

PEOPLE'S BIODIVERSITY REGISTER

MACHARAM PANCHAYAT

JADCHERLA (M), MAHABUBNAGAR (DIST),

TELANGANA



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DECLARATION

We hereby declare that the project work entitled "PEOPLE'S BIODIVERSITY OF MACHARAM VILLAGE, JADCHERLA MANDAL, MAHABUBNAGAR DISTRICT. TELANGANA" is a genuine work done by us under the supervision of Dr. B. Sadasivaiah Department of Botany, Dr. BRR Government College, Jadcherla and that the project work has not been previously formed the basis for the award of any degree or diploma of this college or any other institute for the award of any degree

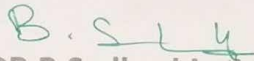
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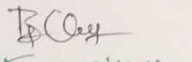
CERTIFICATE

This is to certify that the present work titled "**PEOPLE BIODIVERCITY REGISTER OF MACHARAM VILLAGE**" is the bonafide work of, P.PRAVALIKA, K.GAYATHRI , M.MADHAVI, M.TEJASRI ,P.SHIRISHA under my supervision. No part of this work has been submitted to any other University or Institution for the award of any Degree or Dimploma.

Date: 27.06.2022


DR. B. Sadhashivaiah
Research Supervisor


Head


Examinee

PERSONNEL INVOLVED IN PEOPLE'S BIODIVERSITY REGISTER PREPARATION ALONG WITH INSTITUTIONS ASSOCIATED

- **BMC Committee, Macharam, Mahabubnagar District**
 - Smt. Dorepally Laxmi – Chairman
 - Sri Srishailam – Secretary
 - Sri Ravi – Member
 - Sri Balamani – Member
 - Sri Thirupathi Reddy – Member
 - Smt. Anantha – Member
 - Sri Mohan – Member
 - Smt. Muthyalamma – Member

- **AP Biodiversity Board, Guntur**
 - Dr. L. Varalakshmi, Regional Coordinator, A.P. Biodiversity Board
 - Dr. K. Prasad, RCB, A.P. Biodiversity Board
 - Sri D. Nalini Mohan – IFS, Member Secretary, A.P Biodiversity Board
 - Sri B.M.K. Reddy – IAS, Chairman, A.P. Biodiversity Board

- **Department of Botany, Dr. BRR Government College, Jadcherla, Telangana**
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 - Miss. P. Pravalika – Project Assistant
 - Miss. K. Gayathri – Project Assistant
 - Miss. M. Madhavi – Project Assistant
 - Miss. M. Tejasri – Project Assistant
 - Miss. T. Shirisha – Project Assistant

➤ **Macharam Grama Panchayath**

- Sri Srishailam– Panchayath Secretary
- Sri Balaiah– VRO & Staff Members of Grama Panchayath

➤ **TSG Members**

- Prof. T. Pullaiah – Plant Diversity
- Dr. M. Sridhar Reddy – Ecological studies
- Dr. A. Lakshmaiah – Traditional varieties of crops plants
- Dr. Y. Amarnath Reddy – Animal Diversity
- Dr. T. Shali Shaheb – Ethnobotanical study
- Dr. K. Prasad – Plant Diversity
- Mr. Y.D. Imran – Animal Diversity
- Dr. K. Jaya Lakshmi – Agricultural studies & Analysis of Soil
- Dr. D. Sneha Latha- Algal Diversity
- Mr. Rakesh – Wildlife Biologist
- Mr. Hanumanth (Munna) – Avian diversity
- Dr. Laxmappa - Fisheries

➤ **Association for Biodiversity Conservation & Development (ABCD),
Wanaparthu**

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CHAPTER – I
INTRODUCTION

Cataloguing biodiversity resources, mapping their geographical distribution and quantitative estimation of their natural stands is perhaps the most important information needed for any country in the post-CBD era. There are several gaps in the surveys and datasets made regarding the plant resources of India that need to be immediately addressed. There is a critical need for such data sets for converting our bio-resources into economic wealth, apart from identifying threats to resources conservation.

The evolution of human societies over several millennia is closely related to plants and animals. Biodiversity interacting with the physical environment form the foundation of sustainable development. The worldwide destruction of the natural environment by population explosion, urbanization, industrialization and habitat fragmentation has led to a tremendous loss of biological diversity over the past few decades. Population pressures and concomitant unscientific and unsustainable extraction of resources especially of timber, medicinal herbs, fuel wood and fodder from forests has alarming consequences on conservation of these resources. Overexploitation is likely to severely reduce the population sizes below the critical level and consequently the survival of the species *per se*.

The domestication of crop plants and farm animals about 12000 years ago revolutionized the human civilization by creating more stabilized societies. The early historic and medieval period gradually reduced human interaction with the wild plants and animals. The development of modern science and technologies during the industrial and post-industrial period did not do away with our link to nature. Different groups of people continue to depend on natural resources at varying scales. Some draw resources from across continents while others within a country or a region. There are also people continue to depend on locally available biodiversity and bio-resources for their livelihoods. Such population who are directly dependent on local biological resources have, through their keen sense of observation, practices, and experimentation developed and established a body of knowledge that is passed on from generation to generation. Some are widespread traditional knowledge like cultivation practices; others are highly specialized such as bone setting or jaundice, which are generally passed only to close members of the family.

India is land of biological and cultural diversity. It is one of the mega biodiversity countries of the world. It also the home of a large number of tribal groups, pursuing different kinds of nature based livelihoods. In addition, a large number of farming and fishing communities and nomadic groups are possess' traditional knowledge of varying degrees. The development of modern science and technologies notably biotechnology and information technologies have increased the value of biodiversity and associated knowledge including traditional knowledge (TK).The growing importance of biodiversity, bio-resources and 5 associated knowledge is fairly well understood. The first step towards conservation is sustainable utilization of biodiversity and its documentation. Biodiversity and associated knowledge is found in different ecosystems, under different legal management regimes and hence the results and manner of documentation will also differ.

The Biological Diversity Act, 2002 (18 of 2003) was notified by the Government of India on 5th February, 2003. The act covers the whole of India and reaffirms the sovereign rights of the country over the country's biological resources. Consequent to this the Government of India Published Biological Diversity Rules 2004, dated 15th April, 2004. The rules under section 22, states that "Every local body shall constitute a Biodiversity Management Committee (BMC) within the jurisdiction of each body".

The mandate and 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 locally available biological resources and their medicinal or any other beneficial uses for the mankind.The other functions of the BMC are to extend advice on any matter referred to it by the 'State Biodiversity Board' or authority for granting approval, to maintain data about the local vaid and traditional village practitioners using the herbal preparations and local available resources of various kinds, ITKs etc.The authority is also expected to take steps to specify the form of the 'People's Biodiversity Register' with the particulars to be incorporated in it in a specific format for the electronic database establishment.

The authority, the State Biodiversity Board is to provide guidance and technical support to the BMC for the preparation of people's Biodiversity Register. The register shall be maintained and validated by the concerned BMC's.The State Biodiversity Board (SBB) would provide required training to the 'Technical Support Group' (TSG) of each

district for smooth functioning and to help in networking for creation and maintenance of PBRs. The TSG consists of experts from various disciplines, line departments, universities, research institutes, colleges and other educational institutions and non-government organizations (NGOs). These TSGs 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 database of local and external experts on biodiversity.

To fulfill the above objectives the expert team from the Department of Botany, Dr. BRR Government College, Jadcherla initiated steps as per the requirements to prepare the 'People's Biodiversity Register' (PBR) of Macharam Grama Panchayath, JadcherlaMandal of MahabubnagarDistrict of Telangana.

An extensive and intensive survey was done in the Macharamvillage by the Research team of Department of Botany, Dr. BRR Government College, Jadcherla, Telangana under the supervision of Dr. B. Sadasivaiah, Assistant Professor of Botany in the month of March to January 2020 and met the Chairperson and other members of the BMC and gram Panchayath and explained in detail about the Biological Diversity Act of 2002 and the need and beneficial effects of opening of People's Biodiversity Register. An interesting and fruitful interaction meetingswere conducted with the Chairperson (sarpanch) and other members in the presence of villagers and traditional healthcare persons.

The Research team enquired about the major food crops, yields, pests attacking to the crops, details of horticulture crops, extent of aquaculture involving inland fish resources, major livestock species available in the village, levels of productivity, value addition in plant and animal produce, marketing facilities and related problems, extent of cultivable crops under various categories, traditional medicines used by the village practitioners and medicinal plants identified with their usage and about any specific local practices adopted.

The information that was given by the villagers was documented during the survey. The information, thus pooled was tabulated, validated and documented in the report. The report was prepared in three parts. Part-I covered general information about PBR, formation of management committee, details of persons having traditional

knowledge, skills etc, while in Part-II information is depicted in 30 formats. All the 30 formats were divided into major 3 categories namely Agro biodiversity (Formats 1-10), Domesticated Biodiversity (Formats 11-17) and Wild Biodiversity (Formats 18-30). Brief particulars of Agro Biodiversity include crop plants, fruit plants, fodder crops, weeds, pests of crops, market for domesticated animals, peoplescape, waterscape, landscape and soil types; the Domesticated Biodiversity include fruit trees, medicinal plants, ornamental plants, timber plants, domesticated animals, cultured fisheries and market for Domesticated animals and plants; the wild biodiversity include wild flora and its importance, Aquatic biodiversity and its importance, wild relatives, wild ornamentals fumigates, wild timber, coastal and marine, wild animals, urban flora and fauna. The part III is the summary and prospects, vision of PBR and responsibilities of 'Management Committee' and other related information. The report also includes salient recommendations to preserve natural bio resources and traditional knowledge for future generations and maintain eco-friendly biodiversity of Macharam Panchayath of Mahabubnagar district of Telangana.

CHAPTER – II
METHODOLOGY

The present study aims systematic attempt towards floral and faunal resources of MacharamGram Panchayath, JadcherlaMandal, Mahabubnagar District, Telangana based on field exploration. The flora and fauna of Macharam Gram Panchayath were inventoried and documented. The materials used and methodology adopted for fulfilling the objectives of the present work are presented hereunder. The significant pictures regarding to methodology are depict in **Plate-1**.

Literature collections and places of consultation

Before initiating the field work, a check list of flora and fauna was prepared based on past literature. Further a thorough perusal of literature was done referring almost all recent publications published on flora and fauna with reference to taxonomy and other importance of Telangana especially Mahabubnagardistrict (Pullaiah, 2018; Barman, 1993; Sanyal et al., 1993; Sarkar et al., 1993; Editor Director, 2008).

INVENTORY OF FLORA

In the present investigation the Macharam Gram Panchayath was explored for a period of 10 months.

Under Agrobiodiversity category, the data on Crop plants, Fruit crops, Fodder crops/species, and weeds is collected through extensive field work in Agricultural lands of the village and consultation of Agriculture Officers, farmers. The common names of the plants also collected from the farmers. Pests of crops data was collected from Mandal Agricultural officers, Farmers and based on field studies by the research team.

Data on Domesticated animals and its market details were collected from Animal Husbandry Officers, Gopalamitra of Macharam village, farmers and field survey in the village. Peoplescape, landscape, waterscape, soil type data was collected from Anganwadies (Macharam), Thasildar Office (Jadcherla), Village Revenue Officers (Macharam), Engineers of Irrigation Department, Agriculture Department and president of the village.

In Domesticated Biodiversity category, the data on fruit trees/plants, medicinal plants, ornamental plants were collected through door to door survey by research team.

For wild flora, all the plant taxa encountered in the Gram Panchayath Area were listed and representative specimens of interesting taxa were collected in quadruplicates. Specimens are then poisoned, dried and made into herbarium following standard methodology. The specimens were examined critically and have identified with the help of standard floras and further confirmed in certain cases, by comparing with the herbarium material housed at local and national herbaria. Every attempt has been made in to study the habitat, soil, elevation, vegetation type, associates etc., were recorded carefully in the field itself. With the help of local people plants with medicinal importance were identified and the relevant information is documented.

INVENTORY OF FAUNA

Field explorations, Preservation and identification

Field explorations were conducted during March 2019 to January 2020. All the fauna encountered in the study area were recorded and representative specimens of common fish, Amphibian and Reptile species were collected, photographed and released. Every attempt has been made into the study the habitat, elevation, vegetation type etc., were recorded carefully in the field itself. The photographs were taken with Nikon D3400, SLR Camera. The photographs regarding methodology, habitat types, significant fauna and biotic factors were present in plates. Identification of specimens was done following standard faunas, a critical study was made in conformation of identification of endemics, threatened taxa and new distributional records.

COLLECTION

Insects: Insects were collected by hand picking and using insect nets, light traps, pitfall traps, bait traps, pond nets. The collected insects were photographed and released into wild. Insects and spiders were identified up to species level following Editor-Director, ZSI (2007), Kehimkar (1997, 2008), Kunte (2000), Meenakshi Venkatraman (2010), Narendra and Sunil Kumar (2006), Sebastian and Peter (2009), Tikader (1987).

Pisces: Four different types of nets, like gill nets, cast nets, drag nets and bamboo baskets nets were employed by the villagers for the collections of fishes. Gill nets of different sieve size were set in the water bodies at 6:00 P.M and left over night, next day morning 6:00 A.M were removed by the fisher men. Cast nets were employed standing on the banks and moving on small tubes during day time. In olden days traditional bamboo basket nets were fixed in streams in late evening and removed next day early morning.

The collected fish by above all methods were carefully observed the measurements, and characters were noted down. Total length, standard length, body depth, head length, head width, eye diameter, inter orbital width, snout length, inter nostril distance, pre pelvic distance, height of dorsal fin, length of base of dorsal fin, length of base of adipose dorsal fin, length of pectoral fin on the length of pelvic fin rays, anal fin rays, caudal fin rays, number of barbells, number of tubercles, lateral line scales, pre dorsal scales, dorsal scales, number of scales between dorsal fin origin and lateral line, number of scales between lateral line and pelvic fin and scales between anal fin and lateral line. The colour of body, eyes, fins, spots and bands were noted for identification. The collected fish were identified up to species level following Day (1889), Talwar and Jhingran (1991), Barman (1993) and Jayaram (2010).

Amphibia: The amphibians were collected by hand nets, hand picking, searching along stream, beside water bodies, in agricultural lands and other places during day and night time. The following characters of the collected amphibians were noted. Snout to vent length, head length, head width, snout length, nostril to eye distance, eye diameter, width of upper eyelid, inter orbital width, inter narial distance, diameter of tympanum, length of hind limb, fore limb, toes, and length of metatarsal tubercles. The color of dorsal, ventral sides and marking on body were noted.

The amphibians were identified up to species level following Boulenger (1890), Sarkar et al., (1993), Chanda (2002), Daniel (2002), Daniels (2005), Dinesh et al., (2009) and Mathew and Sen (2010).

Reptiles: These secretive animals were searched lifting stones, looking under rocks and fallen leaves and trees during day and night times. Geckos, agamids, skinks, and lacertids were collected by hand picking and nose traps. Snakes were collected by hand picking

and with the help of snake hook. The following characters reptiles were noted. Length of snout to vent, length of tail, length, width and diameter of eye and tympanum, length of fore limbs and hind limbs. Number of upper and lower labials, number of lamelle under the fingers and toes. Number of pre anal and femoral pores. The colour of dorsal surface, ventral surface, markings on body and eye were noted down.

In case of snakes, the following counts were noted down. Shields on the head, number of upper and lower labials, number of ventral scales, sub caudals, and dorsal scales around mid body were recorded.

Reptiles were identified up to species level following Gunther (1864), Smith (1931, 1935, 1943), Murthy (1990, 2010), Sanyal et al., (1993), Sharma (1998, 2005, 2007), Daniel (2002), Whitaker and Captain (2004) and Das (2008).

Aves: Photographs of birds in different angels were taken. The following characters and plumage colours were noted down, shape, size and colour of beak, eye and legs, plumage, colour of head, mantle, belly, primaries, secondaries, tertials, primary coverts, secondary coverts, median coverts, lesser coverts, rump and upper and lower side of tail.

Birds were identified up to species level following Baker (1922-30), Ali and Whistler (1933-34), Sibley and Monroe (1993), Ali et al., (1996), Inskipp et al., (1996), Manikadan and Pittie (2001), Grimmett et al.,(2001), Kazmierczak (2000) and Ali (2002).

Mammalia: Rodent traps, mist nets were employed to collect rodents and bats respectively. Photographs of all mammals were taken in different angles. The following measurements and characters of the collected bats were noted down. Length of ear, fore arm, head and body, hind foot, tail, tibia, thumb and wing span. The structure and shape of nose leaf, ears and tail. The colour of the body and markings were also noted. Length of snout to base of tail, head, tail, front limbs, rare limbs, number of teeth and mammary glands. The colour of body and makings. Following characters of the remaining mammals were noted down. Shape of body, head, snout, ear, limbs and tail, the colour of body and markings.

Mammals were identified up to species level following Blanford (1888-1891), Jerdon (1867), Miller (1902), Pocock (1939,1941), Ellerman (1961), Walker et al.,

(1968), Prater (1971), Tikader (1983), Wilson and Reeder (1993), Alfred et al., (2006), Menon (2009) and Srinivasulu et al., (2010).

CHAPTER – III

PART-I

PEOPLE'S BIODIVERSITY REGISTER (PBR) MACHARAM- GENERAL DETAILS

1. Name of the Panchayath : Macharam
 2. Taluk/ Mandal : Jadcherla, Pincode: 509301
 3. District : Mahabubnagar
 4. State : Telangana
 5. Geographical area of the panchayath : 539 Hectare
Revenue villages : 01- Macharam
Habitations / Hamlets : NIL
 6. Population under panchayath : 863
 7. Total : 863; Male:415, Female: 448
 8. Habitat and Topography : Plain
 9. Climate
Rain fall - Normal : 600mm to 700mm
Temperature & Other Weather Patterns : 25 to 40°C
 10. Land Use (Nine fold classification available with village records) : Mentioned in Farmat-8. Landscape
 11. Date, Month, Year of PBR preparation : 01-01-2022
Date, Month, Year of BMC Formation : 02-07-2019
 12. Management Regime : BMC Committee (listed in PBR general details)
Reserve Forests (RF) : NIL
Joint Forest Management (JFM) : NIL
Protected Areas (PA) : NIL
Community Owned and Managed Forests (COM) : NIL
- General Details of the Panchayath (Number)**
- | | |
|----------------------------|-------|
| Households | : 196 |
| Wards | : 08 |
| Panchayath Office | : 01 |
| Elementary Schools – Govt. | : 01 |

ZP High School - Government	: NIL
UP Schools	: NIL
PHC	: NIL
Veterinary Hospital	: NIL
Anganwadi	: 01
Social Welfare Office	: NIL
Hand Pumps	: NIL
Gravity Water Tanks	: 01
Bore well	: 54
Drinking Water Plants	: NIL
Fish Tanks	: NIL
Automatic Weather Station	: NIL
Govt. Hospital	: NIL
Rice Mills	: NIL
Flour Mills	: 02
Banks	: NIL
Number of Livestock	
Cattle	: 120
Buffaloes	: 30
Sheep	: 25
Goats	: 80
Pigs	: 40
Donkeys	: NIL
Pet Rabbits	: NIL
Pet Dogs	: 10
Fowls	: 160
Normal Agriculture Area (in Acres)	
Rice	: 60
Sugarcane	: NIL

Annexure - 1

Details of Biodiversity Committee (BMC) of the Panchayath (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 Chairman : Smt. Dorepally Lakshmi w/o Dorepally Ravinder
 - a. Age : 39 Years
 - b. Gender : Female -BC
 - c. Address : Macharam, Jadcherla Mandal,
Mahabubnagar District, Pin Code – 509301.
 - d. Area of Specialization: Agriculture
2. Name : Sri.Ravi s/o Venkataiah
 - a. Age : 28 Years
 - b. Gender : Male –BC
 - c. Address : Member- BMC, Macharam, Pin Code – 509301.
 - d. Area of Specialization: Agriculture & Labour
3. Name : Smt.Balamani w/o Thirupathaiah
 - a. Age : 45 Years
 - b. Gender : Female –BC
 - c. Address : Member - BMC, Macharam, Pin Code – 509301.
 - d. Area of Specialization: Agriculture
4. Name : Sri.Thirupathi Reddy s/o Gopal Reddy
 - a. Age : 31 Years
 - b. Gender : Male - OC
 - c. Address : Member – BMC, Macharam, Pin Code – 509301.
 - d. Area of Specialization: Agriculture
5. Name : Sri.Mohan Nayak s/o Somla Nayak
 - a. Age : 28-Years
 - b. Gender : Male–ST
 - c. Address : Member – BMC, Macharam, Pin Code – 509301.
 - d. Area of Specialization: Agriculture & Employee
6. Name : Smt.Anantha w/o Chennaiah
 - a. Age : 31 Years
 - b. Gender : Female – SC
 - c. Address : Member - BMC, Macharam, Pin Code – 509301.
 - d. Area of Specialization: Agriculture & Employee
7. Name : Smt. Muthyalama w/o Ram Nayak
 - e. Age : 48 Years
 - f. Gender : Female- ST
 - g. Address : Member - BMC, Macharam, Pin Code – 509301.

h. Area of Specialization: Agriculture, Identification of weeds

Annexure - 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: **No traditional practioners are there in this village.**

Annexure - 3

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

1. Name : Kista Nayak
Age : 42 Years
Gender : Male
Address : Macharam
Area of specialization: Agriculture

2. Name : Manaiah
Age : 35 Years
Gender : Male
Address : Macharam
Area of specialization: Agriculture & weed

3. Name : Srinivas
Age : 58 Years
Gender : Male
Address : Macharam
Area of specialization: Agriculture

4. Name : Chandraiah
Age : 28 Years
Gender : Male
Address : Macharam
Area of specialization: Agriculture & Weeds

5. Name : Sairam
Age : 38 Years
Gender : Female
Address : Macharam
Area of specialization: Agriculture and Pest of crops

6. Name : Sathyanarayana
Age : 46 Years
Gender : Male
Address : Macharam
Area of specialization: Agriculture and Animal husbandary

7. Name : Maibu
Age : 50 Years
Gender : Male
Address : Macharam
Area of specialization: Agriculture, Irrigation

8. Name : Rangaiah
Age : 43 Years
Gender : Female
Address : Macharam
Area of specialization: Agriculture and Medicinal Knowledge Holders

9. Name : Venkataiah
Age : 55 Years
Gender : Male
Address : Macharam
Area of specialization: Agriculture and Forestry

10. Name : Krishna Rao
Age : 58 Years
Gender : Male
Address : Macharam

Area of specialization: Agriculture and Forestry

Annexure– 4

Details of various Schools, Colleges, Departments, Universities, Government institutions, Non-Government Organizations and Individuals involved in the preparation of the PBR:

1. Contact Person Name and Address: Surpanch Ravindhar Reddy, Ex Surpanch Ravi, Macharam, Mahabubnagar District.
2. Contact Person Name and Address: Dr. B. Sadasivaiah, Assistant Professor of Botany, Dr. BRR Government College, Jadcherla, Mahabubnagar District, Telangana.
3. Contact Person Name and Address: Dr. BRR Government College, Jadcherla, Mahabubnagar District, Telangana
 - Mr. B. Suresh – Junior Research Fellow
 - Mr. A. RamaMahabubnagar – Junior Research Fellow
 - Mr. D. Shiva – Field Assistant
 - Mr. M. Sai Kumar – Field Assistant
 - Miss. V. Anitha– Data Entry Operator
4. Contact Person Name and Address: Srishilam, Panchayath Secretary, Macharam.

Annexure – 5

Details of access to biological resources and traditional knowledge granted details of the collection fee imposed and details of the benefits derived and 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 Panchayath	Details of collection fee imposed	Anticipate mode of sharing benefits or quantity of benefits shared
NOT APPLICABLE					

CHAPTER – IV

PART-II

CHAPTER – IV

a) Agrobiodiversity

Format 1 : Crop Plants

S. No.	Crop	Scientific Name	Local Name	Variety	Land scape/Habitat	Approx. Area shown in acres	Local status		Special features	Cropping season	Uses	Associated TK	Other details	Source of seeds/Plants	Community/ Knowledge Holders
							Past	Present							
1	Paddy	<i>Oryza sativa</i> L.	Vari	Hybrid-BT-502, Sona	Plains	60	Common	Common	Grain Small & High yielding	Kharif & Rabi	Food	Hey used as fodder to cattle.	Ponds, Bores	Market	Kistia Nayak
2	Maize	<i>Zea mays</i> L.	Mokka Jonna	Hybrid	Plains	12	Common	Common	High Yielding	Kharif & Rabi	Food	Plant leaves and stems used as like fodder of Domasticate animals	Bores	Market	Kistia Nayak
3	Black Gram	<i>Phaseolus mungo</i> (L.) Hepper	Minumulu	Hybrid	Plains	02	Common	Common	High Yielding	Kharif	Food	Used in preparation of Traditionals food items.	Pond,Cannels, Bores	Market	Kistia Nayak
4	Redgram	<i>Cajanus cajan</i> (L.) Millsp.	Kandulu	Local	Plains	14	Common	Common	High Yielding	Karif-Rabi	Food	This plant leaves and seed coat used as food to Goats,	Bores	Market (Shops)	Kistia Nayak
5	Little gourd	<i>Coccinia grandis</i> J. Voigt	Dondakaya	Local	Plains	Home garden	Common	Common	NR	Kharif	Food	Used as vegetable	Bores	Market (Shops)	Kistia Nayak
6	Kenaf	<i>Hibiscus cannabinus</i> L.	Gongura	Local	Plains	Home garden	Common	Common	NR	All seasons	Food	Leafy vegetable	Bores	Market (Shops)	Kistia Nayak
7	Ridge Gourd	<i>Luffa acutangula</i> (L.) Roxb.	Beera	Local	Plains	Home garden	Common	Common	NR	Karif-Rabi	Food	Used as vegetable	Bores	Market (Shops)	Kistia Nayak
8	Tomato	<i>Lycopersicon esculentum</i> Mill.	Tomato	Hybrid	Plains	Home garden	Common	Common	High Yielding	Kharif	Food	Used to prepare curries	Bores	Market	Kistia Nayak

9	Slender amaranth	<i>Amaranthus viridis</i> L.	Thotakura	Local	Plains	Home garden	Common	Common	NR	All seasons	Food	Used as leafy vegetable	Bores	Market (Shops)	Kistia Nayak
10	Brinjal	<i>Solanum melangina</i> L.	Vankaya	Hybrid	Plains	Home garden	Common	Common	High Yielding	Kharif	Food	Used in preparation of food	Bores	Market (Shops)	Kistia Nayak
11	Spinach	<i>Spinacia oleracea</i> L.	Palakura	Local	Plains	Home garden	Common	Common	NR	All seasons	Food	Used as leafy vegetable	Bore	Market (Shops)	Kistia Nayak
12	Chilli	<i>Capsicum annum</i> L.	Mirapa	Hybrid	Plains	Home garden	Rare	Common	NA	All seasons	Food	Used as vegetable	Bores	Market (Shops)	Kistia Nayak
13	Curry leaf	<i>Murraya koenigii</i> (L.) Spreng.	Karivepaku	Local	Plains	Home garden	Common	Common	NR	All seasons	Leafy vegetable	Dried leaves made into powder along with Red chilli and garlic.	Bores	Market (Shops)	Kistia Nayak

Format 2 : Fruit Plants

S. No.	Plant type	Scientific Name	Local Name	Variety	Habitat	Local status		Source of seeds/Plants	Season of fruiting	Associated TK	Uses/ other details (Market/ own use)	Community/ Knowledge Holders
						Past	Present					
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Format 3 : Fodder Crops/ Species

S. No.	Crop	Scientific Name	Local Name	Variety	Landscape/Habitat	Local status		Source of seeds/Plants	Associated TK	Parts used	Uses/other details (Market/own use)	Community/Knowledge Holders
						Past	Present					
1	Summer Grass	<i>Alloteropsis cimicina</i> (L.) Stapf	Pedda poola gaddi	Wild	Field bunds	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
2	Beard Grass	<i>Andropogon pumilus</i> Roxb.	Kavattam poolu	Wild	Plain	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
3	Banjura Grass	<i>Apluda mutica</i> L.	Barrekasi gaddi	Wild	Plain	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
4	Common needle grass	<i>Aristida adscensionis</i> L.	Ooba gaddi	Wild	Plain	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
5	Indian Blue Grass	<i>Bothriochloa pertusa</i> (L.) Camus	Ede Gaddi	Wild	Field bunds	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
6	Para grass	<i>Brachiaria mutica</i> (forssk.)	Para gaddi	Wild	Plain	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
7	Browntop millet	<i>Brachiaria ramosa</i> (L.) Stapf	Eduru Gaddi	Wild	Field bunds	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
8	Dharaf Grass	<i>Chrysopogon fulvus</i> (Sperng.) Chiov.	NR	Wild	Field bunds	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
9	NR	<i>Coelachyrum lagopoides</i> Bor	NR	Wild	Plain	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
10	NR	<i>Commelina clavata</i> C. B. Clarke	NR	Wild	Plain	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
11	NR	<i>Commelina maculata</i> Edgew.	NR	Wild	Plain	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas
12	Doob Grass	<i>Cynodon dactylon</i> (L.) Pers.	Garika	Wild	Cropping fields	Common	Common	Wild	Whole plant used as fodder	WP	Own use	Srinivas

Format 4 : Weeds

S. No.	Scientific Name	Local Name	Affected Crop	Impact	Habitat	Local status		Uses if Any	Management Option	Associated TK	Other details	Community/Knowledge Holders
						Past	Present					
1	<i>Acalypha indica</i> L.	Pippaku	Paddy	Yield reduced	Post harvest	Common	Common	Medicinal	Removing with hands	Medicinal	NR	Chandraiah
2	<i>Acanthospermum hispidum</i> DC.	Rankum undlu	Open land	Host for pathogen	Field bunds	Common	Common	NR	NR	NR	NR	Chandraiah
3	<i>Achyranthes aspera</i> L.	Uttareni	Paddy	Yield reduced	Field bunds	Common	Common	Leaves - Vegetable	Removing with hands	Leaves - Vegetable	NR	Chandraiah
4	<i>Aerva lanata</i> (L.) Juss.	Kondapi ndi	Open land	Host for pathogen	Field bunds	Common	Common	Medicinal	NR	Medicinal	NR	Chandraiah
5	<i>Aeschynomene indica</i> L.	Jeeluga	Paddy	Yield reduced	Post harvest	Common	Common	Fodder	Removing with hands	Fodder	NR	Chandraiah
6	<i>Alternanthera pungens</i> Kunth	Kukkam undlu	Open land	Host for pathogen	Field bunds	Common	Common	NR	NR	NR	NR	Chandraiah
7	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Ponnaganti	Paddy	Yield reduced	Field bunds	Common	Common	Leaves - Vegetable	Removing with hands	Leaves - Vegetable	NR	Chandraiah
8	<i>Amaranthus viridis</i> L.	Thotakura	Paddy	Yield reduced	Field bunds	Common	Common	Leaves - Vegetable	Removing with hands	Leaves - Vegetable	NR	Chandraiah
9	<i>Aponogeton natans</i> (L.) Engl.	NR	Paddy	Yield reduced	Pre ploughing stage	Common	Common	Wild Ornamental	Removing with hands	Ornamental	NR	Chandraiah
10	<i>Basilicum polystachyon</i> (L.) Moench	NR	Paddy	Yield reduced	Field bunds	Common	Abundant	NR	Removing with hands	NR	NR	Chandraiah
11	<i>Blumea mollis</i> (D. Don) Merr.	NR	Paddy	Yield reduced	Post harvest	Common	Abundant	NR	Removing with hands	NR	NR	Chandraiah
12	<i>Boerhavia diffusa</i> L.	Atakamamidi	Paddy	Yield reduced	Post harvest	Common	Common	Leaves - Vegetable	Removing with hands	Leaves - Vegetable	NR	Chandraiah
13	<i>Boerhavia erecta</i> L.	NR	Paddy	Yield reduced	Field bunds	Common	Common	Leaves - Vegetable	Removing with hands	Leaves - Vegetable	NR	Chandraiah
14	<i>Bothriochloa pseudischaemum</i> (Nees ex Steud.) Henrard	NR	Paddy	Yield reduced	Post harvest	Common	Common	Fodder	Removing with hands	Fodder	NR	Chandraiah
15	<i>Brachiaria distachya</i> (L.) Stapf	NR	Paddy	Yield reduced	Field bunds	Common	Common	Fodder	Removing with hands	Fodder	NR	Chandraiah
16	<i>Digera muricata</i> (L.) Mart.	Chenchulaku	Paddy	Yield reduced	Field bunds	Common	Common	Leaves - Vegetable	Removing with hands	Leaves - Vegetable	NR	Chandraiah
17	<i>Digitaria ciliaris</i> (Retz.)	NR	Paddy	Yield reduced	Plains	Common	Common	Fodder	Removing	Fodder	NR	Chandraiah

	Koel.								with hands			
18	<i>Tonningia axillaris</i> (L.) Kuntze	NR	Paddy	Yield reduced	Plains	Common	Common	Fodder	Removing with hands	Fodder	NR	Chandraiah
19	<i>Tragus roxburghii</i> Panigr.	NR	Paddy	Yield reduced	Cropping stage	Common	Common	Fodder	Removing with hands	Fodder	NR	Chandraiah
20	<i>Trianthema portulacastrum</i> L.	NR	Paddy	Yield reduced	Cropping stage	Common	Common	Leaves - Vegetable	Removing with hands	Leaves - Vegetable	NR	Chandraiah
21	<i>Tribulus terrestris</i> L.	Palleru	Open land	Host for pathogen	Plains	Common	Common	Leaves - Vegetable	NR	Leaves - Vegetable	NR	Chandraiah
22	<i>Tridax procumbens</i> L.	Gaddich amanthi	Paddy	Yield reduced	Cropping stage	Common	Common	Medicinal	Removing with hands	Medicinal	NR	Chandraiah
23	<i>Vernonia cinerea</i> (L.) Less.	Sadapaku	All crops	Yield reduced	Plains	Common	Common	Medicinal	Removing with hands	Medicinal	NR	Chandraiah
24	<i>Vigna aconitifolia</i> (Jacq.) Marechal	NR	Paddy	Yield reduced	Plains	Common	Common	Fodder, Wild relative	Removing with hands	Fodder	NR	Chandraiah
25	<i>Vigna trilobata</i> (L.) Verdc.	Pilli pesara	All crops	Yield reduced	Plains	Common	Common	Fodder, Wild relative	Removing with hands	Fodder	NR	Chandraiah
26	<i>Xanthium indicum</i> Koenig	Marula mathangi	Open land	Host for pathogen	Plains	Common	Common	Medicinal	NR	Medicinal	NR	Chandraiah
27	<i>Zaleya decandra</i> (L.) Burm. f.	Erra galijeru	Paddy	Yield reduced	Plains	Common	Common	NR	Removing with hands	NR	NR	Chandraiah

Format 5 : PestsofCrops

S.NO	Host	Insect/Animal	Scientific Name	Local Name	Habitat	Time/Season of Attack	Management Mechanism	Associated TK	Other Details	Community/ Knowlwdge Holders
1	Paddy	Grasshopper	<i>Acrida exaltata</i> (Walker)	Midatha	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
2	Palak	White rust	<i>Albugo occidentalis</i>	Not Reported	Plains	All seasons	Chemicals & Pesticides	NR	NR	Sairam
3	Tomato, Brinjal	Cotton Aphid	<i>Aphis gossypii</i> Glover	Not Reported	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
4	Paddy	Mealy bug	<i>Brevennia rehi</i>	Not Reported	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam

5	Paddy	Bug	<i>Cletus punctiger</i> (Dallas)	Not Reported	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
6	Binjal	Red pumpkin bug	<i>Coridius janus</i> (Fabricius)	Not Reported	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
7	Maize	Metallic shield bug	<i>Cyrtacanthacris tatarica</i> (L.)	Midatha	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
8	Maize	Stink bug	<i>Dolycoris indicus</i> Stal	Not Reported	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
9	Paddy	Field cricket	<i>Euscirtus concinnus</i>	Jitta	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
10	Paddy	Mole cricket	<i>Gryllotalpa orientalis</i>	Kummari purugu	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
11	Paddy	Locust	<i>Locusta migratoria manilensis</i>	Midatha	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
12	Paddy	Green rice leafhopper	<i>Nephotettix malayanus</i> Ishihara & Kawase	Sudi doma	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
13	All Crops	Green stink bug	<i>Nezara viridula</i> (Linnaeus)	Vasana Purugu	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
14	Paddy	Plant hopper	<i>Nilaparvata lugens</i>	Sudi doma	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
15	Paddy	Rice caseworm	<i>Nymphula depunctalis</i>	Not Reported	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam
16	Paddy, Maize	Senagalense Grasshopper	<i>Oedaleus senegalensis</i> (Krauss)	Midatha	Plains	Aug - Dec	Chemicals & Pesticides	NR	NR	Sairam

Format 6 : MarketsforDomesticatedanimals

Name of the market & location	Weekly (D)/ Fortnightly (D) / Monthly (D) / Biannual (M) / Annual (M)	Types of animals bought and sold	Types and Average Number of animals transacted in a day	Places from which animals are brought	Places to which the animals are sold / transported	Name and location of fish market	Types of fishes sold	Source of fish
Kaverammapeta	Weekly (Saturday)	Cows, Buffalo, Ox	300 -400 including all animals	Surrounding villages	Rajapur, Balnagar, Sardanagar.	NA	NA 32	NA

Format 7 : Peoplescape

Community & Population	Families & Major Occupations	Sub Occupation	Depending Landscape	Major resources accessed and seasons of access	Landscape management Practices	Resource management Practices	Caste/Tribe	Social Conditions	Nature of Inhabitants	No.of HHs
SC-301	77 & Agriculture	Agriculture , Employment	Agri landscapes	Agriculture resources	Modren landscape management practices	Traditional resources management practices	Madiga	Socially privileged	Own homes	77
OC-119	27 & Agriculture	Agriculture , Employment	Agri landscapes	Agriculture resources	Modren landscape management practices	Traditional resources management practices	Reddy,Brahamani s, Kommattlu	Socially privileged	Own homes	27
BC-813	84& Agriculture	Agriculture , Employment	Agri landscapes	Agriculture resources	Modren landscape management practices	Traditional resources management practices	Baliija , Chakali, Besthalu, Mudhiraj, Mangali, Vadrangi, Pallekarllu	Socially privileged	Own homes	84
ST-39	8 & Agriculture	Agriculture,	Agri landscapes	Agri , commercial	Modren landscape management practices	Traditional resources management practices	Erukali	Socially privileged	Own homes	8

Format 8 : Landscape

Major Land scape			Sub-Land Approx. area	Features and approx. area	Ownership	General Flora	General Fauna	User Groups	Management Practices	General Uses	Associated TK	Other Details	Community Accessed
Agriculture Land	Pond	Fallow Land											
400acers	3 Acres	150Acers	Irrigated cultivable land, dry land, grazing lands, cattle grazing land, waste land	Agriculture lands are mainly plain.	Agricultural lands are owned by villagers and pond owned by Government.	The main flora in Agricultural land is herbaceous weeds, shrubs in the field edges. In pond most of the aquatic plants are growing. In Fallow land species like <i>Sida</i> , <i>Cassia</i> , <i>Prosopis</i> , <i>Calotropis</i> , <i>Croton</i> , <i>Hyptis</i> , <i>Lantana</i> are growing.	<i>Sus scrofa</i> , <i>Passer domesticus</i> , <i>Nectarinia asiatica</i> , <i>Corvus splendens</i> , <i>Funambulus palmaram</i> , <i>Pachliopta aristolochiae</i> , <i>Xenocropis piscetor</i> , <i>Naja naja</i> , <i>Eryx johnii</i> , <i>Lycodon alicus</i> .	Farmers, fishermen, fallow lands used for grazing.	Traditional and modern practices are being applied in this village	Commercial purpose only	NR	NR	All community people

Format 9 : Waterscape

Water scape element type	Sub type	Features and approx area	Ownership	General Flora	General Fauna	Major Uses	Users Group	management Practices	General Uses	Associated TK	Other Details	Communi ty Accessed
Ponds	1-Ponds	3- Acers	Government	Phytoplanktons	Insects, Fishes, Frogs, Snakes	Irrigation	Farmers	Modern Management practices	Irrigation and Bathing	NR	NR	All communi ty
Borewells	Borewells	54	Private	NA	NA	Irrigation	Farmers	Automatic starting motors	Irrigation	NR	NR	All communi ty

Format 10 : Soiltype

Soil Type	Colour and Texture	Features	Soil Management	Plants/Crops Suitable	Flora and Fauna	Associated TK	Other Information
Block soil	Black, Smooth	This is smooth soil and water holding capacity is more and is to cultivate	To developing soil fertility they are using leafy manure, animal waste , compost	Paddy, Sugarcane	Insects, Reptiles, Small Mammals	To develop soil fertility they are using Cow dung and seed powder of neem	NR
Red soil	Red, Red loam soil	They are usually poor growing soils and difficult to cultivate	To developing soil fertility they are using leafy manure, animal waste, compost.	Paddy ,Vegetables	Insects, Reptiles, Small Mammals	To developing soil fertility they are using leafy manure, animal waste , compost	NR

CHAPTER – IV

b) Domesticated Biodiversity

Format 11 : Fruit Trees

S. No.	Plant Type	Local Name	Scientific Name	Variety	Habitat	Local Status		Source of Seeds/Plants	Season of Fruiting	Uses	Associated TK	Other details Market/own use	Community /Knowledge Holders
						Past	Present						
1.	Tree	Guava	Psidium guajava	hybrid	Tree	Common	Common	Local	July to Dec	Edible Fruits	Leafs and Fruits uswd to medicines	Own use	Sathyanarayana
2	Tree	Setha phalam	<i>Annona squamosa</i> L.	1	Tree	Rama Phalam	<i>Annona reticulata</i> L.	Local	Oct-Nov	Edible fruits	Not reported	Own use	Sathyanarayana
3	Tree	Banana	<i>Musa paradiaca linn</i>	Natiral	Tree	Common	Common	Wild	April	Edible fruits	Leaves used as cooking, wraping and food serving. Fruits used as fruit juices and milk shakes	Own use	Sathyanarayana
5	Tree	Boppayi	<i>Carica papaya</i> L.	Hybrid	Home garden	Common	Rare	Nursery	Oct-Jan	Edible fruits	Leaf decotion used for Dengue	Own use	Sathyanarayana
7	Tree	Nimma	<i>Citrus limon</i> (L.) Osbeck	Hybrid	Home garden	Common	Common	Nursery/ Nighbou r	Summe r	Edible fruits	Fruits used to make juice and prepare pickles.	Own use	Sathyanarayana
8	Tree	Promag ranate	<i>Punica granatum</i>	Hybrid	Home garden	Common	Common	Nursery/ Nighbou r	Summe r	Edible fruits	Seeds used to make juice	Own use	Sathyanarayana
9	Tree	Kobbari	<i>Cocos nucifera</i> L.	Local	Home garden	Common	Common	Nursery	Summe r	Endospe rm edible	Used for drinking coconuts water and Coconuts were used in marriage ceremonies.	Own use	Sathyanarayana
10	Tree	Sapota	<i>Manilkara zapota</i>	Local	Home garden	Common	Common	Nursary	Oct-Jan	Edible fruits	Fruit used to skin,hair benfites	Own use	Sathyanarayana
11	Tree	Mamidi	<i>Mangifera indica</i>	Hybrid	Home garden	Rare	Common	Nursery	Summe r	Edible fruits	Leaves were used as decorative material during festivals	Own use	Sathyanarayana
12	Tree	Jujube	<i>Ziziphus jujube mill</i>	Local	Home garden	Common	Common	Wild	Summe r	Fruit edible	Fruit help with digestion and may improve sleep	Own use	Sathyanarayana

Format 12 : Medicinal Plants (Herbs, Shrubs, Trees etc.)

S. No.	Plant Type	Local Name	Scientific Name	Variety	Landscape/Habitat	Source of Plants / Seeds	Local Status		Uses (Usage)	Parts used	Associated TK	Other details Market/own use	Community / Knowledge Holders
							Past	Present					
1	Herb	Ranapala	<i>Bryophyllum pinnatus</i>	Local	Home garden	Nursery	Common	Common	Use for reduce the kidney stones	Leaves	Leaves use in medicinally	Own use	Rangaiah
2	Tree	Thulasi	<i>Ocimum tenuiflorum</i>	Local	Home garden	Nursery	Common	Common	Used to treat insect bites	Leaves	Leaves used in medicinally.	Own use	Rangaiah
3	Herb	Amudham	<i>Risinus communis</i>	Local	Home garden	Wild	Common	Common	Fruits are used to preparation of oils	Fruits	Fruits used to hair oils	Own use	Rangaiah
4	Herb	Kalabandha	<i>Aloe vera</i> (L.) Burm.f.	Local	Home garden	Wild	Common	Common	Used to clear acne	leaf	Improves digestive health	Own use	Rangaiah
5	Tree	Henna	<i>Lawsonia inermis</i>	Local	Home garden	Nursery	common	common	Leaves used to hair growth and design for hands	Leaves and Fruits	Leaves edible	Own use	Rangaiah
6	Tree	Vepa	<i>Azadirachta indica</i> A.Juss.	Local	Home garden	Wild	Abundant	Common	Leaves paste is applied for chicken pox.	Whole Plant	Juvenile stems used like tooth brush to wash teeth	Own use	Rangaiah
7	Shrub	Gilledu	<i>Calotropis gigantea</i> (L.) Dryand.	Local	Home garden	Wild	Common	Common	Scorpion bite	Latex	Latex is used to cure scorpion bite and to remove Thorns from body		Rangaiah
8	Herb	Billaganeru	<i>Catharanthus roseus</i> (L.) G. Don	Local	Home garden	Nursery	Rare	Common	Wounds	Whole Plant	Leaf paste used to cure wounds	Own use	Rangaiah

Format 13 : OrnamentalPlants/Trees/Climbersetc.

S. No.	Plant Type	Local Name	Scientific Name	Variety	Source of Plants / Seeds	Commercial Non Commercial	Local Status		Uses	Associate d TK	Othe r detail s	Comm unity /Knowl edge Holders
							Past	Presant				
1	Shrub	Kanakam baram	<i>Crossandra infundibuliformis</i>	Hybrid	Nursery	Non Commercial	Rare	Common	NR	NR	NR	Shiva
2	Tree	Jasmine	<i>Jasminum</i>	Local	Nursery	Non commercial	Rare	Common	Medicinal	NR	NA	Shiva
3	Herb	Rose	<i>Rosa indica</i>	Hybrid	Nursery	Non Commercial	Rare	Common	NR	NR	NR	Shiva
4	herb	Marry gold	<i>Tagetes erecta.</i>	Hybrid	Nursery	Non commercial	Common	Common	NR	NR	NR	Shiva
5	herb	Chamanthi	<i>Chrysanthemum</i>	Hybrid	Nursery	Non commercial	Common	Common	NR	NR	NR	Shiva
6	Tree	Hibiscus	<i>Hibiscus rosa sinensis</i>	Hybrid	Nursery	Non commercial	Common	Common	Used to hair growrh	NR	NR	Shiva
7	Herb	Money plant	<i>Epipremnum aureum</i>	Hybrid	Nursery	Non Commercial	Rare	Rare	NR	NR	NA	Shiva
8	Shrub	Buddha bamboo	<i>Bambusa ventricosa McClure</i>	Hybrid	Nursery	Non Commercial	Rare	Common	NR	NR	NR	Shiva
9	Shrub	Kagitham puvvulu	<i>Bogainvillia spectabilis</i> Willd.	Hybrid	Neighbours / Nursery	Non Commercial	Common	Common	NR	Propogate d through stem cuttings.	NR	Shiva
10	Shrub	NR	<i>Carissa carandas</i> L.	Hybrid	Nursery	Non Commercial	Rare	Common	NR	NR	NR	Shiva
11	Herb	Billa ganeru	<i>Catharanthus roseus</i> (L) G. Don	Local	Neighbours / Nursery	Non commercial	Common	Common	Medicinal	Flowers used In ofering pooja	NA	Shiva
12	Shrub	Mandaram	<i>Hibiscus rosa- sinensis</i> L.	Local	Neighbours /Nursery	Non commercial	Common	Common	Flower petals are good for hair growth	NA	NA	Shiva
13	Shrub	Ganneru	<i>Nerium oleander</i> L.	Local	Neighbours /Nursery	Non commercial	Rare	Rare	Used in treatment of peralysis	NA	NA	Shiva

Format 14 : TimberPlants/Trees

S. No.	Plant Type	Local Name	Scientific Name	Habitat	Local Status		Wild /Home Garden	Other Uses (Multi)	Associated TK	Other details	Communit y /Knowled ge Holders
					Past	Present					
1	Tree	Thumma	<i>Acacia nilotica</i> (L.) Delile	Home garden	Common	Rare	Home Garden	Seeds used as a fodder to goats	Fruits used as fodder for goats	Native	Suresh
2	Tree	Neem	<i>Azadirachta indica</i> A.Juss.	Home garden	Common	Common	Home Garden	Juvinial stems used like tooth brush to wash teeth	People growing this tree for shading in front of homes	Native	Suresh
3	Tree	Kanuga	<i>Pongamia pinnata</i>	Home garden	Common	Common	Home garden & Field bunds	Medicinal	Tree used to grown for shading in front of homes	NA	Suresh
4	Tree	Raavi	<i>Ficus religiosa</i>	Home garden	Common	Common	Home garden & Field bunds	Used in marriage ceremonies	Were used in marriage ceremonies.	NA	Suresh
5	Tree	Chintha	<i>Tamarindusindica</i> L	Home garden	Abundant	Common	Home Garden	Fruits edible	Strong wood	NA	Suresh
6	Tree	Teak	<i>Tamarindus indica</i>	Home garden	Common	Common	Home garden & Field bunds	Strong wood	NR	NA	Suresh

Format 15 : Domesticated Animals

S. No.	Local Name	Scientific Name	Breed (Locally/Hybrid)	Features	Method of Keeping	Local Status		Uses	Associated TK	Commercial rearing	Other details	Community /Knowledge Holders
						Past	Present					
1	Eddulu	<i>Bos taurus indicus</i> L.	Local	Medium sized body with different colour	Shed	Abundant	Common	Agriculture purpose	Ox used for agriculture purpose	Yes	NR	Rajaiah
			Ongole	Heavy sized body	Shed	Common	Common	Agriculture purpose	Ox used for agriculture purpose	Yes	NR	Rajaiah
2	Avu	<i>Bos taurus indicus</i> L.	Local	Medium body	Shed	Common	Rare	Milk & Agriculture		Yes	NR	Rajaiah
			Ongole	Heavy body	Shed	Common	Rare	Milk & Agriculture		Yes	NR	Rajaiah
3	Barrelu	<i>Bos bubalis</i> L.	Local	Light body, low height	Shed	Abundant	Common	Female for milk and male for agriculture purposes and to meat		Yes	Males are offered to God	Rajaiah
			Murra	Heavy body	Shed	Common	Common	Female for milk and male for agriculture purposes and to meat		Yes	Males are offered to God	Rajaiah
4	Meka	<i>Capra aegagrus hircus</i> L.	Local	Meat and Leathe purposes	Shed	Abundant	Common	Village people drinks Raw milk for strenth		Yes	Male Goats are offered to God	Rajaiah

People's Biodiversity Register – Macharam (V), Jadcherla (M), Mahabubnagar Dt., Telangana

5	Kodi	<i>Galus galus</i> L.	Local	Medium sized	Free roaming	Abundant	Common	Few people specially used for eggs only		NO	NR	Rajaiah
			Giriraja	Heavy body	Free roaming	Rare	Rare	Few people specially used for eggs only		NO	NR	Rajaiah
6	Pilli	<i>Pilus sylvestris catus</i> L.	Local	Pet	Free roaming	Abundant	Common	Security	For security	NO	NR	Rajaiah
7	Gorre	<i>Ovis aries</i> L.	Local	Wool, leather, meat purposes	Shed	Abundant	Common	Meat and hair (Vunni)	Village people drinks Raw milk for strength	Yes	Males are offered to God	Rajaiah
			Erra gorrelu	Wool, leather, meat purposes	Shed	Common	Common	Meat and hair (Vunni)	Village people drinks Raw milk for strength	Yes	Males are offered to God	Rajaiah
			Tella goreelu	Wool, leather, meat purposes	Shed	Common	Common	Meat and hair (Vunni)	Village people drinks Raw milk for strength	Yes	Males are offered to God	Rajaiah
8	Pigs	<i>Sac scrofa</i> L.	Machala pandi	Bloches on the body	Shed	Common	Rare	Meat	Not reported	No	NR	Rajaiah
			Seema Pandi	Heavy body	Shed	Common	Rare	Meat	Not reported	No	NR	Rajaiah
9	Dog	<i>Canis lupus familiaris</i> L.	Local	NR	Free roaming	Common	Common	Security	Not reported	No	NR	Rajaiah

Format 16 : Culture Fisheries

S. No.	Local Name	Scientific Name	Variety	Features	Water scape Pond/bh eri/ talao	Local Status		Uses	Associated TK	Commercial rearing	Other details	Community / Knowledge Holders
						Past	Present					
1	Bochhe	<i>Pangasius bocourti</i>	local	NA	Pond	Common	Common	Food	NR	NO	NR	Umma maheshwar
2	Gold fish	<i>Carassius auratus</i>	local	NA	Pond	Rare	Rare	Food	NR	NO	NR	Umma maheshwar
3	Catla	<i>Catla catla</i> (Hamilton-Buchanan, 1822)	local	NA	Pond	Common	Common	Food	NR	NO	NR	Umma maheshwar
4	Common Carp	<i>Cyprinus carpio</i> (Linnaeus, 1758)	local	NA	Pond	Common	Common	Food	NR	NO	NR	Umma maheshwar
5	Nucta	<i>Schismatorhynchus</i> (Bloch 1785)	local	NA	Pond	Common	Common	Food	NR	NO	NR	Umma maheshwar
6	NR	<i>Labeo boggut</i> (Sykes, 1841)	local	NA	Pond	Common	Common	Food	NR	NO	NR	Umma maheshwar
7	Rohu	<i>Labeo rohita</i> (Hamilton-Buchanan, 1822)	local	NA	Pond	Common	Common	Food	NR	NO	NR	Umma maheshwar
8	Nucta	<i>Schismatorhynchus</i> (Nukat) nukta (Sykes, 1841)	local	NA	Pond	Common	Common	Food	NR	NO	NR	Umma maheshwar
9	Pearl spot	<i>Etroplus maculatus</i> (Bloch, 1785)	local	NA	Pond	Common	Common	Food	NR	NO	NR	Umma maheshwar
10	Kakiparaka	<i>Oreochromis mossambicus</i> (Peters, 1852)	local	NA	Pond	Common	Common	Food	NR	NO	NR	Umma maheshwar

Format 17 : Markets/ Fairs for Domesticated Animals, Medicinal Plants and other products

Location	Scientific name	Weekly/Fo rthightly & others Bi- Annual/A nnual	Day Held	Month in case of bi-annual or annual market fair	Types of Animal bought and sold	Number of animals (Average) transacted in a day	Places from where the animals are arrived	Places to where the animals are transported	Commercial rearing	Other Details	Community Knowledge Holders
Kaveramm apet	<i>Capra aegagrus hircus, Ovis, Bubalus bubalis, Galus galus, Bas indicus.</i>	Weekly	Saterday	NA	Cows, Baffalo, Goats, Ox, Sheep.	50-100 including all animals	Surrounding villeges	Bangalore, Hyderabad	NA	NA	Narasimha

CHAPTER – IV

c) Wild Biodiversity

Format 18 : Trees, Shrubs, Herbs, Grasses, Climbers etc.

S. No.	Plant Type	Local Name	Scientific Name	Habit	Habitat	Local Status		Commercial / own use	Parts collected	Associated TK	Other details	Community / Knowledge Holders
						Past	Present					
1	Shrub	Thathurubenda	<i>Abutilon indicum</i> (L.) Sweet	Shrub	Plains	Common	Common	NR	Whole plant	Medicinal	Ovary edible	Venkatarathnam
2	Tree	Thumma	<i>Acacia nilotica</i> (L.) Delile	Tree	Plains	Common	Common	Own	Gum	Adhesive	NR	Venkatarathnam
3	Herb	Pippaku	<i>Acalypha indica</i> L.	Herb	Plains	Common	Rare	NR	Leaves	Leaves used to cure skin disease	NR	Venkatarathnam
4	Herb	Kukkamundlu	<i>Acanthospermum hispidum</i> DC.	Herb	Plains	Common	Common	NR	NR	Not Reported	NR	Venkatarathnam
5	Herb	Uttareni	<i>Achyranthes aspera</i> L.	Herb	Plains	Common	Common	Own	Leaves	Leaves used to insect bite	Leaves used as vegetable	Venkatarathnam
6	Herb	Kondapindi	<i>Aerva lanata</i> (L.) Juss.	Herb	Plains	Abundant	Common	Own	Leaves	Leaves used as medicine to cure stones in Kidney.	Inflorescence used to fill pillow.	Venkatarathnam
7	Tree	Dirisena	<i>Albizia lebbek</i> (L.) Benth.	Tree	Plains	Abundant	Common	Own	Wood	Timber	NR	Venkatarathnam
8	Herb	Not Reported	<i>Alloteropsis cimicina</i> (L.) Stapf	Herb	Field bunds	Common	Rare	Own	Whole plant	Used as Fodder	NR	Venkatarathnam
9	Herb	Manchi Kalabanda	<i>Aloe vera</i> (L.) Burm.f.	Herb	Outskirts of village	Common	Common	Own	Leaves	Used as medicine for various ailments. Whole plant hanging to eradicate small house flies.		Venkatarathnam
10	Herb	Ponnaganti kura	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Herb	Moist localities	Common	Common	Own	Leaves	Medicinal and Used as vegetable.		Venkatarathnam

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11	Herb	Not Reported	<i>Alysicarpus bupleurifolius</i> (L.) DC.	Herb	Plains	Common	Rare	Own	Whole plant	Used as Fodder	NR	Venkatarathnam
12	Herb	Botlalam	<i>Alysicarpus hamosus</i> Edgew.	Herb	Plains	Common	Rare	Own	Whole plant	Used as Fodder	NR	Venkatarathnam
13	Herb	Not Reported	<i>Alysicarpus monilifer</i> (L.) DC.	Herb	Plains	Abundant	Common	Own	Whole plant	Used as Fodder	NR	Venkatarathnam
14	Herb	Mulla Thotakura	<i>Amaranthus spinosus</i> L.	Herb	Outskirts of village	Abundant	Common	Own	Leaves	Leaves used as vegetable.	NR	Venkatarathnam
15	Herb	Thotakura	<i>Amaranthus viridis</i> L.	Herb	Outskirts of village	Common	Common	Own	Leaves	Leaves used as vegetable.	NR	Venkatarathnam
16	Herb	Not Reported	<i>Ammannia baccifera</i> L.	Herb	Moist localities	Common	Common	Own	Leaves	Not Reported	NR	Venkatarathnam
17	Tree	Seetha Phalam	<i>Annona squamosa</i> L.	Tree	Field bunds	Common	Common	Own	Fruits	Fruit edible, can be supplied to local market in the season.		Venkatarathnam
18	Herb	Balurakkasi	<i>Argemone mexicana</i> L.	Herb	Outskirts of village	Common	Common	Own	Leaf sap	Used to cure ulcers on lips	NR	Venkatarathnam
19	Tree	Vepa	<i>Azadirachta indica</i> A. Juss.	Tree	Plains	Common	Common	Own	Whole plant	Oil from seeds is used in medicines, leaves are used to cure chicken pox. Wood used to prepare cots and agriculture equipments		Venkatarathnam
20	Shrub	Jilledu	<i>Calotropis gigantea</i> (L.) Dryand.	Shrub	Outskirts of village	Common	Common	Own	Whole plant	Latex used to cure scorpion bite.	Used as biofertilizer	Venkatarathnam
21	Shrub	Jilledu	<i>Calotropis procera</i> (Aiton) Dryand.	Shrub	Outskirts of village	Common	Common	Own	Whole plant	Latex used to cure scorpion bite.	Used as biofertilizer	Venkatarathnam
22	Herb	Vuppu Gaddi	<i>Chloris barbata</i> Sw.	Herb	Plains	Abundant	Common	Own	Whole plant	Fodder	NR	Venkatarathnam
23	Herb	Kukka Vaminta	<i>Cleome gynandra</i> L.	Herb	Waste lands	Common	Common	Own	Leaves	Medicinal	NR	Venkatarathnam
24	Climber	Dusara Theega	<i>Cocculus hirsutus</i> (L.) W.Theob.	Climber	Field bunds	Common	Rare	Own	Leaves & Stems	Used to prepare jelly substance with leaf juice		Venkatarathnam

Format19: Wild Plant Species of Importance

S. No.	Local Name	Scientific Name	Variety	Importance (As economic, Social, Cultural etc)	Status
1	Thumma	<i>Acacia nilotica</i> (L.) Delile	Wild	Adhesive	Common
2	Pippaku	<i>Acalypha indica</i> L.	Wild	Leaves used to cure skin disease	Rare
3	Uttareni	<i>Achyranthes aspera</i> L.	Wild	Leaves used to insect bite	Common
4	Kondapindi	<i>Aerva lanata</i> (L.) Juss.	Wild	Leaves used as medicine to cure stones in Kidney and used as leafy vegetable.	Common
5	Dirisena	<i>Albizia lebbek</i> (L.) Benth.	Wild	Timber	Common
6	Manchi Kalabanda	<i>Aloe vera</i> (L.) Burm.f.	Wild	Used as medicine for various ailments	Common
7	Ponnaganti kura	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Wild	Medicinal	Common
8	Botlalam	<i>Alysicarpus hamosus</i> Edgew.	Wild	Used as Fodder	Rare
9	Mulla Thotakura	<i>Amaranthus spinosus</i> L.	Wild	Leaves used as vegetable.	Common
10	Thotakura	<i>Amaranthus viridis</i> L.	Wild	Leaves used as vegetable.	Common
11	Seetha Phalam	<i>Annona squamosa</i> L.	Wild	Fruit edible, can be supplied to local market in the season.	Common
12	Vepa	<i>Azadirachta indica</i> A. Juss.	Wild	Oil from seeds is used in medicines, leaves are used to cure chicken pox	Common
13	Thati	<i>Borassus flabellifer</i> L.	Wild	Fruits edible, Leaves used as thatching material and stems as wood	Common
14	Jilledu	<i>Calotropis procera</i> (Aiton) Dryand.	Wild	Latex used to cure scorpion bite.	Common
15	Kukka Vaminta	<i>Cleome gynandra</i> L.	Wild	Medicinal	Common
16	Dusara Theega	<i>Cocculus hirsutus</i> (L.) W.Theob.	Wild	Used to prepare jelly substance with leaf juice	Rare
17	Kobbari	<i>Cocos nucifera</i> L.	Wild	Edible	Common
18	Garika	<i>Cynodon dactylon</i> (L.) Pers.	Wild	Fodder	Common
19	Bagamathi	<i>Cyperus difformis</i> L.	Wild	Fodder	Common
20	Thunga	<i>Cyperus rotundus</i> L.	Wild	Fodder	Common

Format20: Aquatic Biodiversity

S. No	Local Name	Scientific Name	Variety	Features	Habitat	Local Status		Uses	Associated TK	Other Details	Community/ Knowledge Holders
						Past	Present				
1	Ponnaganti kura	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Wild	Herb	Moist localities	Common	Common	Medicinal	Used as leafy vegetable	NR	Mahabubnagar arao
2	Vennadeni aaku	<i>Commelina bengalensis</i> L.	Wild	Herb	Moist localities	Common	Common	Medicinal	Fodder	NR	Mahabubnagar arao
3	Rabbaru theega	<i>Cryptostegia grandiflora</i> Roxb. ex R.Br.	Wild	Climber	Water courses	Common	Common	Ornamental	NR	NR	Mahabubnagar arao
4	Garika	<i>Cynodon dactylon</i> (L.) Pers.	Wild	Herb	Moist localities	Abundant	Common	Fodder	WP used as fodder	NR	Mahabubnagar arao
5	Thunga	<i>Cyperus rotundus</i> L.	Wild	Herb	Moist localities	Common	Common	Fodder	WP used as fodder	NR	Mahabubnagar arao
6	Ganupu Gaddi	<i>Dactyloctenium aegyptium</i> (L.) P. Beauv.	Wild	Herb	Moist localities	Abundant	Common	Fodder	WP used as fodder	NR	Mahabubnagar arao
7	Guntagalagara	<i>Eclipta prostrata</i> (L.) L.	Wild	Herb	Moist localities	Common	Common	Used to cure dandruff	Leafy vegetable	NR	Mahabubnagar arao
8	Medi	<i>Ficus racemosa</i> L.	Wild	Tree	Water courses	Common	Common	Edible	Fruits are edible	NR	Mahabubnagar arao
9	Kaluva	<i>Nymphaea nouchali</i> Brum.f.	Wild	Herb	Water courses	Common	Common	Wild ornamental	NR	NR	Mahabubnagar arao
10	Jammu	<i>Typha angustifolia</i> L.	Wild	Herb	Water courses	Common	Common	Thatching	Used as thatching material	NR	Mahabubnagar arao

Format21: Aquatic Plant Species of Importance

S. No.	Local Name	Scientific Name	Variety	Importance	Trends
1	Ponnaganti kura	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Wild	Medicinal	Common
2	Garika	<i>Cynodon dactylon</i> (L.) Pers.	Wild	Fodder	Common
9	Bagamathi	<i>Cyperus difformis</i> L.	Wild	Fodder	Common
14	Thunga	<i>Cyperus rotundus</i> L.	Wild	Fodder	Common
16	Ganupu Gaddi	<i>Dactyloctenium aegyptium</i> (L.) P. Beauv.	Wild	Fodder	Common

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17	Guntagalagara	<i>Eclipta prostrata</i> (L.) L.	Wild	Leaf juice used to cure dandruf	Common
18	Medi	<i>Ficus racemosa</i> L.	Wild	Edible	Common
19	Kavalaku	<i>Ipomoea aquatica</i> Forssk.	Wild	Wild ornamental	Common
20	Rabbaru Chettu	<i>Ipomoea carnea</i> Jacq.	Wild	Wild ornamental	Common
21	Kaluva	<i>Nymphaea nouchali</i> Brum.f.	Wild	Wild ornamental	Common
22	Kaluva	<i>Nymphaea pubescens</i> Willd.	Wild	Wild ornamental	Common
23	NR	<i>Ottelia alismoideis</i> (L.) Pers.	Wild	Ovary edible	Common
24	Pulichintha	<i>Oxalis corniculata</i> L.	Wild	Medicinal	Common
25	Anthara Thamara	<i>Pistia stratiotes</i> L.	Wild	Ornamental	Common
26	Kukkapayali	<i>Portulaca quadrifida</i> L.	Wild	Vegetable	Common
27	Jammu	<i>Typha angustifolia</i> L.	Wild	Thatching	Common
28	Vavili	<i>Vitex negundo</i> L.	Wild	Leaves burned to eradicate Mosquitos	Common

Format22: Wild Plants of Medicinal Importance

S. No.	Plant Type	Local Name	Scientific Name	Variety	Source of Plants / Seeds	Local Status		Uses	Parts used	Associated TK	Other details Market/ own use	Community /Knowledge Holders
						Past	Present					
1	Shrub	Thuthuru benda	<i>Abutilon indicum</i> (L.) Sweet	Wild	Wild	Common	Common	Nerve disorders	Roots	Roots made the past to apply on parts and cure nerves disorders	Own use	Ramayya
2	Herb	Pippaku	<i>Acalypha indica</i> L.	Wild	Wild	Common	Rare	Skin disease	Leaves	Leaves used to cure skin disease	Own use	Ramayya
3	Herb	Uttareni	<i>Achyranthes aspera</i> L.	Wild	Wild	Common	Common	Insect bite	Leaves	Leaf paste used for Insect bite and young leaves edible	Own use	Ramayya
4	Herb	Kondapindi	<i>Aerva lanata</i> (L.) Juss.	Wild	Wild	Abundant	Common	Kidney disorders.	Leaves	Leaves used as medicine to cure stones in Kidney and used as leafy vegetable.	Own use	Ramayya
5	Herb	Manchi Kalabanda	<i>Aloe vera</i> (L.) Burm.f.	Wild	Wild	Common	Common	Skin diseases	Whole plant	Used as medicine for various ailments	Own use	Ramayya
6	Herb	Ponnaganti kura	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Wild	Wild	Common	Common	Eye disorders	Leaves	Leaves used as vegetable for eye disorders	Own use	Ramayya
7	Herb	Balurakkasi	<i>Argemone mexicana</i> L.	Wild	Wild	Common	Common	Used for ulcers	Leaf sap	Used to cure ulcers on lips	Own use	Ramayya
8	Tree	Vepa	<i>Azadirachta indica</i> A. Juss.	Wild	Wild	Common	Common	Skin diseases	Whole plant	Oil from seeds is used in medicines, leaves are used to cure chicken pox	Own use	Ramayya
9	Shrub	Jilledu	<i>Calotropis gigantea</i> (L.) Dryand.	Shrub	Outskirts of village	Common	Common	Scorpion bite.	Whole plant	Latex used to cure scorpion bite.	Own use	Ramayya
10	Shrub	Jilledu	<i>Calotropis procera</i>	Shrub	Outski	Common	Common	Scorpion	Whole	Latex used to cure	Own use	Ramayya

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			(Aiton) Dryand.		rts of village			bite.	plant	scorpion bite.		
11	Herb	Kukka Vaminta	<i>Cleome viscosa</i> L.	Wild	Wild	Common	Common	Ear pain	Whole plant	Used for ear infections and roots for wounds	Own use	Ramayya
12	Herb	Vennadeni aaku	<i>Commelina bengalensis</i> L.	Wild	Wild	Common	Common	Pimples	Whole plant	Used for various ailments.	Own use	Ramayya
13	Herb	Guntagalagara	<i>Eclipta prostrata</i> (L.) L.	Wild	Wild	Common	Common	Hair problems	Whole plant	Leaf juice used to cure dandruf	Own use	Ramayya
14	Herb	Mulla Banthi	<i>Lepidagathis cristata</i> Willd.	Local	Wild	Common	Common	Cure burns	WP	Ash of whole plant used to cure burns	Own use	Ramayya
15	Herb	Thulasi	<i>Ocimum tenuiflorum</i> L.	Wild	Wild	Common	Common	Fever, Cough and Cold.	Whole plant	Leaves used to cure Cough, Cold and Fever.	Own use	Ramayya
16	Tree	Eetha	<i>Phoenix sylvestris</i> (L.) Roxb.	Wild	Wild	Common	Common	Mouth ulcers	Leaves	Leaves chewed for mouth ulcers	Own use	Ramayya
17	Herb	Nela usiri	<i>Phyllanthus amarus</i> Schumach. & Thonn.	Wild	Wild	Abundant	Common	Jaundice	Whole plant	Whole plant paste used for Jaundice	Own use	Ramayya
18	Herb	Chithramulam	<i>Plumbago zeylanica</i> L.	Wild	Wild	Common	Common	Skin problems	Leaves	Leaves used for skin problems	Own use	Ramayya
19	Tree	Jammi	<i>Prosopis cineraria</i> (L.) Druce	Wild	Wild	Rare	Rare	Leprosy, asthma and earache.	WP	Spiritual, Medicinal	Own use	Ramayya
20	Shrub	Thangedu	<i>Senna auriculata</i> (L.) Roxb.	Wild	Wild	Common	Common	Bone fractures	WP	Leaves used for bone fractures, burns.	Own use	Ramayya
21	Climber	Thippa Theega	<i>Tinospora cordifolia</i> (Willd.) Miers	Wild	Wild	Common	Common	Fever, Cough and Cold.	Whole plant	Whole plant used to treat Fever, Cough and Cold.	Own use	Ramayya
22	Herb	Palleru	<i>Tribulus terrestris</i> L.	Wild	Wild	Common	Common	Aphrodisiac	Leaves	Used to cure Aphrodisiac	Own use	Ramayya
23	Herb	Gaddi Chamanthi	<i>Tridax procumbens</i> L.	Wild	Wild	Abundant	Common	Wounds, skin diseases	Leaves	Leaves used to cure Wounds and skin diseases.	Own use	Ramayya

Format23: Wild Relatives of Crops

S. No.	Local Name	Cultivated Crops	Wild Relatives	Landscape /Habitat	Local Status		Uses(Usage)	Parts Used	Associated TK	Other Details	Community / Knowledge Holders
					Past	Present					
1	Vegetables	Vegetables	<i>Amaranthus spinosus</i> L.	Plains	Common	Common	Leafy vegetable	Leaves	Not Reported	NA	Laxmaiah

Format24: Wild Ornamental Plants

S.No.	Local Name	Scientific Name	Variety	Habitat	Commercial / Non Commercial Use	Associated TK	Any other Details	Community / Knowledge Holders
1	Rabbaru theega	<i>Cryptostegia grandiflora</i> Roxb. ex R.Br.	Wild	Water courses	Non commercial	NR	NR	Venkataiah
2	Kavalaku	<i>Ipomoea aquatica</i> Forssk.	Wild	Water courses	Non commercial	NR	NR	Venkataiah
3	Rabbaru Chettu	<i>Ipomoea carnea</i> Jacq.	Wild	Water courses	Non commercial	NR	NR	Venkataiah
4	Not Reported	<i>Ipomoea wightii</i> (Wall.) Choisy	Wild	Plains	Non commercial	NR	NR	Venkataiah
5	Kaluva	<i>Nymphaea nouchali</i> Brum.f.	Wild	Water courses	Non commercial	NR	NR	Venkataiah
6	Kaluva	<i>Nymphaea pubescens</i> Willd.	Wild	Water courses	Non commercial	NR	NR	Venkataiah
7	Anthara Thamara	<i>Pistia stratiotes</i> L.	Wild	Floating on water	Non commercial	NR	NR	Venkataiah
8	Navarathnalu	<i>Lantana camara</i> L.	Wild	Plains	Non commercial	NR	NR	Venkataiah
9	Thummi	<i>Leucas aspera</i> (Willd.) Link	Wild	Plains	Non commercial	NR	NR	Venkataiah
10	Chitramulam	<i>Plumbago zeylanica</i> L.	Wild	Plains	Non commercial	NR	NA	Venkataiah

Format25:Fumigate/ChewingPlants

S.no	Plant (Herb, Shrub, Tree)	Local Name	Scientific Name	Variety	Habitat	Local Status		Uses (usage)	Part used	Associated TK	Other details (mode of use)	Community Past Present knowledge holder
						Past	Present					
1	Shrub	Vavili	<i>Vitex negundo</i> L.	Wild	Near stream	Common	Rare	Fumigate	Leaves	Leaves burned to eradicate Mosiquito	Also used as fensing material	Mahabubnagar
2	Tree	Vepa	<i>Azadirachta indica</i> A. Juss.	Wild	Plains	Common	Common	Fumigate & Chewing	Leaves	Leaves burned to eradicate Mosiquito. And also chewed sometimes	Medicinal	Mahabubnagar
3	Tree	Eetha	<i>Phoenix sylvestris</i> (L.) Roxb.	Wild	Plains	Common	Rare	Chewing	Leaflets	Chewed to cure mouth ulcers	Leaflets chewed as raw	Mahabubnagar
4	Climber	Tamala paku	<i>Pipee betle</i> L.	Wild	Cultivated	Nil	Nil	Chewing	Leaves	People brought these from markets and used everyday.	Not Reported	Mahabubnagar
5	Herb	Pogaku	<i>Nicotiana tobaccum</i> L.	Wild	Cultivated	Nil	Nil	Chewing	Leaves		Dired leaves	Mahabubnagar
6	Tree	Vakka	<i>Areca catechu</i> L.	Wild	Cultivated	Nil	Nil	Chewing	Fruits/nuts		Nuts ply a vital role in human health	Mahabubnagar

Format26: TimberPlants

S.No.	Local Name	Scientific Name	Habitat	Local Status		Associated TK	Other Uses, if any	Community /Knowledge Holders
				Past	Present			
1	Dirisena	<i>Albizia lebbbeck</i> (L.) Benth.	Plains	Rare	Rare	Used in Avenue plantation	NR	Mohan Rao
2	Vepa	<i>Azadirachta indica</i> A. Juss.	Plains	Common	Common	NA	Medicinal	Mohan Rao
3	Thati	<i>Borassus flabellifer</i> L.	Forest area	Common	Common	Thacting Material	Fruits edible, Leaves used as thatching material and stems as wood	Mohan Rao
4	Sarkaru Thumma	<i>Prosopis chilensis</i> (Molina) Stuntz	Plains	Common	Common	Fire wood	Branches used as Fuel	Mohan Rao
5	Jammi	<i>Prosopis cineraria</i> (L.) Druce	Plains	Common	Common	Spiritual	Medicinal	Mohan Rao
6	Chintha	<i>Tamarindus indica</i> L.	Plains	Common	Common	Fruits vegetable	Tender shoots used as Vegetable	Mohan Rao
7	Neredu	<i>Syzygium cumini</i> (L.) Skeels	Near streams	Common	Common	Fruits edible	NA	Mohan Rao
8	Thumma	<i>Acacia nilotica</i> (L.) Delile	Forest area	Common	Common	Peoples used in made for carts and doors.	NR	Mohan Rao
9	NR	<i>Ficus benghalensis</i> L.	Forest area	Common	Common	Fire wood	Edible	Mohan Rao
10	Raavi	<i>Ficus religiosa</i> L.	Forest area	Common	Common	NR	Edible	Mohan Rao

Format27A:CoastalandMarineFlora*

S.No.	Plant Type	Local Name	Scientific Name	Habitat	Local Status		Parts Collected	Commercial Uses	Other Uses	Associated TK	Community /Knowledge Holders
					Past	Present					
Not Applicable											

Format27B:CoastalandMarineFauna

S. No.	Animal Type	Local Name	Scientific Name	Habitat	Local Status		Parts Collected	Commercial Uses	Other Uses	Associated TK	Community /Knowledge Holders
					Past	Present					
Not Applicable											

Format 28: Wild Animals (Mammals, Birds, Reptiles, Amphibian, Insects, others)

S.No.	Animal Type	Local Name	Scientific Name	Habitat	Description	Season when seen	Local Status		Uses(If any)	Associated TK	Mode of hunting, Collection if any	Other details	Community /Knowledge Holders
							Past	Present					
1	Molluscs	Gavva	<i>Lamellidens consobrinus</i> (Lea, 1860)	Fresh water	NR	Rainy season	Abundant	Rare	NR	NR	NR	NR	Shekar Reddy
2	Molluscs	Sanna Gavva	<i>Melanooides tuberculata</i> (Müller, 1774)	Fresh water	NR	Rainy season	Abundant	Rare	NR	NR	NR	NR	Shekar Reddy
3	Insects	Peda Purugu	<i>Oryctes rhinoceros</i> L.	Plains	NR	Rainy season	Abundant	Rare	NR	NR	NR	NR	Shekar Reddy
4	Insects	Gandu Cheema	<i>Camponotus compressus</i> (Fabricius, 1787)	Plains	NR	All Season	Abundant	Rare	NR	NR	NR	NR	Shekar Reddy
5	Insects	Aggi Cheema	<i>Tetraoponera rufonigra</i> (Jerdon, 1851)	Forest areas	NR	All Season	Abundant	Rare	NR	NR	NR	NR	Shekar Reddy
6	Insects	Chedalu	<i>Odontotermes obesus</i> (Rambur 1842)	Plains	NR	All Season	Abundant	Rare	NR	NR	NR	NR	Shekar Reddy
7	Insects	Damsal fly	<i>Ceriagrion coromandelianum</i> (Fabricius, 1798)	Near Water sources	NR	Rainy season	Abundant	Rare	NR	NR	NR	NR	Shekar Reddy
8	Insects	Damsal fly	<i>Ischnura senegalensis</i> (Rambur, 1842)	Plains	NR	Rainy season	Rare	Rare	NR	NR	NR	NR	Shekar Reddy
9	Insects	Golla Bhama	<i>Mantis religiosa</i>	Plains	NR	Rainy season	Common	Common	NR	NR	NR	NR	Shekar Reddy
10	Insects	Draganflies	<i>Anax guttatus</i>	Plains	NR	Rainy season	Abundant	Rare	NR	NR	NR	NR	Shekar Reddy
11	Insects	Draganflies	<i>Brachythemis contaminata</i>	Plains	NR	Rainy season	Rare	Rare	NR	NR	NR	NR	Shekar Reddy
12	Insects	Draganflies	<i>Bradinopyga geminata</i>	Plains	NR	Rainy season	Rare	Rare	NR	NR	NR	NR	Shekar Reddy
16	Insects	Grasshopper	<i>Acrida exaltata</i>	Plains	NR	Rainy season	Common	Common	NR	NR	NR	NR	Shekar Reddy
17	Insects	Jerri	<i>Scolopendra morsitans</i>	Plains	NR	Rainy season	Common	Common	NR	NR	NR	NR	Shekar Reddy
19	Insects	Grasshopper	<i>Poekilocerus pictus</i>	Plains	NR	Rainy season	Common	Common	NR	NR	NR	NR	Shekar Reddy

People's Biodiversity Register – Macharam (V), Jadcherla (M), Mahabubnagar Dt., Telangana

20	Insects	Walking sticks	<i>Carausius morosus</i>	Grasslands	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
21	Insects	Butterfly	<i>Castalius rosimon</i>	Grasslands	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
22	Insects	Butterfly	<i>Catopsilla pomona</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
23	Insects	Butterfly	<i>Catochrysops strabo</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
24	Insects	Butterfly	<i>Danus chrysippus</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
25	Insects	Butterfly	<i>Graphium agememnon</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
26	Insects	Butterfly	<i>Jisonia lemonias</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
27	Insects	Butterfly	<i>Leptotes plinius</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
28	Insects	Butterfly	<i>Pachliopta aristolochiae</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
29	Insects	Butterfly	<i>Pachliopta hector</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
30	Insects	Butterfly	<i>Tirumala limniace</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
31	Insects	Spider	<i>Argiope aemula</i>	Plains & Forests	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
32	Insects	Spider	<i>Argiope anasuja</i>	Plains & Forests	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
33	Insects	Spider	<i>Hasarius adansoni</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
34	Insects	Grasshopper	<i>Cyrtacanthacris tatarica</i>	Plains	NR	Rainy season	Common	Common	NR	NR	NR	NR	Shekar Reddy
35	Insects	Grasshopper	<i>Acrida cinerea</i>	Plains	NR	Rainy season	Common	Common	NR	NR	NR	NR	Shekar Reddy
36	Insects	Mantis	<i>Gongylus gongiloides</i>	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
37	Insects	Cockroach	<i>Periplanata americana</i>	Plains	NR	All season	Common	Common	NR	NR	NR	NR	Shekar Reddy
38	Insects	Cockroach	<i>Therea petiveriana</i>	Plains	NR	All season	Common	Common	NR	NR	NR	NR	Shekar Reddy
39	Insects	Cockroach	<i>Neostylopyga rhombifolia</i>	Plains	NR	All season	Common	Common	NR	NR	NR	NR	Shekar Reddy
40	Insects	Mealybug	<i>Ferrisia</i> sp.	On Prosopis	NR	Rainy season	Common	Common	NR	NR	NR	NR	Shekar Reddy
41	Amphibians	Marbled Toad	<i>Bufo stomaticus</i> Luken, 1862	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
42	Amphibians	Common Indian Toad	<i>Duttaphrynus melanostictus</i> Schneider, 1799	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
43	Amphibians	Skittering Frog	<i>Euphlyctis cyanophlyctis</i> (Schneider, 1799)	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
44	Amphib	Indian Pond	<i>Euphlyctis hexadactylus</i>	Water source	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy

People's Biodiversity Register – Macharam (V), Jadcherla (M), Mahabubnagar Dt., Telangana

	ians	Frog	(Lesson, 1834)										
45	Amphibians	Jerdon's Bull Frog	<i>Hoplobatrachus crassus</i> (Jerdon, 1853)	Water source	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
46	Amphibians	Indian Bull frog	<i>Hoplobatrachus tigerinus</i> (Daudin, 1803)	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
47	Amphibians	Indian Burrowing Frog	<i>Sphaerotheca breviceps</i> (Schneider, 1799)	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
48	Amphibians	Ornate Narrow mouthed Frog	<i>Microhyla ornata</i> (Dumeril & Bibron, 1841)	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
49	Amphibians	Indian Balloon Frog	<i>Uperodon globulosus</i> (Gunther, 1864)	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
50	Amphibians	Chunam Frog	<i>Polypedates maculatus</i> (Gray, 1833)	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
51	Reptiles	Southern Flap-Shelled turtle	<i>Lissemys punctata granosa</i> (Schoepff, 1792)	Water source	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
52	Reptiles	Brooke's Gecko	<i>Hemidactylus brooki</i> Gray, 1843	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
53	Reptiles	Giant Southern Tree Gecko	<i>Hemidactylus giganteus</i> Stoliczka, 1871	Trees	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
54	Reptiles	Spotted Rock Gecko	<i>Hemidactylus maculatus</i> Dum & Bibr, 1836	Rocky areas	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
55	Reptiles	Keeled Grass Skink	<i>Mabuya carinata</i> (Schneider, 1801)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
56	Reptiles	Indian Garden Lizard	<i>Calotes versicolor</i> (Daudin, 1802)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
57	Reptiles	Peninsular Rock Agama	<i>Psammophilus dorsalis</i> (Gray, 1831)	Rocky areas	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy

People's Biodiversity Register – Macharam (V), Jadcherla (M), Mahabubnagar Dt., Telangana

58	Reptiles	Common Vine Snake	<i>Ahaetulla nasutus</i> (Lacepede, 1789)	On Trees	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
59	Reptiles	Bronze back Tree snake	<i>Dendrelaphis tristis</i> (Daudin, 1803)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
60	Reptiles	Common Trinket Snake	<i>Elaphe helena</i> (Daudin, 1803)	Plains	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
61	Reptiles	Water Snake	<i>Enhydris enhydris</i> (Schneider, 1799)	Water source	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
62	Reptiles	Wolf Snake	<i>Lycodon aulicus</i> (Linnaeus, 1754)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
63	Reptiles	Kukri Snake	<i>Oligodon arnensis</i> (Shaw, 1802)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
64	Reptiles	Streaked Kukri	<i>Oligodon taeniolatus</i> (Jerdon, 1853)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
65	Reptiles	Indian Rat Snake	<i>Ptyas mucosa</i> (Linnaeus, 1758)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
66	Reptiles	Striped Keel Back	<i>Amphiesma stolata</i> (Linnaeus, 1758)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
67	Reptiles	Checkered Keel Back	<i>Xenochropis piscator</i> (Schneider, 1799)	Water source	NR	Rainy season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
68	Reptiles	Common Krait	<i>Bungarus caeruleus</i> (Schneider, 1801)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
69	Reptiles	Cobra	<i>Naja naja naja</i> (Linnaeus, 1758)	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
70	Reptiles	Russell's Viper	<i>Vipera russelli</i> (Shaw, 1797)	Rocky areas	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
71	Birds	Little Cormorant	<i>Phalacrocorax niger</i>	Water source	NA	Rainy season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
72	Birds	Little Egret	<i>Egretta garzetta</i>	Water source	NA	Rainy season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
73	Birds	Grey Heron	<i>Ardea cinerea</i>	Water source	NA	Rainy season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
74	Birds	Large Egret	<i>Casmerodius albus</i>	Water source	NA	Rainy season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
75	Birds	Cattle Egret	<i>Bubulcus ibis</i>	Water source	NA	Rainy season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
76	Birds	Pond Heron	<i>Ardeola grayii</i>	Water source	NA	Rainy season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
77	Birds	Black Ibis	<i>Pseudibis papillosa</i>	Water source	NA	Rainy season	Common	Rare	NA	NR	NR	NA	Shekar Reddy

People's Biodiversity Register – Macharam (V), Jadcherla (M), Mahabubnagar Dt., Telangana

78	Birds	Gadda	<i>Elanus caeruleus</i>	Water source	NA	Rainy season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
79	Birds	Black Kite	<i>Milvus migrans</i>	plains	NA	Rainy season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
80	Birds	Shikra	<i>Accipiter badius</i>	Plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
81	Birds	Kamju	<i>Francolinus pondicerianus</i>	plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
82	Birds	Nemali	<i>Pavo cristatus</i>	Plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
83	Birds	Vallanki Pitta	<i>Himantopus himantopus</i>	Water source	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
84	Birds	Pavuramu	<i>Columba livia</i>	Plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
85	Birds	Chiluka	<i>Psittacula krameri</i>	Plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
86	Birds	Oriental Magpie-Robin	<i>Copsychus saularis</i>	Plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
87	Birds	Pichuka	<i>Passer domesticus</i>	Plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
88	Birds	Gijigadu	<i>Ploceus philippinus</i>	Water source	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
89	Birds	Myna	<i>Acridotheres tristis</i>	Plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
90	Birds	Black Drongo	<i>Dicrurus macrocercus</i>	Plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
91	Birds	Kaki	<i>Corvus splendens</i>	Plains	NA	All season	Common	Rare	NA	NR	NR	NA	Shekar Reddy
92	Mammal	Squirrel	<i>Funambulus palmarum</i>	On Trees	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
93	Mammal	Mongoose	<i>Herpestes edwardsii</i>	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
94	Mammal	Alugu	<i>Manis crassicaudata</i>	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
95	Mammal	Rat	<i>Tatera indica</i>	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
96	Mammal	House mouse	<i>Mus musculus</i>	Houses	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
97	Mammal	House Rat	<i>Rattus rattus</i>	Houses	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
98	Mammal	Monkey	<i>Macaca radiata</i>	Plains	NR	All season	Common	Rare	NR	NR	NR	NR	Shekar Reddy
99	Fish	Catla	<i>Catla catla</i> (Hamilton-Buchanan, 1822)	Water source	NA	Rainy season	Common	Rare	Edible	NR	Through Net	NA	Shekar Reddy
100	Fish	Common	<i>Cyprinus carpio</i>	Water source	NA	Rainy season	Common	Rare	Edible	NR	Through	NA	Shekar Reddy

People's Biodiversity Register – Macharam (V), Jadcherla (M), Mahabubnagar Dt., Telangana

		Carp	(Linnaeus, 1758)								Net		
101	Fish	Rohu	<i>Labeo rohita</i> (Hamilton-Buchanan, 1822)	Water source	NA	Rainy season	Common	Rare	Edible	NR	Through Net	NA	Shekar Reddy
102	Fish	Nucta	<i>Schismatorhynchus</i> (Nukat) nukta (Sykes, 1841)	Water source	NA	Rainy season	Common	Rare	Edible	NR	Through Net	NA	Shekar Reddy
103	Fish	Pearl spot	<i>Etroplus maculatus</i> (Bloch, 1785)	Water source	NA	Rainy season	Common	Rare	Edible	NR	Through Net	NA	Shekar Reddy
104	Fish	Kakiparaka	<i>Oreochromis mossambicus</i> (Peters, 1852)	Water source	NA	Rainy season	Common	Rare	Edible	NR	Through Net	NA	Shekar Reddy
105	Fish	Isuka donda	<i>Glossogobius giuris</i> (Hamilton-Buchanan, 1822)	Water source	NA	Rainy season	Common	Rare	Edible	NR	Through Net	NA	Shekar Reddy
106	Fish	Walking catfish	<i>Clarias batrachus</i> (Linnaeus, 1758)	Water source	NA	Rainy season	Common	Rare	Edible	Not Reported	Through Net	NA	Shekar Reddy
107	Fish	Stinging catfish	<i>Heteropneustes fossilis</i> (Blotch, 1794)	Water source	NA	Rainy season	Common	Rare	Edible	NR	Through Net	NA	Shekar Reddy
108	Fish	Kuntimukku	<i>Macrornathus arali</i> (Bloch & Schneider, 1795)	Water source	NA	Rainy season	Common	Rare	Edible	NR	Through Net	NA	Shekar Reddy

URBANBIODIVERSITY

Format29:Flora

S.No.	Local Name	Scientific Name	Type of Plants	Habitat	Flowering Season	Remarks (Rare / Common etc)
NOT APPLICABLE						

Format30:Fauna

S.No.	Local Name	Scientific Name	Type of Animals (Mammals / Birds/ Fish / Insect etc.)	Habitat	Remarks (Rare / Common etc)
NOT APPLICABLE					

Note: Separate format should be used for roadside plantation-habitat/ Parks and Gardens/Housing estate/ Commercial buildings/other institutional areas, Private club premises and also for Aquatic(water) habitat and Terrestrial(land) habitat.

Format31:Fauna: Any Other Information of Local Importance:-

There is no specific and significant aspect / information noticed in Macharam Panchayath.

End of Part II

CHAPTER – V

PART-III

CHAPTER – V

A. GENERAL PROFILE OF MACHARAM

Macharam Grama Panchayath is in Jadcherla Mandal, Mahabubnagar of Telangana State. The total population of Macharam is 1216 and number of houses are 286. Female Population is 50%. Village literacy rate is 51% and the Female Literacy rate is 19%.

LOCATION

Macharam is 5km distance from mandal Head Quarters Jadcherla and it is 31 km distance from District Head Quarters Rajapur. Balanagar, Keshampet towns are near to Macharam. Macharam total area is 539 hectares, Non-Agricultural area is 150 acres and agricultural land is 400 acres. The satellite imagery of Macharam Village and the vicinity depicted in **Plate-2**.

EDUCATION

To improve the literacy of the village 01 Anganwadi centres, 01 Government Primary Schools are available in this Village. Nearest Government Junior in Jadcherla.

HEALTH

No Primary Health Centre is present in Macharam and it is located at Jadcherla; only one ANM is visiting regularly to this village.

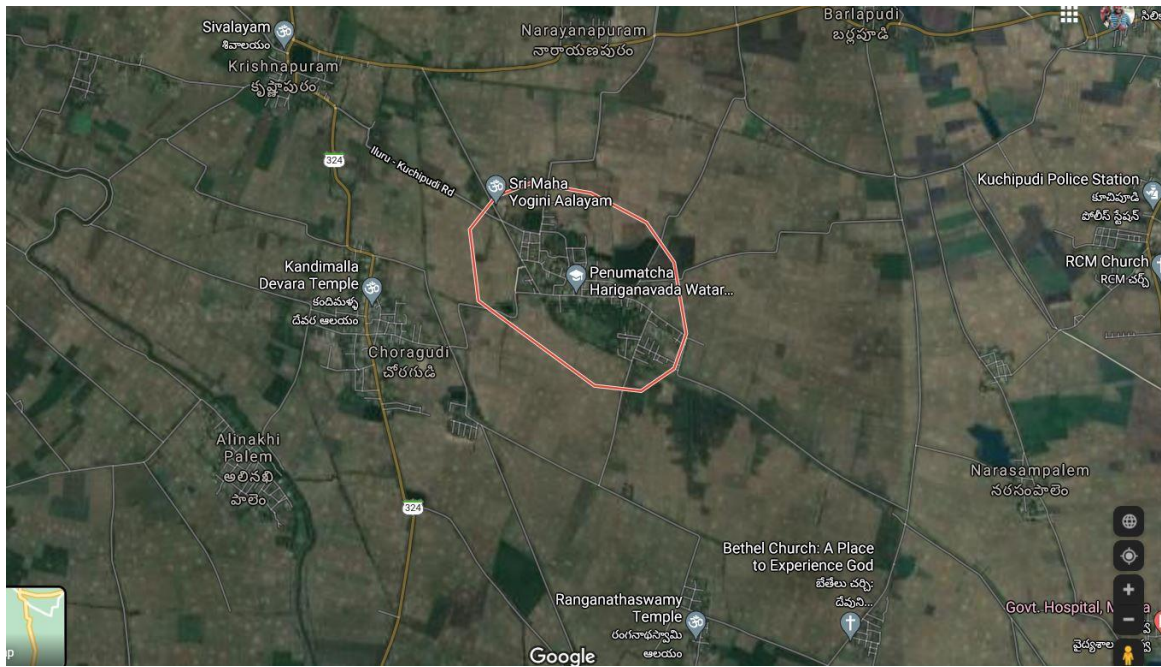
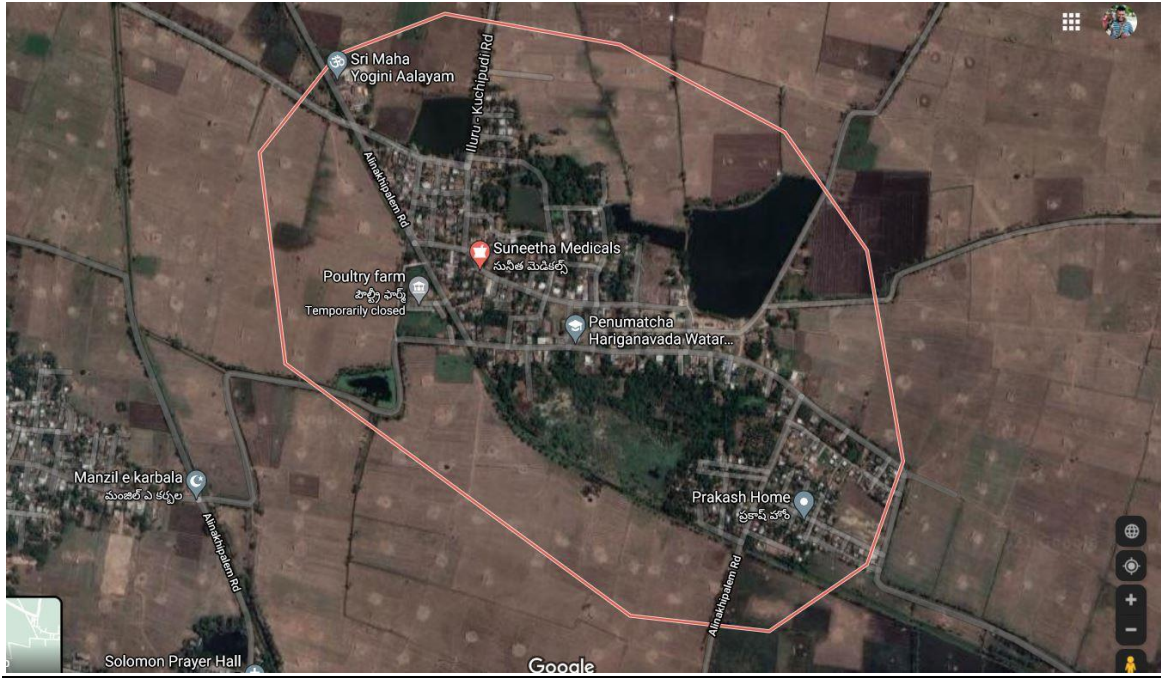
AGRICULTURE

Paddy and maize are the main agriculture commodities cultivating in this village. Very few farmers are cultivating Red Gram, Ground Nut and other dry crops. Nearly 18 hours agricultural power supply in summer and 12 hours agricultural power supply in winter is available in this village. Total agricultural area in this village is 400 acres and which is under irrigation.

COMMUNICATION

Post Office is available in this Village; Mobile coverage is available. There is no Internet Centre in less than 5 km. No Private Courier Facility in less than 5 km.

Plate -2. Sattelite view of Macharamvillage



DRINKING-WATER AND SANITATION

Untreated tap water supply is continuing all round the year to the villagers through one Over Head Water Tanks. Every 30 days the Water tanks are cleaning and treating with bleaching powder. Only no handpumps.

TRANSPORTATION

Public Bus service are available to this village. There is no Railway Station in less than 5 km. Autos available in this Village.

CHAPTER – V

B. ANALYSIS OF TAXA

PLANT TAXA

A total of 256 plant taxa were recorded through 30 formats from Macharam Grama Panchayath. Habit analysis shows that herbs are dominating with 162 taxa followed by trees (44 taxa), shrubs (22 taxa) and climbers (28 taxa). The list of taxa is presented in **Table 1** along with their use value. The graphical representation of habit wise analysis is presented here under in **Fig.1**.

Fig. 1. Habit wise analysis of plants taxa recorded in Macharam Gram Panchayat

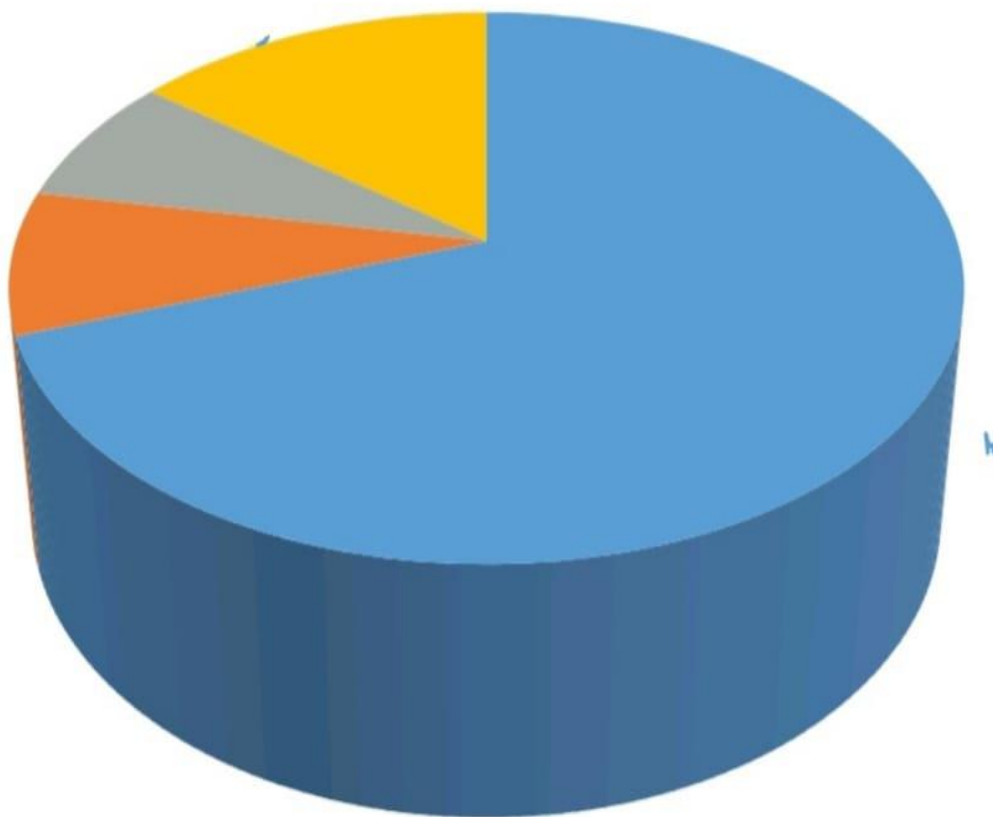


Table. 1: List of plant taxa recorded in all formats of Macharam Gram Panchayat

S. No.	Name of the taxon	Habit	A	F R	F C	M	O R	T	W R	W O R	F U	W E	F W	O th es	Tot al valu e

1	<i>Abutilon indicum</i> (L.) Sweet	S				1						1			2
2	<i>Acacia nilotica</i> (L.) Delile	T						1					1	1	3
3	<i>Acalypha indica</i> L.	H				1						1			2
4	<i>Acanthospermum hispidum</i> DC.	H													0
5	<i>Achyranthes aspera</i> L.	H				1						1			2
6	<i>Adenium obesum</i> (Forssk.) Roem. & Schult.	S						1							1
7	<i>Aegle marmelos</i> (L.) Corr.	T				1	1							1	3
8	<i>Aerva lanata</i> (L.) Juss.	H				1								1	2
9	<i>Aeschynomene indica</i> L.	H				1									1
10	<i>Aganosma dichotoma</i> K.Schum.	C						1							1
11	<i>Ageratum conyzoides</i> L.	H													0
12	<i>Albizia lebbek</i> (L.) Benth.	T							1				1		2
13	<i>Allamanda blanchetii</i> A.DC.	C						1							1
14	<i>Allmanda carthatica</i> L.	C						1							1
15	<i>Alloteropsis cimicina</i> (L.) Stapf	H				1									1
16	<i>Aloe vera</i> (L.) Burm.f.	H				1								1	2
17	<i>Alstonia scholaris</i> (L.) R. Br.	T						1							1
18	<i>Alternanthera paronychioides</i> St. Hil.	H													0
19	<i>Alternanthera pungens</i> Kunth	H													0
20	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	H						1				1			2
21	<i>Alysicarpus bupleurifolius</i> (L.) DC.	H					1								1
22	<i>Alysicarpus hamosus</i> Edgew.	H				1									1
23	<i>Alysicarpus monilifer</i> (L.) DC.	H				1									1
24	<i>Alysicarpus pubescens</i> Law. ex Wight	H				1									1
25	<i>Amaranthus graecizans</i> L.	H													0
26	<i>Amaranthus spinosus</i> L.	H							1						1
27	<i>Amaranthus viridis</i> L.	H	1						1						2
28	<i>Ammannia baccifera</i> L.	H													0
29	<i>Ammannia multiflora</i> Roxb.	H													0
30	<i>Amorphophallus paeoniifolius</i> (Dennt.) Nicolson	H	1												1
31	<i>Andropogon pumilus</i> Roxb.	H				1									1
32	<i>Annona reticulata</i> L.	T				1	1								2
33	<i>Annona squamosa</i> L.	T				1						1			2
34	<i>Anthocephalus cadamba</i> (Roxb.) Miq.	T							1						1
35	<i>Apluda mutica</i> L.	H				1								1	2
36	<i>Aponogeton natans</i> (L.) Engl.	H								1					1
37	<i>Areca catechu</i> L.	T									1			1	2
38	<i>Argemone mexicana</i> L.	H				1									1
39	<i>Aristida adscensionis</i> L.	H				1									1
40	<i>Aristida funiculata</i> Trin. & Rupr.	H				1									1
41	<i>Aristida hystrix</i> L.f.	H				1									1
42	<i>Aristida setacea</i> Retz.	H				1								1	2
43	<i>Arthraxon lanceolatus</i> (Roxb.) Hochst.	H				1									1
44	<i>Azadirachta indica</i> A.Juss.	T				1		1			1		1	1	5
45	<i>Azolla pinnata</i> R. Br.	H				1									1
46	<i>Bacopa monnieri</i> (L.) Wettst.	H				1									1
47	<i>Bambusa ventricosa</i> McClure	S						1							1
48	<i>Basilicum polystachyon</i> (L.) Moench	H													0
49	<i>Blainvillea acmella</i> (L.) Philipson	H				1									1

50	<i>Blumea mollis</i> (D.Don) Merr.	H																	0
51	<i>Boerhavia diffusa</i> L.	H				1								1					2
52	<i>Boerhavia erecta</i> L.	H				1								1					2
53	<i>Bogainvillia spectabilis</i> Willd.	S						1											1
54	<i>Borassus flabellifer</i> L.	T		1					1					1			1		4
55	<i>Bothriochloa pertusa</i> (L.) Camus	H			1														1
56	<i>Bothriochloa pseudischaemum</i> (Nees ex Steud.) Henrard	H			1														1
57	<i>Brachiaria distachya</i> (L.) Stapf	H			1														1
58	<i>Brachiaria eruciformis</i> (J.E.Smith) Griseb.	H			1														1
59	<i>Brachiaria mutica</i> (Forssk.)	H			1														1
60	<i>Brachiaria ramosa</i> (L.) Stapf	H			1														1
61	<i>Brachiaria remota</i> (Retz.) Haines	H			1														1
62	<i>Brachiaria reptans</i> (L.) C. Gardner & C.E. Hubb.	H			1														1
63	<i>Bulbostylis barbata</i> (Rottb.) Kunth ex C.B. Clarke	H																	0
64	<i>Cajanus cajan</i> (L.) Millsp.	H	1																1
65	<i>Calotropis gigantea</i> (L.) Dryand.	S				1											1		2
66	<i>Calotropis procera</i> (Aiton) Dryand.	S				1											1		2
67	<i>Canna indica</i> L.	H						1									1		2
68	<i>Canscora decussata</i> Schultes & Schultes f.	H																	0
69	<i>Capsicum annum</i> L.	H	1																1
70	<i>Cardiospermum canescens</i> Wall.	C				1													1
71	<i>Cardiospermum halicacabum</i> L.	C				1													1
72	<i>Carica papaya</i> L.	T		1															1
73	<i>Carissa carandas</i> L.	S						1											1
74	<i>Catharanthus roseus</i> (L.) G.Don	H				1	1												2
75	<i>Celosia argentea</i> L.	H																	0
76	<i>Chloris barbata</i> Sw.	H			1														1
77	<i>Chloris quinquesetica</i> Bhide	H			1														1
78	<i>Chloris virgata</i> Sw.	H			1														1
79	<i>Chrozophora prostrata</i> Dalz.	H																	0
80	<i>Chrozophora rotleri</i> (Geis) Sprl.	H																	0
81	<i>Chrysopogon fulvus</i> (Spr.) Chiov.	H			1														1
82	<i>Citrullus colocynthis</i> (L.) Schrad.	C																	0
83	<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai	C		1															1
84	<i>Citrus limon</i> (L.) Osbeck	T		1													1		2
85	<i>Citrus medica</i> L.	T		1															1
86	<i>Cleome aspera</i> Koen. ex DC.	H																	0
87	<i>Cleome felina</i> L.f.	H																	0
88	<i>Cleome gynandra</i> L.	H				1													1
89	<i>Cleome monophylla</i> L.	H				1													1
90	<i>Cleome viscosa</i> L.	H				1													1
91	<i>Coccinia grandis</i> J. Voigt	C	1																1
92	<i>Cocculus hirsutus</i> (L.) W.Theob.	C																	0
93	<i>Cocos nucifera</i> L.	T		1					1					1			1		4
94	<i>Codiaeum variegatum</i> (L.) Rumph. ex A.Juss.	S							1										1
95	<i>Coelachyrum lagopoides</i> Bor	H			1														1
96	<i>Coldenia procumbens</i> L.	H																	0
97	<i>Combretum indicum</i> (L.) DeFilipps	C							1										1

	Beentje & J.Dransf.																		
143	<i>Echinochloa colona</i> (L.) Link	H			1					1									2
144	<i>Echinochloa crus-galli</i> (L.) Beauv.	H			1														1
145	<i>Echinochloa stagnina</i> (Retz.) Beauv.	H			1														1
146	<i>Echinops echinatus</i> Roxb.	H																	0
147	<i>Eclipta prostrata</i> (L.) L.	H					1												1
148	<i>Eleusine indica</i> (L.) Gaerth.	H			1														1
149	<i>Emilia sonchifolia</i> (L.) DC.	H																	0
150	<i>Enicostemma axillare</i> (Lam.) Roynal	H																	0
151	<i>Epaltes divaricata</i> (L.) Cass.	H																	0
152	<i>Eragrostiella bifaria</i> (Vahl) Bor	H			1														1
153	<i>Eragrostiella walkeri</i> (Stapf) Bor	H																	0
154	<i>Eragrostis cilianensis</i> (All.) Janch.	H			1														1
155	<i>Eragrostis ciliaris</i> (L.) R.Br.	H			1														1
156	<i>Eragrostis diarrhena</i> (Schultes) Steudel	H			1														1
157	<i>Eragrostis pilosa</i> (L.) Beauv.	H			1														1
158	<i>Eragrostis riparia</i> (Willd.) Nees	H			1														1
159	<i>Eragrostis tenella</i> (L.) Beauv. ex Roemer & Schultes	H			1														1
160	<i>Eragrostis tremula</i> Hochst. ex Steudel	H			1														1
161	<i>Eragrostis unioloides</i> (Retz.) Nees ex Steudel	H			1														1
162	<i>Eragrostis viscosa</i> (Retz.) Trin.	H			1														1
163	<i>Eriochloa procera</i> (Retz.) C.E. Hubb.	H			1														1
164	<i>Euphorbia heterophylla</i> L.	H																	0
165	<i>Euphorbia heyneana</i> Sprengel	H																	0
166	<i>Euphorbia hirta</i> L.	H																	0
167	<i>Euphorbia indica</i> Lam.	H																	0
168	<i>Euphorbia milli</i> Des Moul	H						1											1
169	<i>Exacum pedunculatum</i> L.	H																	0
170	<i>Ficus benghalensis</i> L.	T							1				1	1	1				4
171	<i>Ficus benjamina</i> L.	S						1											1
172	<i>Ficus carica</i> L.	S			1														1
173	<i>Ficus hispida</i> L.f.	T			1								1	1					3
174	<i>Ficus racemosa</i> L.	T					1		1				1	1	1				5
175	<i>Ficus religiosa</i> L.	T							1				1	1	1				4
176	<i>Fimbristylis argentea</i> (Rottb.) Vahl	H			1														1
177	<i>Fimbristylis bis-umbellata</i> (Forssk.) Bubani	H			1														1
178	<i>Fimbristylis dichotoma</i> (L.) Vahl	H			1														1
179	<i>Fimbristylis miliacea</i> (L.) Vahl	H			1														1
180	<i>Fimbristylis quinquangularis</i> (Vahl) Kunth	H			1														1
181	<i>Gisekia pharnaceoides</i> L.	H																	0
182	<i>Glinus lotoides</i> L.	H																	0
183	<i>Glinus oppositifolius</i> (L.) A. DC.	H																	0
184	<i>Glossocardia bosvallea</i> (L.f.) DC.	H																	0
185	<i>Gnaphalium polycaulon</i> Pers.	H																	0
186	<i>Gomphrena serrata</i> L.	H																	0
187	<i>Gomphrena globosa</i> L.	H						1											1
188	<i>Grangea maderaspatana</i> (L.) Poir.	H																	0
189	<i>Gymnema sylvestre</i> (Retz.) R.Br.	C					1												1

237	<i>Marsilea quadrifolia</i> L.	H																0
238	<i>Martynia annua</i> L.	H																0
239	<i>Melochia corchorifolia</i> L.	H																0
240	<i>Merremia gangetica</i> (L.) Cuf.	H																0
241	<i>Merremia tridentata</i> (L.) Hallier f.	H																0
242	<i>Mimusops elengi</i> L.	T						1										1
243	<i>Mollugo nudicaulis</i> Lam.	H																0
244	<i>Momordica cymbalaria</i> Hook. f.	H											1					1
245	<i>Monochoria vaginalis</i> (Burm.f.) Presl	H																0
246	<i>Morinda pubescens</i> Sm.	T					1											1
247	<i>Moringa oleifera</i> Lam.	T	1				1										1	3
248	<i>Morus alba</i> L.	T	1	1														2
249	<i>Muntingia calabura</i> L.	S						1										1
250	<i>Murraya koenigii</i> (L.) Spreng.	T	1				1											2
251	<i>Musa paradisiaca</i> L.	T		1													1	2
252	<i>Nerium oleander</i> L.	S					1	1										2
253	<i>Nicotiana tobaccum</i> L.	H											1					1
254	<i>Nyctanthes arbor-tristis</i> L.	S					1	1										2
255	<i>Nymphaea nouchali</i> Brum.f.	H											1				1	2
256	<i>Nymphaea pubescens</i> Willd.	H											1				1	2

Habit: H-Herb; C- Climber; S-Shrub; T-Tree

A- Agricultural Crop; **FO-** Fodder; **FR-** Fruit; **OR-** Ornamental; **T-** Timber; **M-** Medicinal; **WR-** Wild Relative; **WOR-** Wild Ornamental; **FU-** Fumigates; **FW-** Fire Wood; **WE-** Wild Edible.

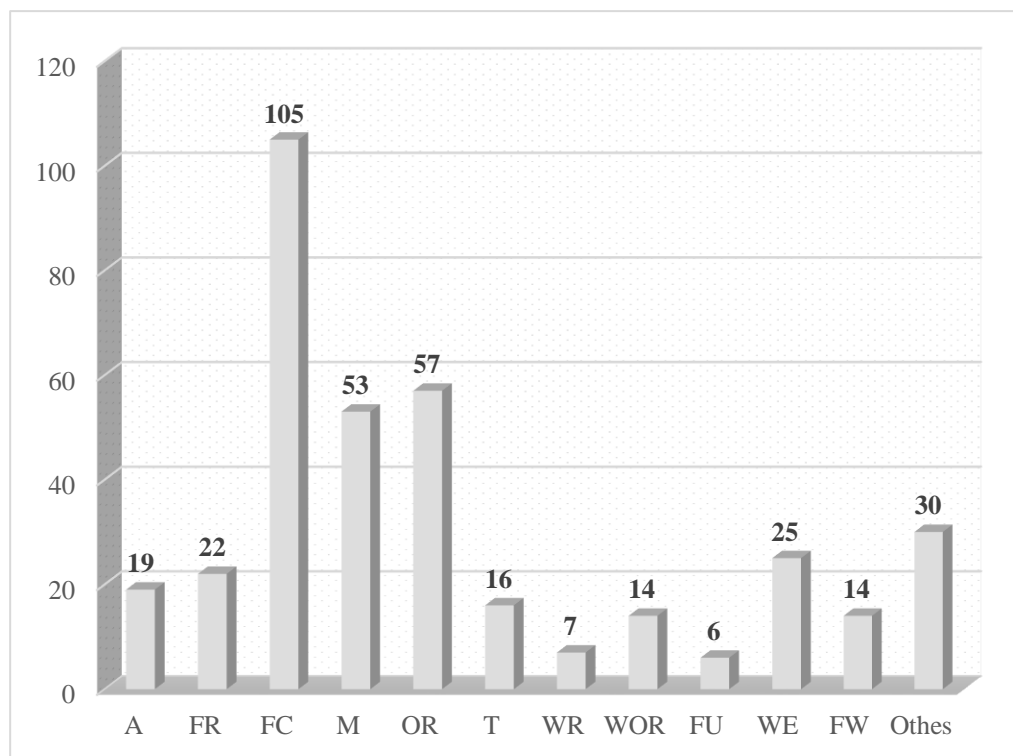
USE VALUE

The Indian sub-continent is a centre of domestication and diversification of several economically useful wild plant species comprising about 3,000 plants of edible value, 4,000 species having known reputed medicinal value, 700 plants of traditional and social significance, 500 fibre yielding species, 400 fodder plants, 40 plants having insectivorous uses, 300 gum and dye yielding plants and 100 aromatic and essential oil yielding species (Arora, 1991).

Out of 381 plant taxa recorded in the study area, 272 are having one or more use value. Agricultural plants (A), Fodder (FO), Fruits (FR), Ornamental (OR), Timber (T), Medicinal (M), Wild Relatives (WR), Wild Ornamentals (Wor), Fumigates and chewing plants (FU), Fire wood (FW), Wild Edible (WE), and other values like scientific values, ecological values, thatching, bio fencing, brooms preparation are considered as use values. Each value was given one mark. The use value was given based on present study and secondary literature (Sadasivaiah and Pullaiah, 2016). A total of 13 taxa recognised as Agricultural crop plants, which are cultivating and growing in home gardens of Macharam village; plant taxa 8 were identified as medicinal, 23 taxa are under ornamental value, 12 are as fodders, 1 are wild relatives, 23 wild plants having potential

ornamental value, 20 wild edible plants, 10 wild timber plants, 6 plant taxa are fumigates and chewing plants, 7 are Firewood, 25 plants are used as other valued plants. *Azadirachta indica*, *Ficus racemosa* are having high use value i.e. 5, followed by *Ficus benghalensis*, *Cocos nucifera*, *Ficus religiosa*, *Prosopis cineraria*, *Tamarindus indica* are with 4 use value, 7 species with use value 3 (Eg. *Mangifera indica*, *Ficus hispida*), 53 taxa with use value 2 (Eg. *Aerva lanata*, *Achyranthes aspera*, *Calotropis gigantea*, *Vitex negundo*) and 203 taxa with single use value (*Amaranthus spinosus*, *Bacopa monnieri*, *Gymnema sylvestre*, *Datura metel*) were recorded. The use values are depicted in **Table-1**. The categories of use values are graphically represented in **Fig. 2**.

Fig. 2. The categories of use values and plant taxa



CROP PLANTS

A total of 13 crop plants were recorded from Macharam Grama Panchayath which are cultivated and growing in home gardens. Due to the plenty of water most of the farmers cultivated crops like Paddy and Sugar cane. Rarely they are also cultivating Maize and Pluses like Red gram, Black gram etc. Some of the farmers are cultivating and growing vegetables like Bottle gourd, Ridge Gourd, Tomato, Brinjal, and Chilli etc. in their home gardens. The common crop plants of the village presented in **Plate 3**.

FRUIT TREES

Under Agrobiodiversity and Domesticated Biodiversity category a total of 22 fruit trees were recorded from Macharam Garm Panchayath. *Manilkara zapota*, *Carica papaya*, *Psidium guajava*, *Phyllanthus emblica*, *Mangifera indica* are common plants growing in home gardens. Only *Musa paradisiacal* is cultivated in the village. All the fruit plants are maintained just for their own usage. The common fruit plants presented in **Plate 4**.

FODDER CROPS/SPECIES

Most of the agricultural crop remnants are used as fodder. Due to the availability of water in the vicinity of Macharam Gram panchayat good number (105 taxa) of fodder species were recorded. Most of the fodder species are weeds of agricultural lands, wastelands and few of them are from field bunds. Among the 105 fodder species, 49 are growing in field bunds, 28 are from plains and 28 are from cropping fields. Among 105, a total of 99 are common both in the past and present and remaining 6 are common in the past and rare in the present.

According to people of Macharam the usage of *Chloris barbata*, *Dactyloctenium aegyptium*, *Dichanthium annulatum*, *Rhynchosia minima*, *Vigna trilobata* as fodder then cattle give more milk, hence there is a need to create awareness on these species.

WEEDS

Agricultural weeds are common competitors with crop plants for nutrients, minerals, water, space and sunlight. A total of 174 plant taxa recorded as weeds in agricultural land. Weeds are classified as Pre ploughing stage, cropping stage and post harvesting stage based on their presence in the field. Some of weeds growing on the field edges and plains are also recorded, which are common host for many pathogenic agents. A total of 25 weeds occurred during post harvesting season; 28 are pre ploughing stage; 21 are cropping stage; 31 are growing on field bunds; 69 are growing on plains.

PLATE- 3 : Crop Plants



Amaranthus viridis



Coccinia grandis



Luffa acutangula



Lycopersicon esculentum



Musa paradisiaca



Oryza sativa



Saccharum officinarum



Solanum melangina

PLATE - 4 : FRUIT PLANTS



Annona squamosa



Carica papaya



Citrus limetta



Citrus medica



Cocos nucifera



Ficus hispida



Musa × paradisiaca



Phyllanthus acidus

Most of the weeds are herbaceous plants only, very few are shrubs, which are commonly growing on field edges. Even though they have worst effect on yield of crop,

but they have tremendous ecological, medicinal and economical, values. A good number of weeds used as fodder (65 taxa), 36 taxa used as medicinal plants, 24 taxa used as edible, 10 taxa are wild relatives to crop plants and 7 taxa are have the potential of ornamental. The common wees are presented in **Plate-5**.

PESTS OF CROPS

Water is one of the major resources that effect the growth of Biodiversity. When water is more automatically weeds are high, some of the weeds are host for many pathogens which causes many diseases to the crop plants. A total of 30 pests of crops were recorded in the present study, of which 14 species of pests attack Paddy, 6 species are common pests attack Sugar cane, 3 other pest attacked Maize and other 8 pests are common in vegetable crops. The farmers of the village are adopted chemical pesticides to eradicate the pests to the crops. The chemical pesticides show adverse effect on biodiversity and human health. Hence there is need to create awareness among the farmers about the effects of chemical pesticides and need training about organic forming and traditional forming systems.

DOMESTICATED ANIMALS AND THEIR MARKET

A total of 9 species of domesticated animals were recorded from Macharamvillage. Of which, *Galus galus domesticus* is bird, remaining are mammals. Cows, Buffalos are meant for milk. Sheep, Goats are meant for meat, but wool, milk also by products. Oxes are meant for agriculture. Cats and Dogs adopted for security from poisonous insects and thieves. Birds are for eggs, meat and happiness.

Cattle, sheep, goats are the major other works adopted by the people of Macharam. Village people are generally going to visit Vijayawada and Guntur markets for purchasing and selling the domestic animals, which is weekly market. There is no specific fish market to this village.

PLATE - 5 : WEEDS



Achyranthes aspera



Celosia argentea



Cleome viscosa



Dactyloctenium aegyptium



Euphorbia hirta



Hyptis suaveolens



Physalis minima



Tridax procumbens

PEOPLESCAPE

According to 2011 census the total population of Macharam village is 2070. Scheduled Caste (SC) is the dominating population with 854, followed by Other Castes (OC) with 378, Backward Class (BC) with 210, Scheduled Tribe (ST) 29. All most all the families depending on Agriculture and some of them are Animal husbandry. Some of the OCs is employees of Government and private sectors. Some of the SCs are depending on piggery. Still Barbers, Rajakas, Carpenters depending on their own works for their lively hood. The different professions and works of people presented in **Plate-6**.

LANDSCAPE & WATERSCAPE

According to Village Revenue Officer (VRO), Panchayath Secretary (PS) 1216 Acers of Agriculture land, 3 Acers of land occupied by pond, 150 Acers are Fallow land present in the village.

A total of 1 Pond, 54 bore wells, and no Canal flowing and enriches the biodiversity of the village. Except bore wells all others are owned by private. The pond is full with water in rainy season. The common flora and fauna present in this area are useful to Human beings.

ORNAMENTAL PLANTS

A total of 57 plant species recorded as ornamentals from Macharam Gram Panchayath. Good number of shrubs (19 taxa) and herbs (13 taxa) growing as ornamentals followed by trees (13 taxa) and climbers (8 taxa). Among 57 taxa 16 are local varieties, 41 are hybrids. Most of the ornamental plants growing in the village are brought from nurseries or from neighbours. Some of the common ornamentals are in **Plate -7 & 8**.

CULTURED FISEHES

No cultured fisheries are growing in the water sources of Macharam and a total of 18 species of fishes were identified in the water sources of Macharam. The common fishes are *Channa punctatus*, *Catla catla*, *Cyprinus carpio*, *Oreochromis mossambicus* and the rare fishes are *Mystus bleekeri*, *Macrogathus aral*.

PLATE - 6 : PEOPLE SCAPE



Piggery



Fishing



Way to farming



Bio-Fencing



Fodder collection



Firewood collection



Washing of cloths

PLATE - 7 : ORNAMENTAL PLANTS



Allamanda blanchetii



Clinum asiaticum



Crossandra infundibuliformis



Hibiscus rosa-sinensis



Justicia adhatoda



Kigelia africana



Pseuderanthemum crenulatum



Ruellia patula

PLATE - 8 : ORNAMENTAL PLANTS



Adenium obesum



Codiaeum variegatum

Dypsis lutescens



Gomphrena globosa

Plumeria rubra



Turnera ulmifolia

Zephyranthes citrina

WILD FLORA

A total of 172 wild and naturalized plant taxa were recorded in the vicinity of Macharam gram panchayath. Habit wise analysis resulted that herbaceous plants are dominating with 134 species followed by 15 trees, 14 climbers and 9 shrubs. Habitat analysis yield a variety of habitats namely Dried ditches/ponds, moist localities, Near Streams, Outskirts of village, Plains, Scrubs, Waste land and Water courses. A total of 83 plants growing in Plains, 22 plants in moist localities, 29 plants growing in outskirts of villages, 11 from water courses, 26 from forest Field bunds respectively. Out of 172 plant taxa, 132 are useful plants to the villagers for their lively hood. Good number of medicinal plants, wild edible plants, ornamental plants, wild relatives, thatching material and other uses like broomsticks, spiritual values, adhesives etc. Some of them are culturally important like *Mangifera indica* and *Cocos nucifera* leaves used in preparation of marriage ceremonies and festivals. Significant plants are in **Plate-9**.

AQUATIC BIODIVERSITY

A total of 32 plants growing in aquatic and marshy habitats were recorded in the study area. Of which 19 plants are growing in moist localities *i.e* periphery of water sources, 1 plant floating on water, 1 plant growing near streams and 11 plants are water courses. The fruits of *Ficus racemosa* eaten as raw and the leaves of *Alternanthera sessilis*, *Oxalis corniculata*, *Ipomoea aquatica* are used as leafy vegetables; 11 species are used as fodder; 6 plants are used as medicinal like *Eclipta prostrata*, *Bacopa monnieri*, *Alternanthera sessilis*; 7 plants are used as ornamental like *Nymphaea nouchali*, *Nymphaea pubescens*, *Pistia stratiotes*.

MEDICINAL PLANTS

According to format-12 and format 22, a total of 53 medicinal plants were recorded from the vicinity of Macharam Gram Panchayath based on floristic survey and secondary literature. From format 12, only 26 species were recorded and from 22 format 36 medicinally important plants were recorded. *Azadirachta indica*, *Aloe vera*, *Catharanthus roseus* and *Ocimum tenuiflorum* are common throughout village.

PLATE - 9 : WILD FLORA



Cuscuta reflexa



Indigofera linnaei



Ipomoea carnea



Lantana camara



Nymphaea pubescens



Phyllanthus amarus



Typha angustifolia



Ziziphus mauritiana

All the 53 plants identified as medicinally important are presented in **Table 2** along with habit, vernacular name, parts used and the disease cured by that plant. The plant parts like Flower (Fl), Fruits (Fr), Leaves (L), Latex (La), Root (R), Root Bark (RB), Stem (S), Seeds (Se), Tuber (T) and Whole Plant (WP) used for the treatment of many ailments by the people of Macharam and based on secondary literature (Shali Saheb, 2008; Khadar Basha, 2009; Sadasivaiah, 2009). The part wise analysis showed that leaves are the major part (27 taxa) used to treat many diseases followed by whole plant (WP) with 12 taxa, fruits with 6 taxa, roots with 2 taxa, bark of 3 taxa, latex of 2 plants, seeds of 2 plants respectively used to cure diseases. A total of 39 ailments are cured by 53 medicinal plants present in Macharam, but local people are aware of very few plants and few diseases. Hence there is a need to create awareness among the people about medicinal plants and their importance. Many plants cure more than one disease.

Table 2. List of medicinal plants recorded in all formats in Macharam Gram Panchayat

S. NO	Name of the taxon	Habit	Vernacular Name	Parts used	Disease
1	<i>Abutilon indicum</i> (L.) Sweet	H	Thuthuru benda	R	Nerves disorders
2	<i>Acalypha indica</i> L.	H	Pippaku	L	Jaundice
3	<i>Achyranthes aspera</i> L.	H	Uttareni	WP	Insect bites; Piles, toothache
4	<i>Aegle marmelos</i> (L.) Corr.	T	Bilvathram	FR	Diarrhoea
5	<i>Aerva lanata</i> (L.) Juss.	H	Kondapindi	L	Kidney stones
6	<i>Aloe vera</i> (L.) Burm.f.	H	Manchi Kalabanda	L	Used as medicine for various ailments.
7	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	H	Ponnaganti kura	L	Eye disorders
8	<i>Annona reticulata</i> L.	T	Ramapal	L	Diabetic
9	<i>Argemone mexicana</i> L.	H	Balurakkasi	L	Used for ulcers
10	<i>Azadirachta indica</i> A.Juss.	T	Vepa	WP	Skin disease, Fever, Toothache
11	<i>Bacopa monnieri</i> (L.) Wettst.	H	Jala Bramhi	WP	Improve Brain memory
12	<i>Boerhavia diffusa</i> L.	H	Atukamamidi	L	Kidney stones
13	<i>Boerhavia erecta</i> L.	H	NR	L	Kidney stones
14	<i>Calotropis gigantea</i> (L.) Dryand.	S	Jilledu	La	Scorpion bite
15	<i>Calotropis procera</i> (Aiton) Dryand	S	Jilledu	La	Scorpion bite
16	<i>Cardiospermum canescens</i> Wall.	C	Budda Budasa	Se	Heart pain, epilepsy
17	<i>Cardiospermum halicacabum</i> L.	C	Budda Budasa	Se	Heart pain, epilepsy
18	<i>Catharanthus roseus</i> (L.) G. Don	H	Billa ganneru	WP	Wounds
19	<i>Cleome gynandra</i> L.	H	Kukka Vaminta	L	Diarrhoea

20	<i>Cleome monophylla</i> L.	H	Not Reported	WP	Cure swellings
21	<i>Cleome viscosa</i> L.	H	Kukka Vaminta	WP	Ear infections and Wounds
22	<i>Commelina bengalensis</i> L.	H	Vennadeni aaku	WP	Pimples
23	<i>Cordia dichotoma</i> G.Forst.	T	Bankira pallu	L	Mouth ulcers
24	<i>Datura metel</i> L.	S	Ummetha	L	Scorpion bite
25	<i>Dregea volubilis</i> (L. f.) Benth.ex Hook. f	C	Dhudhipala	B	Bone Fractures
26	<i>Eclipta prostrata</i> (L.) L.	H	Guntaglagara	L	Dandruf
27	<i>Ficus racemosa</i> L.	T	Meddi	FR	Diabeties.
28	<i>Gymnema sylvestre</i> (Retz.) R.Br. ex Schultes	C	Podapathri	L	Anti-diabetic
29	<i>Justicia adhatoda</i> L.	S	Adasaram	L	Cold, Cough
30	<i>Lawsonia inermis</i> L.	T	Gorintaku	L	Hair falling and body heat control.
31	<i>Lepidagathis cristata</i> Willd.	H	Mulla Banthi	WP	Burns
32	<i>Morinda pubescens</i> Sm.	T	Thogari	L	Cure wounds
33	<i>Moringa oleifera</i> Lam.	T	Munaga	FR	Increase seman
34	<i>Murraya Koenigii</i> (L.)	T	Karivepaku	L	Hair problems, Eye problems
35	<i>Nerium oleander</i> L.	S	Ganneru	WP	Peralysis
36	<i>Nyctanthes arbor-tristis</i> L.	S	Parijathum	L	Back pain
37	<i>Ocimum tenuiflorum</i> L.	H	Tulasi	L	Cold, Cough, Asthma
38	<i>Oxalis corniculata</i> L.	H	Pulichintha	WP	Diarrhoea
39	<i>Pergularia daemia</i> (Forssk.) Chiov.	C	Dustapu theega	L	Piles
40	<i>Phoenix sylvestris</i> (L.) Roxb.	T	Eetha	L	Mouth ulcers
41	<i>Phyllanthus amarus</i> Schumach. & Thonn.	H	Nela usiri	WP	Jaundice
42	<i>Phyllanthus emblica</i> L.	T	Usiri	Fr	Vitamin C deficiency.
43	<i>Piper nigrum</i> L.	C	Miriyalu	FR	Cold, Cough
44	<i>Plumbago zeylanica</i> L.	H	Chithramulam	L	Skin problems
45	<i>Prosopis cineraria</i> (L.) Druce	T	Jammi	Rb	Leprosy, asthma and earache.
46	<i>Sapindus emarginatus</i> Vahl	T	Kunkudu	Fr	Hair problems
47	<i>Senna auriculata</i> (L.) Roxb.	S	Thangedu	Wp	Bone fractures, burns.
48	<i>Solanum trilobatum</i> L.	C	Esthi	L	Dyspepsia
49	<i>Terminalia arjuna</i> (Roxb. Ex DC) Wight&Arn	T	Tellamaddi	B	Bone Fractures
50	<i>Tinospora cordifolia</i> (Willd.) Miers	C	Thippa teega	L	Fever & Diabetes
51	<i>Tribulus terrestris</i> L.	H	Palleru	L&R	Urinary disorders
52	<i>Tridax procumbens</i> L.	H	Gaddi Chamanthi	L	Wounds, skin diseases
53	<i>Vitex negundo</i> L.	S	Vavili	L	Asthma, epilepsy

B- Bark, **Fl-** Flower, **Fr-** Fruit, **L-** Leaves, **La-** Latex, **R-** Root, **RB-** Root Bark, **S-** Stem, **Se-** Seeds, **T-** Tuber, **WP-** Whole Plant

WILD RELATIVES

“Crop wild relatives are to our food plants as wolves are to dogs. They’re distant but related cousins, often from far away, and hold an incredible amount of genetic diversity that has been lost to agriculture. They represent an invaluable resource for crop improvement that is yet to be fully explored, let alone exploited”-Hannes Dempewolf, Crop Trust Senior Scientist, Head of Global Initiatives.

Early agriculturists selected crop plants from wild species on the basis of reproductive potential, adaptation to climatic vagaries and the traits associated with production. During domestication, a small number of gene combinations accumulated in crop species resulting in narrow genetic diversity. Wild related species constitute a part of the crop gene pool. The WRCs possess a big reservoir of untapped genes that have potential to be utilized in improvement of crops. The evaluation and direct utilization of wild relatives and related taxa is based on their classification. These can be classified into primary, secondary and tertiary gene pools (Harlan, 1976).

Crop Wild Relatives (CWR) are wild taxa closely related to crop plants, including wild progenitors and/ or wild forms of crops. Maxted et al.(2006) defined a CWR as —a wild plant taxon that has an indirect use derived from its close genetic relationship to a crop. The closer the species related, the more the possibility/practicality to get their traits incorporated. They form an important source of useful traits such as agronomic, quality and biotic and abiotic stresses, which are identified as critical component for food security and environmental sustainability in the 21st century (Scholten et al. 2005).

From the crop improvement angle, cytogenetic relationship needs to be given priority. Though in the light of contemporary biotechnological advances, most, if not all, species are potential gene donors to crops (Maxted *et al.* 2008), in practical sense of conservation and use, it is important to prioritize the most closely related taxa through some estimate of the degree of interrelationship (Hopkins & Maxted 2010) and other means. In terms of variability and habitats many crop wild relatives are intermediate between crop diversity and natural /wild diversity in an area. The PGR management approach also requires a refinement of methods used for crop diversity conservation. Wild taxa are adapted to survival/ perpetuation in a habitat contrary to the favourable environment and selection pressure of cultivated plants.

Arora and Nayar (1984) reported the occurrence of over 320 wild relatives of crops (51- cereals and millets; 31-grain legumes; 12-oilseeds; 24-fibre plants; 27-spices and condiments; 109 of fruits, 54 of vegetables and 27 of others) in India. The NHCP of NBPGR serves as a nodal point for confirming the botanical identity of crop wild relative taxa.

A total of 7 taxa are recorded as wild relatives to crop plants, of which 5 species are wild relatives of Cereals and Millets (*Panicum trypheron*, *Setaria pumila*, *Echinochloa colona*); 2 species are wild relatives of vegetables such as *Amaranthus spinosus*, *Amaranthus viridis*.

WILD ORNAMENTALS

A total of 14 wild plants recorded with ornamental potential, of which some of the already using as ornamentals and some of them are eligible to use as ornamentals. Many of the above plants are also has multi use values like, medicinal, fodder, edible and others. For some species like *Nymphaea nouchali*, *Nymphaea pubescens*, *Passiflora foetida* flowers has ornamental value. In cities each flower of *Nymphaea* is cost about rupees ten.

FUMIGATES & CHEWING PLANTS

A total of 6 plant taxa used as fumigates and chewing plants in Macharam Gram Panchayath area. The leaves of *Vitex negundo* and *Azadirachta indica* are used as fumigates to eradicate mosquitoes and other harmful insects. The leaves of *Nicotiana tobaccum*, *Piper betle*, nuts of *Areca catechu* are generally chewed by the aged people in the village. The rate of chewing is more on female rather than male. Generally people brought these from markets and used every day. The tender leaves of *Azadirachta indica* are chewed to remove worms in the stomach. The tender leaves of *Phoenix sylvestris* chewed to cure mouth ulcers.

TIMBER

A total of 16 timber yielding plants were recorded in the vicinity of the Macharam under domesticated and wild biodiversity. Now-a-days people are not going to forest for collection of timber and collected from saw mills. Most of the people adapted to compressed doors, fibre doors and furniture. *Acacia nilotica*, *Azadirachta indica*, *Tectona grandis*, are the common timber yielding plants in the vicinity of Macharam.

FIRE WOOD

A total of 14 plants used for fire wood purpose by the people of Macharam. Most common plants like *Acacia nilotica*, *Azadirachta indica*, *Prosopis chilensis* etc, were used by the people as fire wood.

MISCELLANEOUS USES

A total of 30 plant taxa are having miscellaneous use, which are commonly available in Macharam. Some of the examples are the inflorescence of *Aerva* species are used to fill the pillows; the species of *Heteropogon* and *Aristida setacea* used to prepare brooms; taddy is extracted from *Borassus flabellifer* and *Phoenix sylvestris*; are used as thatching material. Some of the plants used in spiritual ceremonies like worshipping the God, birth and death ceremonies, marriages, special ceremonies like vrathas and poojas. Generally 21 plants used in worshipping the lord Ganesh at the time of Ganesh Chaturthi, which are collectively known as Eka vishanthi patri; commonly available in the vicinity of Macharam Gram Panchayath. *Ocimum tenuiflorum*, *Ficus religiosa*, *Ficus benghalensis*, *Azadirachta indica*, *Calotropis gigantea*, *Phyllanthus emblica* are worshiped as Gods or Goddess by the Macharam people. The leaves of *Mangifera indica* used to tie to the doors at the time of festivals. Generally the flowers of *Nymphaea* are used to worship Goddess Lakshmi. The leaves of *Prosopis cineraria* were exchanged at the time of Dasara festival to establish faith and confidence among the people. The leaves of *Piper betle* and the nuts of *Areca catechu* are generally offered to God and each and every tradition of many religions. The fruits of *Cocos nucifera* are offered to God at the time of pooja and festivals.

WILD ANIMALS

A total of 175 animal taxa were recorded from the surroundings of Macharam, of which, 60 are insects, 18 fishes, 10 amphibians, 30 Reptiles, 50 birds, 7 mammals. Some of the birds are major pests for paddy at early stage and some of them are beneficial to paddy. Some of the insects are directly or indirectly useful to human beings. Most of them are involved in pollination. The species of *Apis* are prepared honey. In olden days *Odontotermis* sp. are coming after first rain and they attracted to light and dropped their wings. People collect these insects and slightly roasted and eaten along with spring rice as high protein supplement.

Some of the insects are harmful to human beings directly or indirectly. Most of the pests of crops are insects only. Some of the insects poisoning the food, some of them are parasites, some of them are poisonous. Weaver ants are beneficial insects that make nest with leaves of Mango, Jamoon etc.

In Amphibians *Bufo stomaticus*, *Duttaphrynus melanostictus* are generally found during night time in plains, where as *Euphlyctis cyanophlyctis*, *Euphlyctis hexadactylus*, *Hoplobatrachus crassus*, *Hoplobatrachus tigerinus* are found in water sources; *Sphaerotheca breviceps*, *Microhyla ornata* found in moist localities. *Uperodon globulosus* commonly found in forest areas and they are nocturnal. Out of 19 snakes recorded in the Macharam Gram Panchayath area only 4 are venomous; 13 are non venomous and 2 are semi venomous.

Out of 50 birds found in Macharam area, 33 are commonly occurred in plains; 17 are from water sources. *Phalacrocorax niger*, *Egretta garzetta*, *Bubulcus ibis* are commonly present near water sources.

Out of 8 mammals recorded in the vicinity of village, *Funambulus palmaram*, *Tatera indica* and *Macaca radiata* are commonly found in the village *Herpestes edwardsii*, *Manis crassicaudata* are normally found in forest areas of the village.

CHAPTER – VI

CONCLUSIONS & RECOMMENDATIONS

The geographical area of Macharam Gram Panchayat is 520 hectare. A small geographic area like Macharam is having a rich plant diversity with 381 plant taxa and 174 wild animal taxa from all the 30 prescribed formats. Out of 381 plant taxa, about 80% plants having one or more use value. A total of 19 taxa are Agricultural crop plants, 22 are fruits, 53 are medicinal, 57 are ornamental, 105 are fodders, 7 are wild relatives, 14 are wild ornamental value, 25 are wild edible, 16 are timbers, 06 are fumigates and chewing plants, 14 are firewood, 30 plants with miscellaneous uses.

In Agrobiodiversity category 19 crop plants, 1 fruit crop, 105 fodder species, 174 weeds, 30 pests of crops were recorded; in Domesticated Biodiversity 24 fruits plants, 26 medicinal plants, 57 ornamental plants, 13 timber yielding plants, 09 species of domesticated animals, 18 fishes were recorded; in wild biodiversity category 172 plant taxa (of which 132 are have importance), 32 plants in aquatic biodiversity (of which 28 are having importance), 07 wild relative plants, 14 wild ornamental plants, 06 fumigate and chewing plants, 10 wild timber plants and 174 wild animals were recorded. It shows the high diversity of the area.

RECOMMENDATIONS

- Paddy and Sugarcane are the only major crops in this village. Almost all the farmers using chemical fertilizers and pesticides, it leads to environmental pollution.
- Good number fodder species was recorded in the vicinity of village, it is recommending that people should make use of it and improve the number of cattle.
- Most of the weeds are an important source of fodder, medicine and some of them are rich source of proteins, people should aware of this and utilize the weeds in sustainable manner.
- Based on the primary data and second literature good number of medicinal plants was recorded. There is a need to take a special care for some tradable medicinal plants. Some of the species like *Cardiospermum halicacabum* is around rupees 300 per each sapling in Amazon online shopping.
- A highly coordinated action-oriented multi-disciplinary approach on potential bio resources conservation integrating the forest department, Non-Governmental Organizations, scientific bodies with the co-operation of local communities should be launched at the earliest.

CHAPTER – VII

REFERENCES

- Alfred, J.R.B., A.K. Das and A.K. Sanyal (2006). *Animals of India: Mammals*. ENVIS-Zoological Survey of India.
- Ali, S. (2002). *The Book of Indian Birds. (13thed.)* Bombay Natural History Society and Oxford University Press, Bombay, India.
- Ali, S. and H. Whistler (1933-34). The Hyderabad state Ornithological Survey (Part1-5). *Journal of Bombay Natural History Society*. 36-37: 356-390; 707-725; 898-918; 124-142; 425-454.
- Ali, S., S.D. Ripley and J.H. Dick (1996). *A Pictorial Guide to the Birds of the Indian Subcontinent. (2nd Ed.)* Bombay Natural History Society and Oxford University Press, Bombay, India.
- Arora, R.K. and E.R. Nayar (1984). *Wild Relatives of Crop Plants in India*. NBPGR Sci. Mongr. 7, National Bureau of plant Genetic Resources, New Delhi, 90 p.
- Baker, E.C.S (1922-30). *The Fauna of British India, including Ceylone and Burma*. Vol 1-8. Taylor and Francis, London.
- Balemie, K. & Kebebew, F. (2006). Ethnobotanical study of wild edible plants in Derashe and Kucha Districts, South Ethiopia. *J. Ethnobiol Ethnomed.*, 2, 53-61.
- Barman, R.P. (1993). *Fauna of Telangana, Part-I: Fishes*. Zoological Survey of India, Calcutta, India.
- Basha, S. (2009). Diversity, quantification and conservation of tree resources of Nallamalais, Telangana. Ph.D.thesis, Sri Mahabubnagardevaraya University, Anantapur.
- Bharucha, Z. & Pretty, J. (2010). The roles and values of wild foods in agricultural systems. *Phil. Trans. Royal Soc. B.*, 365, 2913-2926.
- Blanford, W.T. (1888-1891). *The Fauna of British India including Ceylone and Burma. Mammalia (Part 1 & 2)*. Taylor and Francis, London.
- Boulenger, G.A. (1890). *The Fauna of British India, including Ceylone and Burma. Reptilia and Batrachia*. Taylor and Francis, London.
- Chanda, S.L. (2002). *Handbook- Indian Amphibians*. Zoological Survey of India, Calcutta.
- Craig, W. and Beck, L. (1999). *Phytochemicals: health protective effects*. *Can. J. Diet. Pract. Res.* 60:78-84.

- Daniel, J.C. (2002). *The Book of Indian Reptiles and Amphibians*. Bomat Natural History Society and Oxford University Press, Mumbai, India.
- Daniels, R.J.R (2005). *Amphibians of Peninsular India*. University Press Pvt. Ltd., Hyderabad.
- Dao, A. K. and D. K. Mitra (1999). Screening of brinjal varieties, lines and wild Solanum species for resistance to little leaf disease. *Indian J. agric. Sci.* 69(10):726-728.
- Das, I. (2008). *A Photographic Guide to Snakes and Other Reptiles of India*. Om Books International, New Delhi, India.
- Day, F. (1889). *The Fauna of British India, including Ceylone and Burma. Fishes*, Vol. I and II. Taylor and Francis, London.
- Dinesh, K.P., C. RadhaMahabubnagar, K.V. Gururaja and G.K. Bhata (2009). An annotated checklist of Amphibia of India with some insights into the patterns of speies discoveries, distribution and Endemism. *Rec. Zool. Surv. India, Occ. Papers No.302*: 1-153.
- Editor- Director, ZSI (2007). *Fauna of Telangana, State Fauna Series, 5(Part-3)-Insects*. Zoological Survey of India, Calcutta.
- Editor- Director, ZSI (2008). *Fauna of Telangana, State Fauna Series, 5(Part-8)-Aves*. Zoological Survey of India, Calcutta.
- Ellerman, J.R. (1961). *The Fauna of India including Pakistan, Burma and Ceylone. Mammalia Part-III (Rodentia) in 2 parts*. Zoological Survey of India, Calcutta.
- FAO (1999). *Use and Potential of Wild pants*. Information Division, Food and Agricultural Organization of the United Nations, Rome, Italy.
- FAO (2004). *Annual Report: The state of food insecurity in the world, monitoring the progress towards the world food summit and millennium development goals*. Rome.
- FAO, WFP and IFAD (2012). *The State of Food Insecurity in the World 2012. Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition*. Rome, FAO.
- Grimmet, R., C. Inskipp and T. Inskipp (2001). *Pocket Guide to the Birds of the Indian Subcontinent (Rev. Rep.)*. Oxford University Press, Delhi, India.
- Gunther, A. (1864). *The Reptiles of British India*. Royal Society, London.
- Harlan, J. R. (ed.). (1976). Genetic resources in wild relatives of crops. *Crop Sci.* 16:329-333.

- Hopkins, J.J. and N. Maxted (2010). *Crop Wild Relatives: Plant Conservation for Food Security*. Natural England Research Reports, Number 037. Natural England, Sheffield.
- Inskipp, T., N. Lindsey and W. Duckworth (1996). *An Annotated Checklist of the Birds of the Oriental Region*. Oriental Bird Club, U.K.
- Jayaram, K.C. (2010). *The Fresh water Fishes of the Indian Region*. Narendra Publishing House, Delhi, India.
- Jerdon, T.C. (1867). *The Mammals of India*. British Museum of Natural History, London.
- Kazmierczak, K. (2000). *Birds of India, Sri Lanka, Pakistan, Nepal, Bhuta, Bangladesh and the Maldives*. Om Books International, New Delhi, India.
- Kehimkar, I. (1997). *Moths of India*. Vignana Prasar & Sanctuary Magazine, New Delhi.
- Kehimkar, I. (2008). *The Book of Indian Butterflies*. Bombay Natural History Society and Oxford University Press.
- Kunte, K. (2000). *Butterflies of Peninsular India*. University Press, Hyderabad.
- Manikadan, R. and Pittie (2001). Standardised Common and Scientific Names of the Birds of the Indian Subcontinent. *Buceros*. 6(1): i-ix; 1-37.
- Mathew, R. and N. Sen (2010). *Pictorial Guide to the Amphibians of North East India*. *Zoological Survey of India*.
- Maxted N, BV Ford-Lloyd, S Jury, S Kell and M Scholten (2006) Towards a definition of a crop wild relative. *Biodivers. Conserv.* 15 (8): 2673-2685.
- Maxted, N., S.P. Kell and B.V. Ford-Lloyd (2008). *Crop wild relative conservation and use: establishing the context*. In: N Maxted, BV Ford-Lloyd, SP Kell, JM Iriondo, ME Dulloo and J Turok (eds) *Crop Wild Relatives: Conservation and Use*, CABI Publ. House, UK, pp 3-30.
- Meenakshi Venkatraman (2010). *A Concise Field Guide to Indian Insects & Aracchnids*. Simova Education and Research, Bangalore.
- Meenon, V. (2009). *Field guide to Indian Mammals*. Christopher Helm, London.
- Mehetre, S. S., R. D. Ghatge and S. K. Lad (1994). Wild Sesamum mulayanum: a source of multiple disease resistance. *Annals of Agric. Res.* 15(2):243-244.
- Miller, G.S. (1902). The Mammals of the Andaman and Nicobar Islands. *Proc. V.S. Nat. Mus.* 57: 1-282.
- Murthy, T.S.N. (1990). Venomous snakes of Medical Importance in India. In: *Snakes and Human Welfare*. Ed. Director, Zoological Survey of India.

- Narendra, A. and M. Sunil Kumar (2006). *A Handbook of the Ants of Peninsular India*. Bangalore.
- Pocock, R.L. (1939). *The Fauna of British India including Ceylon and Burma. Mammalia, Vol. 1: Primates and Carnivora, in part*. Taylor and Francis, London.
- Pocock, R.L. (1941). *The Fauna of British India including Ceylon and Burma. Mammalia, Vol. 2: Primates and Carnivora, in part*. Taylor and Francis, London.
- Prater, S.H. (1971). *The Book of Indian Animals. (3rded.)*. Bombay Natural History Society, Bombay, India.
- Pullaiah, T. (2018). *Flora of Telangana: Revised Edition*. Scientific Publishers, India
- Pundir, R. P. S. and R. B. Singh (1985). Crossability relationships among *Cajanus* species and detection of crossing barriers. *Euphytica* 34:303-308.
- Quebedeaux, B. & Bliss, F.A. (1988). *Horticulture and human health: Contributions of fruits and vegetables*. Proc. 1st Intl. Symp. Hort. and Human Health. Prentice Hall, Englewood NJ.
- Sadasivaiah, B (2009). Diversity, quantification and conservation of Herbaceous plant resources of Nallamalais, Telangana. Ph.D. thesis, Sri Mahabubnagardevaraya University, Anantapur.
- Sadasivaiah, B. and T. Pullaiah (2016). Chapter-6. *Ethnic food plants and Ethnic food preparation in Eastern Ghats and adjacent Deccan Region*. In T. Pullaiah, K.V. Mahabubnagarmurthy and Bir Bahdur (Edt.). *Ethnobotany of India. Vol. 1. Eastern Ghats and Adjcent Deccan Region*. CRC Publications, Apple Academic Press, USA.
- Sanyal, D.P., P.K. Chandra and S. Ray (1993). *Fauna of Andhra Pradesh, Part I: Reptilia*. Zoological Survey of India. Culcatta.
- Sarkar, A.K., P.K. Chandra and S. Ray (1993). Amphibia. Fauna of Telangana. In State fauna Series: 5(1): 65-87.
- Saunders, C. F. (1920). *Useful Wild Plants of the United States and Canada*. Robert M. McBride & Co., New York.
- Sebastian, P.A. and K.V. Peter (2009). *Spiders of India*. University Press, Hyderabad.
- Sharma, R.C. (1998). *Fauna of India- Reptilia (Testudines and Crocodilians)* Vol. I. Zoological Survey of India.
- Sharma, R.C. (2005). *Fauna of India and Adjescent Countries-Reptilia (Sauria)* Vol. II. Zoological Survey of India.

- Sharma, R.C. (2007). *Fauna of India and Adjescent Countries-Reptilia (Serpents)* Vol. III. Zoological Survey of India.
- Sibley, C.G. and B.L. Monroe (1993). *Supplement to the Distribution and Taxonomy of Birds of the World*. Yale University Press, U.K.
- Smith, M.A. (1931). *The Fauna of British India including Ceylon and Burma. Reptilia and Amphibia (Vol. I): Loricata and Testudines*. Taylor and Francis, London.
- Smith, M.A. (1935). *The Fauna of British India including Ceylon and Burma. Reptilia and Amphibia (Vol. II): Sauria*. Taylor and Francis, London.
- Smith, M.A. (1943). *The Fauna of British India including Ceylon and Burma, including the whole of the Indo-Chinese Sub-Region. Reptilia and Amphibia (Vol. III): Serpents*. Taylor and Francis, London.
- Srinivasulu, C., P.A. Racey and Shahroukh Mistry (2010). A Key to the Bats (Mammalia: Chiroptera) of South Asia. *Journal of Threatened Taxa*, 2(7): 1001-76.
- Talwar, P.K. and A. Jhingran (1991). *Inland Fishes of India adjescent Countries*. Vol. I & II. Oxford and IBHP Publishing Co. Pvt. Ltd., New Delhi, India.
- Tikader, B.K. (1987). *Handbook of Indian Spiders*. Zoological Survey of India, Calcutta.
- Whitaker, R. and A. Captain (2004). *Snakes of India. The field Guide*. Draco Books, Chennai, India.
- Wargovich, M.J.(2000). Anticancer properties of fruits and vegetables. *Hort. Science* 35,573-575.
- Wilson, D.E. and D.M. Reeder (1993). *Mammal Species of the World: A Taxonomic and Geographic Reference*. Smithsonian Inst. Press. Washington and London.