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STUDY OF VEGETATION IN GOVERNMENT RAJIV LOCHAN COLLEGE CAMPUS RAJIM, DISTRICT GARIABAND (CHHATTISGARH)

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ABSTRACT

Plants have been an integral part of herbal medicine since ages. The use of plants for medicinal treatment dates back to 5000 years. Medicinal plants have played an essential role in the development of human culture, for example religious and different ceremonies. Plants are natural industries, which provide high quality food and raw material for pharmaceutical, cosmetic and perfumery industries without causing environmental degradation. The main aim of the present study is diversity of medicinal plants and their conservation. These plant species will help in maintaining ecological balance. So that this heritage can be used and exploited wisely through judicious management for future generation. Current research is a useful account on vegetation of medicinal plant in Govt. Rajiv Lochan College Campus Rajim Distt. Gariaband (C.G.). A study on plant diversity during August 2014 to September 2014. After studying vegetation of college campus vegetation of medicinal plants were listed, by botanical name, family, habit and uses with the help of available literature. Total No. of medicinal plant species 34, belonging to 16 families were recorded, that indicate the different medicinal floral diversity in the Govt. R. L. college campus. Maximum species diversity was recorded under the family Fabaceae. Over the recorded maximum medicinal plants were propagated by their seeds. Trees of medicinal plants showed their maximum diversity in the study area.

KEYWORDS: Vegetation, Medicinal plant, Diversity, Conservation

Rajim is one of the most sacred town of Chhattisgarh situated in Gariaband district. It is 45 km by road from state capital Raipur. To reach there, one needs to take National Highway 43 upto Abhanpur; from there a left turn leads a narrow road to Rajim, it is also linked by narrow gauge rail track. The holy confluence of three rivers Mahanadi (Chitrotpala), Pairi and Sondhur, is called Triveni Sangam of Chhattisgarh. Rajim is also known as the "Prayag" of the Chhattisgarh.

Rajim is famous for its rich culture heritage and the beautiful ancient temples. Shri Rajiv Lochan mandir is dedicated to Lord Vishnu. Govt. College Rajim has been named after this temple of Lord Rajeev Lochan as Govt. Rajeev Lochan College, Rajim, established on 27 July 1972. College is having a big compound and its considerable area is covered with a large number of varieties of plant.

The vegetation of India is one of the richest of the world due to the wide variation of climatic condition and environment. A large part of our country is covered with different verities of trees, shrubs and herbs. The plants are easily available, can be easily transported and do not spoil quickly and this system of treatment by plants is better and without any side effect. Medicinal plants are used for treatment of many diseases and their significance has been recognized throughout the world. Among the plant diversity some of them have great potential to treat many diseases which are referred as medicinal plants. Various parts of the medicinal plants are used for different purposes and are also a source of economic growth to local people (Samant *et al.,* 1997). Some ethno botanical studies have been made by Ayyanarand Ignacimuthu (2005), Balakrishnan *et al.* (2009) Ignacimuthu *et al.*(2006) and Toledo *et al.*(2009). Study has been done in the innovation in medicinal and aromatic plants for livelihood security and exploration, collection and conservation for sustainable use of medicinal and medicinal plant species diversity and its utilization in yield improvement. (Pareek *et al.,* 2013 and Tirkey *et al.,* 2013).

India is one of the 12 Mega biodiversity vegetation centers in the world due to the wide range of climatic condition and environment. Chhattisgarh state located centrally in India has approximately 44% forest area. Due to the wide variety of medicinal and aromatic plants, Chhattisgarh has been declared as herbal state in 2001. Chhattisgarh is also known to harbor a rich wealth of rare medicinal plants which cannot be found anywhere else in the world. Plants

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are natural industries, which provide high quality food and raw material for pharmaceutical, cosmetic and perfumery industries without causing environmental degradation. The main objective of this vegetation survey is documenting the information of the medicinal plants. The present work is carried out in Govt. R.L. College Campus Rajim, Gariaband, and C.G. to explore the diversity.

Medicinal plants have played an essential role in the development of human culture for example religion and different ceremonies. Plants are directly used as medicines by a majority of cultures around the world. Cultivation and presentation of medicinal plants project biological diversity for example metabolic engineering of plants. Plants are important for conservation of biological resources as well as their sustainable utilization. Choudhary *et al.,* 2002, Ekka *et al.,* 2007, Oudhia 2008. The present work is documentation of medicinal plants distributed in the college campus.

MATERIALS AND METHOD

The present work was carried out in the Govt. R. L. College campus Rajim Raipur C.G. Methodology covers two types of survey as follows-

1. Field Survey.
2. Literature Collection.

Study Area

The main aim of this work is documenting the indigenous knowledge through ethno medicinal plants. The medicinal plants are used by local tribal people for their treatment of various ailments and traditional medicine as primary healthcare sources. Vegetation diversity in the Govt. R. L. College Campus Rajim C.G. Survey was made for collection of plants their identification, followed by botanical name, family, habitat, use and propagation. The plants were also identified with the help of study done based on literature study by Hookers 1875, Sharma 1998, Dubey *et al.,* 2000, Dwivedi *et al.,* 2003, Chellaiah Muthu *et al.,* 2006. Ekka *et al.,* 2007 Jadhav 2008, Dey and De 2011, Mishra et.al. 2012 and Sinha 2013

Mahanadi at Rajim

Rajiv Lochan Mandir

Survey of Vegetation

The present survey was undertaken from Govt. R. L. College campus Rajim. This place is also known for trading of medicinal and aromatic plant. The local tribal people use medicinal plants for primary health care source. The plants are recorded, vernacular name, botanical name, family, part used, propagation.

Figure: Showing Study (Rajim College Campus) Site of Rajim District Gariaband (C.G.)

RESULTS

On the basis of field survey on medicinal plants species were reported representing with dominant families Fabaceae. The represented plant is dominated by tree 20%, herbs 8%, shrubs 5%, and climber 2% respectively. The reported medicinal plant part used are root, seed, fruit, bark, leaf and rhizome. The plant are arranged following their botanical name, family, habit, part used and propagation as shown in table-1

TREES

S.N	Common name	Botanical name	Family	Part used	Uses	Propagation
1.	Neem	Azadirachta indica	Meliaceae	Bark, Leaves, Flower, Seed, Oil	Skin disease, fever, Wound, Cough, Diabetes etc	Seed
2.	Pipal	Ficus religiosa	Moraceae	Milky Latex	Diarrhoea, Piles, Eye trouble,Mouth ulcer.	Seed
3.	Bargad	Ficus benghalensis	Moraceae	Milky Latex	Asthma, Diabetes, Pain, Burn.	Seed
4.	Amaltash	Cassia fistula	Fabaceae	Pulp, Seed, Bark.	Antiviral, Tonic, Ringworm.	Seed
5.	Ber	Zizyphus jujuba	Rhamnaceae	Fruit, seed	Jaundice, Flu, Coughing	Seed
6.	Gulmohar	*Delonix regia*	Fabaceae	Seed	Purifies and enriches the blood, chest complaint.	Seed
7.	Ashok	*Polyalthia longifolia*	Fabaceae	Bark, Seed, Flower	Dysmenorrhoea, Depression in women, Bleeding.	Seed
8.	Palash	*Butea monosperma*	Fabaceae	Bark, Leaves, Flowers, Seeds, Gum	Urinary disorder, Worms, Inflammation, Skin diseases.	Seed
9.	Amrud	*Psidium guajava*	Myrtaceae	Fruit, Leaf	Liver, Digestive system, Diabetes, kidney problem.	Seed
10.	Amla	*Embelica offcinalis*	Euphorbiaceae	Fruit, Bark, Flower.	Laxative, Stomachic, Antidiarrhoeal, Jaundice	Seed
11.	Munga	*Sesbania grandiflora*	Fabaceae	Leaves	Fever, New born.	Seed
12.	Nilgiri	*Eucaliptus tereticornis*	Myrtaceae	Leaf, Bark	Bronchitis, pneumonia, Cold, Flu, Respiratory infection.	Seed
13.	Karanj	*Pongamia pinnata*	Fabaceae	Seed	Skin disease, Leucoderma, Parasiticide, Bleeding.	Seed
14.	Sesum	*Dalbergia sessoo*	Fabaceae	Leaf, Stem	Skin disease, Dysentry, Gonorrhoea, Itching.	Seed
15.	Babul	*Acacia nilotica*	Fabaceae	Leaf, Stem, Bark	Toothache, Antiseptic, Dysentry.	Seed
16.	Rubber	*Hevea brasiliensis*	Euphorbeaceae	Bark , Latex, Rootlets.	Cuts and sores, healing wounds.	Seed
17.	Kachnar/ Son Pan	*Bauhinia variegate*	Fabaceae	Leaf, Seed	Diarrhoea, Diabetes, Worm, Skin disease.	Seed
18.	Subabul	*Leucaena leucocephala*	Fabaceae	Root, Bark	Back pain, Diabetes, herbal cleanse the body.	Seed
19.	Jangali jalebi imli	Pithocolobiumdulce	Fabaceae	Bark, Pulp, Leaves, Seed	Dysentery, Chronic Diarrhea, tuberculosis	Seed
20.	Thorn tree	Australian Acacia	Fabaceae	Leaves, Bark, Root, Seed	Flu, Cough and cold, Skin ailments.	Seed

HERBS

S. No.	Common Name	Botanical Name	Family	Part used	Uses	Propagation
1.	Joyweed	*Alternanthera sessilis*	Amaranthaceae	Stem, Leaf, Root	Eye problem	Seed
2.	Bhringraj	*Tridex procumbens*	Asteraceae	Leaf	Blood clotting, Wound treatment, Boil.	Seed
3.	Asthma plant	*Euphorbia hirta*	Euphorbiaceae	Leaf, Root	Antiasthmatic, Cough, Dysentry.	Seed
4.	Bhumi amla	*Phyllanthus devlis*	Euphorbiaceae	Whole plant	Diabetes, Skin disease, Liver disorder.	Seed
5.	Coco grass	*Cyperus rotundus*	Cyperaceae	Leaf	Fevers, Digestive system Disorders, Dysmenorrhea.	Root
6.	Dub grass	*Cynodon dactylon*	Poaceae	Leaf	Fever, Ulcer, Stomach infection,other problems.	Root
7.	Pakai/Spiny amarenth	*Amaranthus spinosus*	Amaranthaceae	Seed	Fever, Snake bite, Diarrhoea.	Root
8.	Carrot/Congress weed	*Parthenium*	Asteraceae		Fever, Diarrhoea, Neurologic disorders, Infections, Dysentery.	Seed

SHRUBS

S. No.	Vernacular Name	Botanical Name	Family	Part used	Uses	Propagation
1.	Chandani	*Tabernaemontana divaricata*	Apocynaceae	Leaf, Flower	Burn, Skin disease, Conjunctivitis, Wound.	Stem cutting
2.	Indian indigo	*Indigofera tinctoria*	Fabaceae	Leaves	Scorpion bites and ovarian and stomach cancer.	Seed
3.	Harsingar	*Nyctanthes arbor-tristis*	Nyctanthes	Leaf, seed	Diuretic, Bleeding, Laxative.	Seed/ Stem
4.	Adusa	*Adhatoda vasica*	Acanthaceae	Leaf	Bronchitis, Cough, Eye disease, Asthma, Bleeding.	Stem cutting
5.	Aak	*Calotropis procera*	Asclepiadaceae	Leaf, Root, Flower, Bark	Emetic, Laxative, Swelling, Ringworm, Joint pain	Seed

CLIMBERS

S. No.	Vernacular Name	Botanical Name	Family	Part Used	Use	Propagation
1.	Giloy	Tinospora cordifolia	Menispermaceae	Stem, Root, Fruit	Skin disease, Urinary disease, Jaundice, Dysentry.	Seed / Stem cutting.
2.	Kagaj fool	Bougen villea	Nyctaginaceae	Leaf ,Stem Flower	Antiaulcer,AntimicrobialAnti diarrheal.	Stem cutting

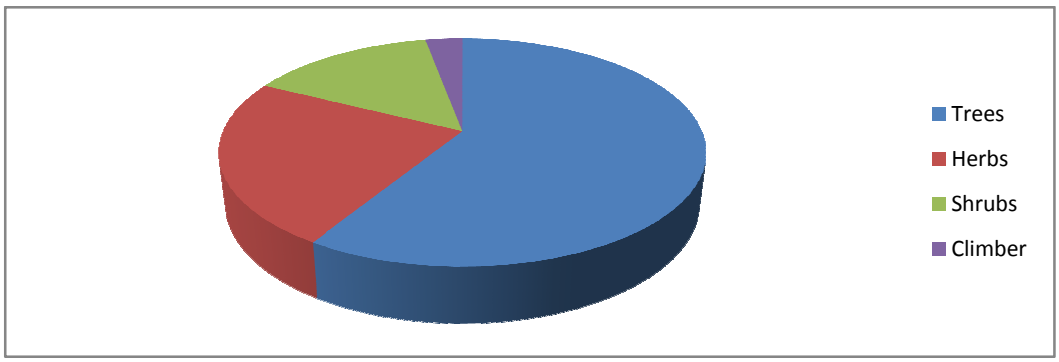
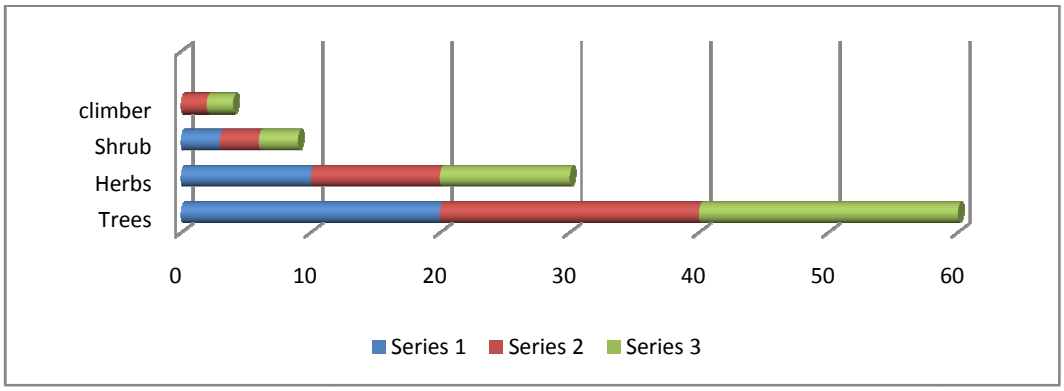


Diagram showing range between trees, herbs, shrubs and climber



Graph showing: Percentage of different plant species in college campus

DISCUSSION

In the large plant kingdom some of the plants are having the potential to cure different human diseases and disorders, these plants are called medicinal plants .This study focuses on the traditional wisdom about medicinal plants which are still as important and effective primary source for the health of the people as it was in earlier times. The documentation is confined within college campus. The data shows that maximum medicinal plant species are family Fabaceae similar results have also reported by Tirkey 2006, Jain et.al. 2006, Kala 2009. The plant species studied have various antibacterial, insecticidal, antiseptic, analgesic properties which are useful in treatment of various skin diseases, allergic reactions and Diarrhea treatment. Out of the 35 medicinal plants species documented here are 08 herbs, 05 shrubs, 20 trees and 02 climbers.

CONCLUSION

In order to document the utility of various plant species and their medicinal use, a study at the college campus was done and obtained data was tabulated which shows that more than 34 plant species of different medicinal importance are present in the study area. Hence the benefit of this study may be useful to coming generation.

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