiaceae
10	<i>Crossandra infundibuliformis</i> (L.) Nees.	Kanakambram	Acanthaceae
11	<i>Bougainvillea spectabilis</i> Willd.	Kagithampula chettu	Nyctaginaceae
12	<i>Boerhaavia diffusa</i> Linn.	Atikamamidi	Nyctaginaceae
13	<i>Coccinia grandis</i> (L.) Voigt.	Dhondakaaya	Cucurbitaceae
14	<i>Psidium guajava</i> L.	Jaama	Myrtaceae
15	<i>Aloe vera</i> (L.) Burm.f.	Kalabandha	Liliaceae
16	<i>Cleome felina</i> L. f.	Kukka vamenta	Cleomaceae
17	<i>Phoenix sylvestris</i> (L.) Roxb.	Eetha chettu	Arecaceae
18	<i>Jasminum multiflorum</i> (Burm.f.) Andrews	Chukka malle	Oleaceae
19	<i>Phyllanthus amarus</i> Schumach. & Thonn.	Nela usiri	Phyllanthaceae
20	<i>Catharanthus roseus</i> (L.) G. Don	Nithya kalyanam	Apocynaceae
21	<i>Mentha spicata</i> L.	Pudhina	Lamiaceae
22	<i>Lawsonia inermis</i> L.	Gorintaku	Lythraceae
23	<i>Vernonia cineraria</i> (L.) Less.	Sahadevi	Compositae
24	<i>Nerium odorum</i> L.	Ganneru	Apocynaceae
25	<i>Lilium candidum</i> L.	Lily	Liliaceae
26	<i>Ficus benghalensis</i> L.	Marri chettu	Moraceae
27	<i>Hibiscus rosa sinensis</i> L.	Mandharam	Malvaceae
28	<i>Ficus religiosa</i> (L.) Forssk.	Raavi chettu	Moraceae
29	<i>Prosopis cineraria</i> (L.) Druce	Jammi	Fabaceae
30	<i>Abutilon indicum</i> (L.) Sweet.	Thuthurbenda	Malvaceae
31	<i>Ricinus communis</i> L.	Amudham	Euphorbiaceae
32	<i>Dolichos lablab</i> L.	Chikudu	Fabaceae
33	<i>Tamarindus indica</i> L.	Tamarind	Fabaceae
34	<i>Tridax procumbens</i> L.	Gaddi chamanthi	Asteraceae
35	<i>Pongamia pinnata</i> (L.) Pierre	Kanuga	Fabaceae
36	<i>Achyranthus aspera</i> L.	Uttareni	Amaranthaceae
37	<i>Jasminum officinalis</i> L.	Malle	Oleaceae
38	<i>Rosa chinensis</i> Jacq.	Gulabi	Rosaceae
39	<i>Chrysanthemum indicum</i> L.	Chamanthi	Asteraceae
40	<i>Cassia auriculata</i> L.	Thangedu	Fabaceae

41	<i>Mangifera indica</i> L.	Mamidi	Anacardiaceae
42	<i>Manilkara zapota</i> (L.) P.Royen	Sapota	Sapotaceae
43	<i>Gossypium arboreum</i> L.	Pathi	Fabaceae
44	<i>Cajanus cajan</i> L.	Kandhi	Fabaceae
45	<i>Zea mays</i> L.	Mokka jonna	Poaceae
46	<i>Arachis hypogaea</i> L.	Ground nut	Fabaceae
47	<i>Setaria italica</i> (L.) P. Beauv.	Korralu	Poaceae
48	<i>Nicotiana tobaccum</i> L.	Pogaku	Solanaceae
49	<i>Moringa oleifera</i> Lam.	Munaga	Moringaceae
50	<i>Oldenlandia umbellate</i> L.		Rubiaceae
51	<i>Croton bonplandianum</i> Baill.	Gaalivana mokka	Euphorbiaceae
52	<i>Tecoma stans</i> (L.) Juss. ex Kunth	Bell flowers	Bignoniaceae
53	<i>Thuja occidentalis</i> L.	Arborvitae	Cupressaceae
54	<i>Plumaria pudica</i> Jacq.	Devaganneru	Apocynaceae
55	<i>Cocos nucifera</i> (L.)	Kobari chettu	Arecaceae
56	<i>Bambusa vulgaris</i> Schrad. ex J.C.Wendl	Vedhuru chettu	Poaceae
57	<i>Punica granatum</i> L.	Dhanimma	Lythraceae
58	<i>Saraca asoca</i> (Roxb.) Willd.	Ashokamu	Fabaceae
59	<i>Cochlospermum halicacabum</i> (Linn.)	Buddaburusa	Solanaceae
60	<i>Solanum surattense</i> Burm.f	Tikka vankaya	Solanaceae
61	<i>Datura stramonium</i> L.	Ummetha	Solanaceae
62	<i>Jasminum sambac</i> (L.) Aiton	Bondu malle	Oleaceae
63	<i>Trachyspermum ammi</i> L.	Tobacco	Solanaceae
64	<i>Nyctanthes arbortristis</i> L.	Parigatham	Oleaceae











## Annexure-2

**List of Crop Plants reported at Gargeyapuram village:**



S. No.	Scientific Name	Common Name	Family	Season	Selling location
1	<i>Cajanus cajan</i> L.	Kandhi	Fabaceae	Kharif	Market yard
2	<i>Zea mays</i> L.	Mokka jonna	Poaceae	Kharif	Market yard
3	<i>Solanum lycopersicum</i> L.Mill	Tomato	Solanaceae	Kharif	Market yard
4	<i>Gossypium arboreum</i> L.	Pathi	Malvaceae	Kharif	Market yard
5	<i>Arachis hypogaea</i> L.	Veru senaga	Fabaceae	Kharif	Market yard
6	<i>Capsicum annum</i> L.	Mirapa	Solanaceae	Kharif	Market yard
7	<i>Nicotiana tobaccum</i> L.	Pogaku	Solanaceae	Kharif	Market yard
8	<i>Brassica oleracea</i> L. var. capitata	Cabbage	Brassicaceae	Kharif	Market yard
9	<i>Solanum melongena</i> L.	Vankaya	Solanaceae	Kharif	Market yard
10	<i>Sorghum vulgare</i> (L.) Moench	Jonnalalu	Poaceae	Kharif	Market yard

		
<b><i>Cajanas cajan</i></b>	<b><i>Zea maiz</i></b>	<b><i>Lycopersicum esculantum</i></b>
		
<b><i>Gossypium arboreum</i></b>	<b><i>Arschis hypogaea</i></b>	<b><i>Capsicum annum</i></b>
		
<b><i>Nicotiana tobaccum L.</i></b>	<b><i>Barssica oleracea var.capitata</i></b>	<b><i>Solanum melongena</i></b>
		
<b><i>Sorghum vulgare</i></b>	<b><i>Mangifera indica</i></b>	<b><i>Manilkara zapota</i></b>

**Annexure-3**

**List of Horticultural and Cash crops reported at Gargeyapuram village:**

S. No.	Scientific Name	Common Name	Family	Uses
1	<i>Mangifera indica</i> L.	Mango	Anacardiaceae	Edible fruit
2	<i>Manilkara zapota</i> (L.) P.Royen	Sapota	Sapotaceae	Edible fruit
3	<i>Carica papaya</i> Linn.	Papaya	Caricaceae	Edible fruit
4	<i>Psidium guajava</i> L.	Jaama	Myrtaceae	Edible fruit
5	<i>Citrus limon</i> (L.)Burm.f.	Lemon	Rutaceae	Edible fruit
6	<i>Musa acuminata</i> L. Dengan	Banana	Musaceae	Edible fruit
7	<i>Ziziphus jujuba</i> Mill.	Regu	Rhamnaceae	Edible fruit
8	<i>Emblica officinalis</i> Gaertn.	Usiri (Amla)	Phyllanthaceae	Edible fruit

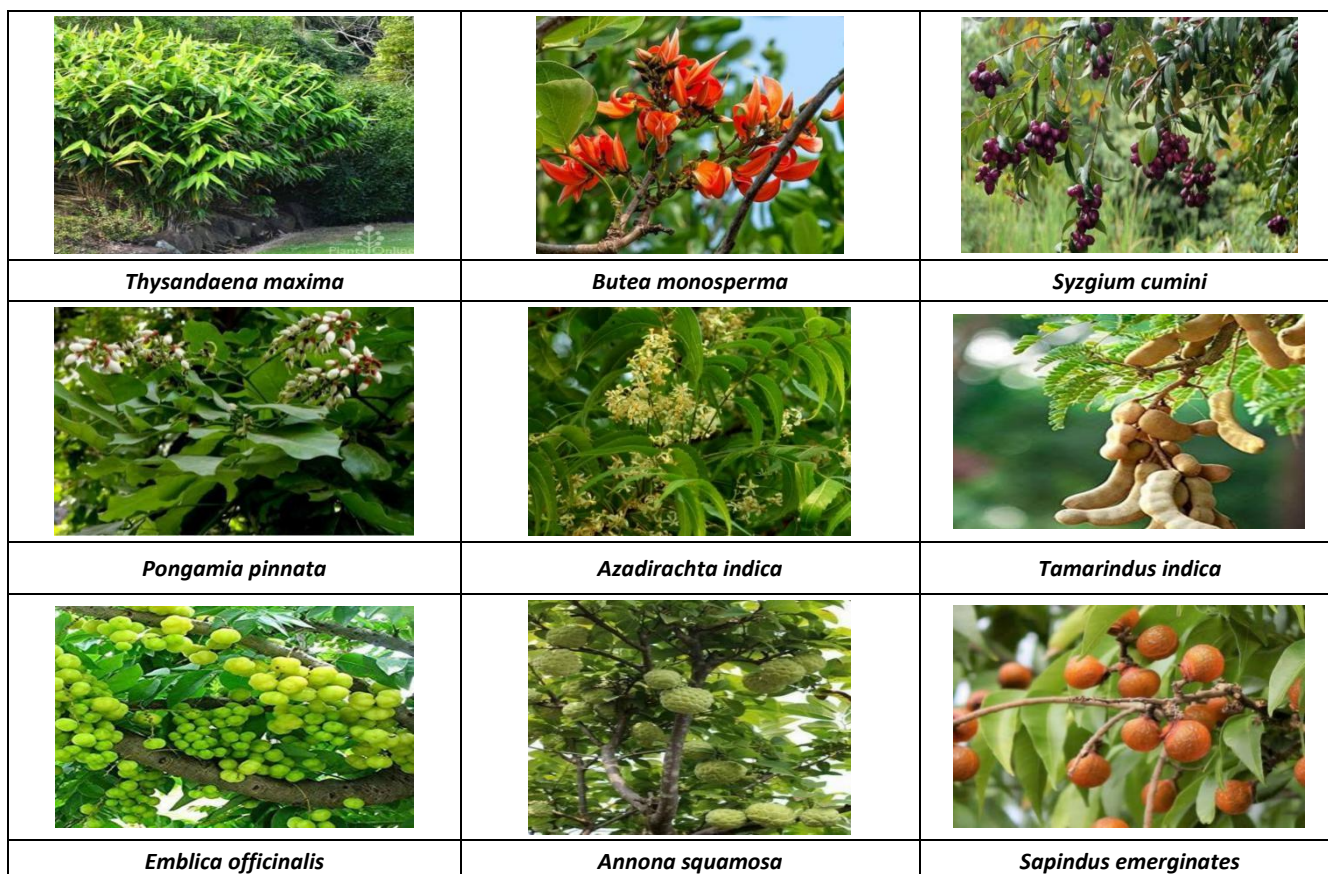
	
<b><i>Carica papaya</i></b>	<b><i>Citrus limon</i></b>



**Annexure-4**

**List of Wood Yielding /Timber /NTF’Ps reported at Gargeyapuram village:**

S. No.	Scientific Name	Common Name	Family	Parts used	Use of NTFP’s
1	<i>Thysandaena maxima</i> Nees.	Chipur gaddi (Hill broom)	Poaceae	Leaves	Broom making
2	<i>Butea monosperma</i> (Lam.) Taub.	Istari	Fabaceae	Leaf	Plate making
3	<i>Syzygium cumini</i> (L.) Skeels	Nerudu	Mrtaceae	Fruit	Edible
4	<i>Pongamia pinnata</i> L.	Kanuga	Fabaceae	Seed	Diesel extraction
5	<i>Azadirachta indica</i> A. Juss.	Neem	Meliaceae	Whole plant	Medicinal
6	<i>Annona squamosa</i> L.	Sitaphal	Annonaceae	Fruit	Edible
7	<i>Sapindus emerginatus</i> Vahl.	Soap nut	Sapindaceae	Fruit	Soap making
8	<i>Tamarindus indica</i> L.	Tamarind	Fabaceae	Fruit	Edible
9	<i>Emblica officinalis</i> Gaertn.	Usiri	Phyllanthaceae	Fruit	Edible (pickle making)



## Annexure-5

**Sacred Groves plant species reported at Gargeyapuram village:**

S. No.	Botanical Name	Common Name	Family	Location
1	<i>Ficus religiosa</i> L.	Raavi	Moraceae	Sri Anjaneya Swamy Devasthanam
2	<i>Azadirachta indica</i> A. Juss.	Vepa	Meliaceae	ABM Church Sunkulamma Temple Madhina Masjid
3	<i>Emblica officinalis</i> Gaertn.	Usiri	Euphorbiaceae	Sri Chowdeshwari Devi Temple
4	<i>Prosopis cineraria</i> (L.) Druce	Jammi	Mimosaceae	Maremma Temple
5	<i>Pongamia pinnata</i> L.	Kanuga	Fabaceae	Seventh day Adventist day ABM Church
6	<i>Calotropis prosera</i> (Aiton) W.T.Aiton	Jiledu	Asclepiadaceae	RCM Church
7	<i>Ocimum sanctum</i> Linn.	Tulasi	Lamiaceae	Sri Chowdeshwari Devi Temple, Sunkulamma Temple
8	<i>Tecoma stans</i> (L.) Juss. ex Kunth	Bell flower tree	Bignoniaceae	Sri Chowdeshwari Devi Temple
9	<i>Nerium odorum</i> L.	Ganneru	Apocynaceae	Sri Anjaneya Swamy Devasthanam

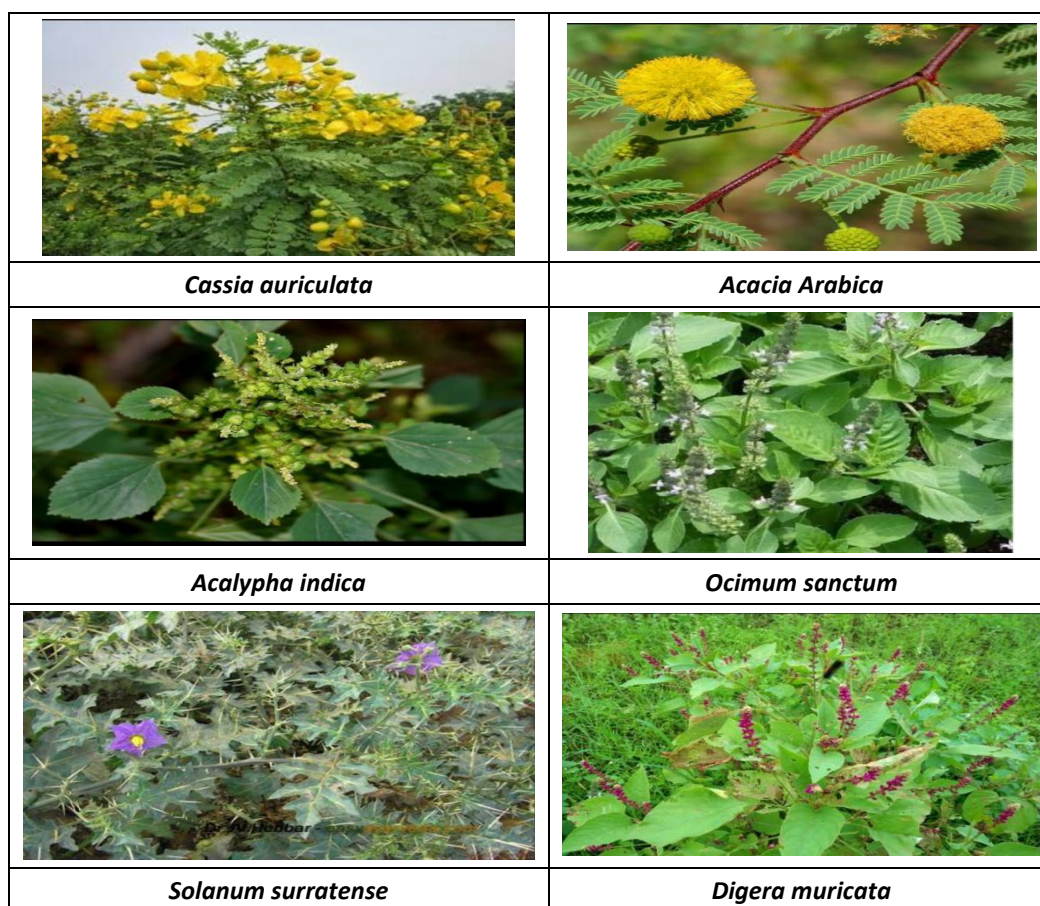


## Annexure-6

**List of Medicinally useful Plant species reported at Gargeyapuram village:**

S. No.	Botanical Name	Common Name	Family	Uses	Chemical composition (C. C.)
1	<i>Cassia auriculata</i> L.	Thangedu	Fabaceae	The root is used in decoction against fever, diabetes, diseases of urinary system and constipation.	4-(4 Methylphenoxy) phenol
2	<i>Acacia arabica</i> (Lam.)Willd.	Thumma	Fabaceae	As a medicine, <i>Acacia</i> is taken by orally for high cholesterol, irritable bowel syndrome (IBS), and weight loss.	D-glucuronic acid L-arabinose
3	<i>Azadirachta indica</i> A. Juss.	Neem	Meliaceae	Whole plant used as antibiotic. Neem oil is also used for healthy hair, to improve liver function and also used for skin diseases.	Azadirachtin A, Neem azal
4	<i>Acalypha indica</i> L.	Indian Nettle (Kupintaku)	Euphorbiaceae	Whole plant is used for asthma and also to clean the liver	Sitosterol, Mauritianin, Clitorin
5	<i>Emblica officinalis</i> Gaertn.	Usiri (Amla)	Phyllanthaceae	Whole plant is used in ayurvedic medicine.	Ascorbic acid, Emblicanin, Gallic acid
6	<i>Ocimum sanctum</i> Linn.	Tulasi	Lamiaceae	Traditionally tulasi is taken as herbal tea.	Oleanolic acid, Ursolic acid
7	<i>Solanum surrattense</i> Burm.f	Thikka vankaya	Solanaceae	Whole plant is used and dried fruits are used for toothache.	Solatriose, Chacotriose

8	<i>Digera muricata</i> (Linn.) Mart.	Chenchalaku	Amaranthaceae	Tender tips extract (10-15 ml) administered daily once for kidney stones until cure.	Spinasterol, Coumarin, Rutin, Hyporoside, Anthraquinone
9	<i>Aloe vera</i> (L.) Burm.f.	Kalabandha	Asphodelaceae	It is used in traditional medicine for skin treatment in ayurvedic medicine.	Aloin, Acemannan, Vitamin - E
10	<i>Prosopis cineraria</i> (L.) Druce	Jammi chettu	Fabaceae	Bark and leaf galls used for tanning. The gum exuding from the trunk is suggestive of gum arabic.	Heart wood contains n-decanol, -sitosterol, flavanones.



Schools in Gargeyapuram village, Kurnool: Z.P. High school: Gargeyapuram, Govt Primary School, Govt Urdu Elementary School & Anganwadi kendram.

Temples in Gargeyapuram: Sri Chennakeshava Swamy Temple, Sri Hanuman Temple, Sri Veerabramendra Swamy Temple & Sunkulamma Temple etc.

Mosques in Gargeyapuram: Masjid-E-Abdul Gafar Shaib, Gargeyapuram Dargha & Taher Ahmed masjid

Churches in Gargeyapuram: CS I Church, Yohanu Baptist Prardana Mandiram & ABM Church.

Hospitals in Gargeyapuram village: Veterinary hospital, PHC Sub Centre.

Gargeyapuram village, its surrounding areas are reported as a good number of diversified natural vegetation comprises to the plant species pertaining to trees, shrubs

and herbaceous members incl. Sacred groves serve as germplasm resource for conservation of biological diversity elements. Among the natural vegetation sources good number of crops plants, horticultural and cash crops cultivated and produce are sold in the local, district markets etc.. Most of the cultivation practices based on the irrigation channels and rain water sources are reported.

The diversified vegetation sources in the study area comprises the number of Trees, Herbaceous and Shrubs: 95, Tree species: 25, Herbaceous members: 45, Shrubs: 25 and predominant crops plants & horticultural and cash crops etc.

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