

## A survey on floral biodiversity of Bokaro Steel City College, Bokaro, Jharkhand

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*Received : 13<sup>th</sup> September, 2025 ; Accepted : 13<sup>th</sup> October, 2025*

*DOI:- <https://doi.org/10.5281/zenodo.17852091>*

### ABSTRACT

The present study aims to assess the biodiversity of plant species in Bokaro Steel City College, Bokaro, Jharkhand with an objective to understand the richness and composition of local flora. A systematic biodiversity survey was conducted using direct observation and sampling techniques across different habitats within the campus. The primary objectives were the identification and documentation of plant species within the campus. The survey carried out weekly over the course of one year (September 2023-August 2024); identified approximately 93 plant species, including trees, herbs, shrubs and climbers. Several medicinal and native species were also recorded, indicating the ecological value of the area. This preliminary survey highlights the importance of local green spaces in preserving biodiversity and promoting environmental awareness. Most of these species are naturally grown and contribute in the maintenance of green and clean campus.

**Key Words** - Biodiversity, Flora, Medicinal, Ecological

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### INTRODUCTION

Floral biodiversity, often referred to as plant biodiversity, encompasses the vast and intricate variety of plant life found on the Earth. At its core, floral biodiversity refers to the diversity of plant species within a given region, ecosystem, or the entire planet. This includes all forms of plant life, from microscopic algae and fungi to towering trees, delicate wildflowers, robust shrubs, and various grasses.

India is a mega-diverse country, holding a remarkable position in global biodiversity. When it comes to flora, India ranks among the top ten nations worldwide and fourth in Asia. According to the Botanical Survey of India (BSI), India is home to a total of 56,177 documented plant species,

including angiosperms, gymnosperms, pteridophytes, bryophytes, lichens, fungi and algae. Within this vast stretch of greenery in the Indian subcontinent there's a bright green speck in the Jharkhand state, located in the industrial city of Bokaro- Bokaro Steel City College. It is situated in a region known for its dry deciduous forests. The College boasts a campus spread over 20 acres of lush, green surroundings.

The college actively participates in "Clean & Green Campus" campaigns and organizes plantation drives regularly in and around the campus. The green spaces within the College offer a unique microcosm to study local flora biodiversity. These areas include gardens, lawns, tree-lined avenues,

and many undisturbed and virgin patches that serve as habitats for various plant species.

Jharkhand's flora is characterized by species adapted to semi-arid conditions, with a prevalence of trees like Sal (*Shorea robusta*), Mahua (*Madhuca longifolia*), Kendu (*Diospyros melanoxylon*), Shisham (*Dalbergia sissoo*) and various bamboo species (*Bambusa vulgaris*, *Dendrocalamus strictus*). The college campus, as an urbanized yet serving potentially green space, reflect elements of this regional flora, alongside introduced ornamental and cultivated species.

Understanding the plant diversity on campus can contribute to ecological awareness among students and faculty, enhance the aesthetic appeal of the college, and potentially provide resources for botanical studies and conservation efforts.

#### STUDY AREA

The study was conducted within the campus of Bokaro Steel City College, Bokaro, Jharkhand, which

spans over 20 acres (approx. 8.09 hectares). The college's huge campus is home to several old trees as well as bushes, herbs, palm trees, climbers and a few exotic plants. The majority of the plants are naturally occurring; however, some are planted primarily for aesthetic reasons and to improve air quality in the campus. Therefore, it has been selected as an experimental area for studying the biodiversity of local flora.

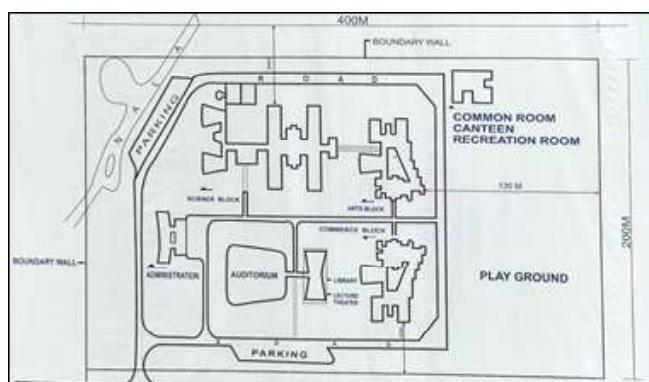


Fig. 1: Map of Bokaro Steel City College

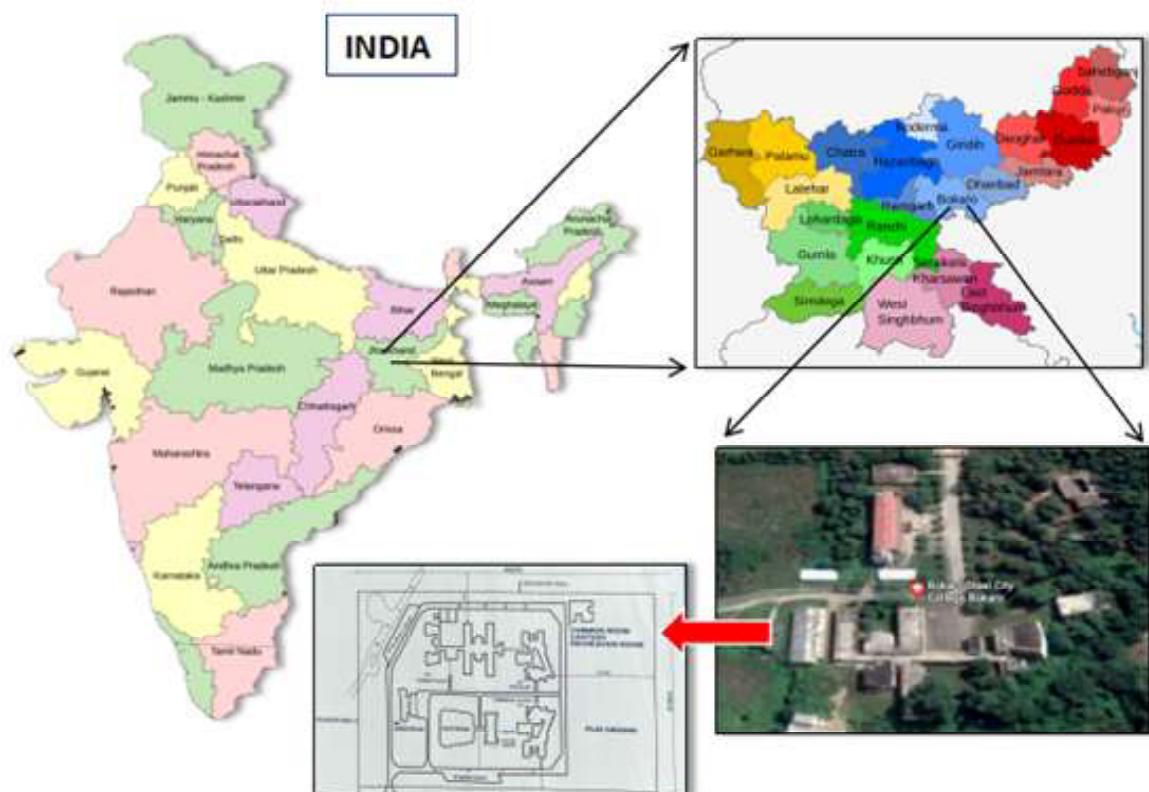


Fig. 2: Location of Bokaro Steel City College in the map of India

## OBJECTIVES

- To identify and document all plant species (trees, shrubs, herbs, climbers, grasses) present within the college campus.
- To assess the diversity of plant life, including native and introduced species.
- To map the distribution of different plant communities or significant species.
- To create a baseline inventory for future monitoring and conservation initiatives.

## METHODOLOGY

The following steps were followed for the Biodiversity survey:

1. The flora in the college campus was surveyed in different areas of the campus over the course of one year (from September, 2023 to August, 2024).
2. Identification of plant species was done with the help of Google lens as well as with the help of literature available in college library.
3. Geo-tagged photographs were taken of plants using GPS Map Camera.

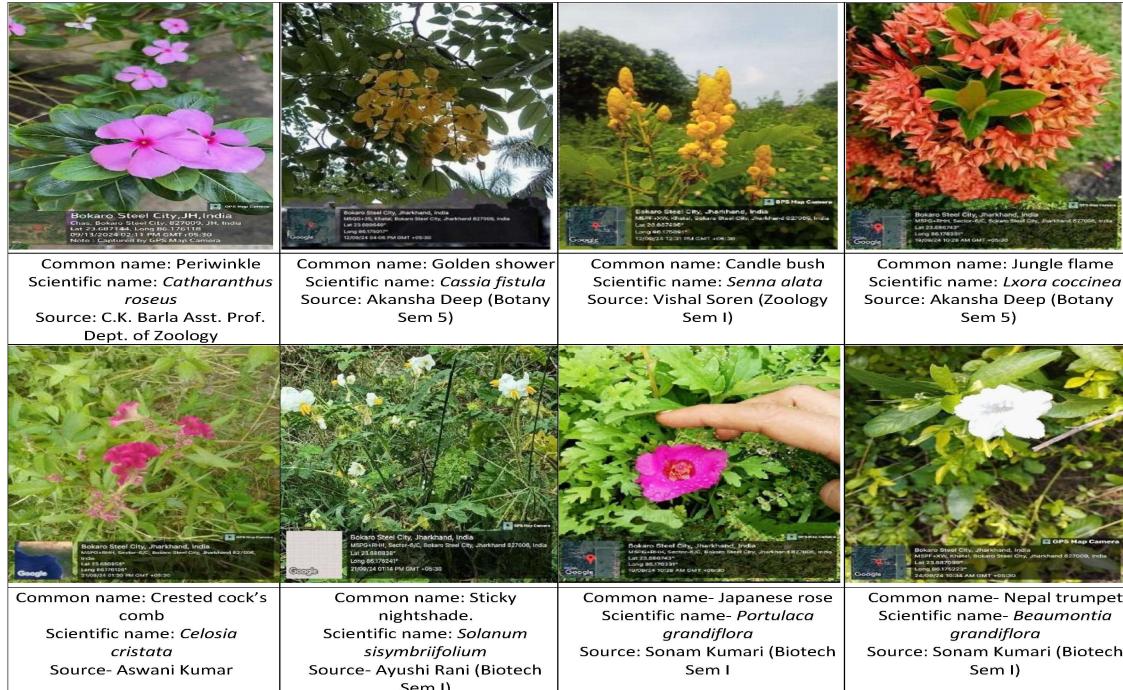
4. Information such as the Common name, Scientific name, Family, and medicinal use of the plants was documented.

Plant species were visually identified, photographed, and classified into herbs, shrubs, trees, climbers, and weeds. Local information was gathered where applicable. Plants were documented in tables with scientific and common names, and categorized by habit. Charts and graphs were created using MS Excel or Google Sheets for data analysis.

## RESULT & OBSERVATIONS

The study identified a total of 93 plant species, including Herbs (17), Shrubs (13), Trees (42), Weeds (10), Vine(1), Grass(5), Sedge(1) and Fungi(1). Several medicinal and native species were also recorded. All trees, shrubs, herbs were taken into consideration for the biodiversity report. Interestingly, the study revealed a rich dominance of Angiosperms (flowering plants) in the whole of the college premises.

Geo-tagged photographs of flora are given in Figure 3. List of plants prepared according to their Scientific names, Common names, Local names, Family and their medicinal properties are listed in Table 1.



			
<p>Common name- Holy basil / tulsi            Scientific name- <i>Ocimum tenuiflorum</i>            Source: Sonan Kumari (Biotech Sem-1)</p>	<p>Common name- diamond flower            Scientific name- <i>Oldenlandia corymbosa</i>            Source: Sonan Kumari (Biotech Sem-1)</p>	<p>Common names: Cathedral Bells.            Scientific name: <i>Kalanchoe pinnata</i>,            Source: Tanisha Singh</p>	<p>Common name: aloe            Scientific name: <i>Aloe arborescens</i>            Source: Tanisha Singh</p>
			
<p>Common name: Butterfly pea            Scientific name: <i>Clitoria ternatea</i>            Source: Sidhant Yadav (History Sem I)</p>	<p>Common name- Garden croton            Scientific name- <i>Codiaeum variegatum</i>            Source: Aanchal Kumari (Biotech Sem I)</p>	<p>Common name - chamber bitter            Scientific name- <i>Phyllanthus urinaria</i>            Source: Sneha Pandey (Biotech Sem I)</p>	<p>Common Name: Aralia golden.            Scientific Name: <i>Polyscias fruticosa</i>            Source: Mukesh Pandey</p>
			
<p>Common name - carrot grass            Scientific name - <i>Parthenium hysterophorus</i>            Source: Pratima Kumari (Biotech Sem I)</p>	<p>Common name- heart-leaved moonseed            Scientific name- <i>Tinospora cordifolia</i>            Source: Anchal Kumari (Biotech Sem I)</p>	<p>Common name - heart-leaved moonseed, amrita, gurbel or gilyo.            Scientific name- <i>Tinospora cordifolia</i>            Source: Sneha Pandey (Biotech Sem I)</p>	<p>Common name - Carpet weed            Scientific name - <i>Alternanthera denticulata</i>            Source: Ashok Chouhan</p>
			
<p>Common name: Kadi patta or sweet neem leaves            Scientific name: <i>Murraya koenigii</i>            Source: Bhawesh Ranjan (Biotech Sem I)</p>	<p>Common name- chicken gizzard plant and also called blood leaf            Scientific name- <i>Iresine herbstii</i>            Source: Aanchal Kumari (Biotech Sem I)</p>	<p>Common name- Hen's nettle            Scientific name- <i>Laportea interrupta</i>            Source: Sonam Kumari (Biotech Sem I)</p>	<p>Common name- Gloden dewdrop            Scientific name- <i>Duranta erecta L.</i>            Source: Sonam Kumari (Biotech Sem I)</p>

 <p>Bokaro Steel City, Jharkhand, India MSQD+35, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.998849° Long 86.17917° 12/09/24 04:06 PM GMT +05:30 Google</p> <p>Common name: Cassod tree Scientific name- <i>Cassia siamea</i> Source- C.K Barla Asst. Prof. Dept. of Zoology</p>	 <p>Bokaro Steel City, Jharkhand, India MSQD+35, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.998849° Long 86.17917° 12/09/24 04:08 PM GMT +05:30 Google</p> <p>Common name- yellow oleander Scientific name- <i>Cascabela thevetia</i> Source- C.K Barla Asst. Prof. Dept. of Zoology</p>	 <p>Bokaro Steel City, Jharkhand, India MSD+35, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.998849° Long 86.17917° 15/09/24 07:09 PM GMT +05:30 Google</p> <p>GPS Map Camera</p> <p>Common name- Devil's tree Scientific name- <i>Alstonia scholaris</i> Source- Bhawesh Ranjan (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSD+35, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.998849° Long 86.17917° 15/09/24 07:18 PM GMT +05:30 Google</p> <p>GPS Map Camera</p> <p>Common name- Baobab tree Scientific name- <i>Adansonia</i> Source- Bhawesh Ranjan (Biotech Sem I)</p>
 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.998820° Long 86.179170° 21/09/24 01:17 PM GMT +05:30 Google</p> <p>Common name- kans grass Scientific name- <i>Saccharum spontaneum</i> Source: Aanchal Kumari (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.998820° Long 86.179170° 21/09/24 01:15 PM GMT +05:30 Google</p> <p>GPS Map Camera</p> <p>Common name- bitter vine, climbing hemp vine, or American rope. Scientific name- <i>Mikania micrantha</i> Source: Aanchal Kumari (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.998820° Long 86.179170° 21/09/24 01:15 PM GMT +05:30 Google</p> <p>GPS Map Camera</p> <p>Common name- little bluestem Scientific name- <i>Schizachyrium scoparium</i> Source: Aanchal Kumari (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.998820° Long 86.179170° 21/09/24 01:10 PM GMT +05:30 Google</p> <p>Common name: sickle senna or sickle wild sensitive-plant Scientific name: <i>Senna tora</i> Source: Ayushi Rani (Biotech Sem I)</p>
 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Sector 4/C, Bokaro Steel City, Jharkhand 827009, India Lat 23.986538° Long 86.179241° 21/09/24 06:06 PM GMT +05:30 Google</p> <p>Common name: Ber or Indian jujube Scientific name: <i>Ziziphus mauritiana</i> Source: Ayushi Rani (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.986538° Long 86.179241° 21/09/24 06:14 PM GMT +05:30 Google</p> <p>GPS Map Camera</p> <p>Common name- crown flower, Aak or Madar Scientific name- <i>Calotropis gigantea</i> Source: Aanchal Kumari (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.986538° Long 86.179241° 21/09/24 06:14 PM GMT +05:30 Google</p> <p>GPS Map Camera</p> <p>Common name- small balsam Scientific name- <i>Impatiens parviflora</i> Source: Sneha Kumari (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.986538° Long 86.179241° 21/09/24 06:26 PM GMT +05:33 Google</p> <p>GPS Map Camera</p> <p>Common name- bindweed Scientific name- <i>Evolvulus nummularius</i> Source: Sneha Kumari (Biotech Sem I)</p>
 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Sector 4/C, Bokaro Steel City, Jharkhand 827009, India Lat 23.986538° Long 86.179241° 21/09/24 06:55 PM GMT +05:30 Google</p> <p>Common name: Male fern Scientific name: <i>Dryopteris filix-mas</i> Source: Bhawesh Ranjan (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Sector 4/C, Bokaro Steel City, Jharkhand 827009, India Lat 23.986538° Long 86.179241° 21/09/24 06:55 PM GMT +05:30 Google</p> <p>GPS Map Camera</p> <p>Common name-Akra Scientific name- <i>Calotropis procera</i> Source: Sonam Kumari (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Sector 4/C, Bokaro Steel City, Jharkhand 827009, India Lat 23.986538° Long 86.179241° 21/09/24 07:04 PM GMT +05:30 Google</p> <p>GPS Map Camera</p> <p>Common name- Aloe vera, gwar patha, ghrat kumari Scientific name- <i>Aloe barbadensis</i> Source- Sonam Kumari (Biotech Sem I)</p>	 <p>Bokaro Steel City, Jharkhand, India MSPF+XW, Khata, Bokaro Steel City, Jharkhand 827009, India Lat 23.986538° Long 86.179241° 21/09/24 07:04 PM GMT +05:30 Google</p> <p>GPS Map Camera</p> <p>Common name- Skipped pepper Scientific name- <i>Piper aduncum</i> Source- Sonam Kumari (Biotech Sem I)</p>

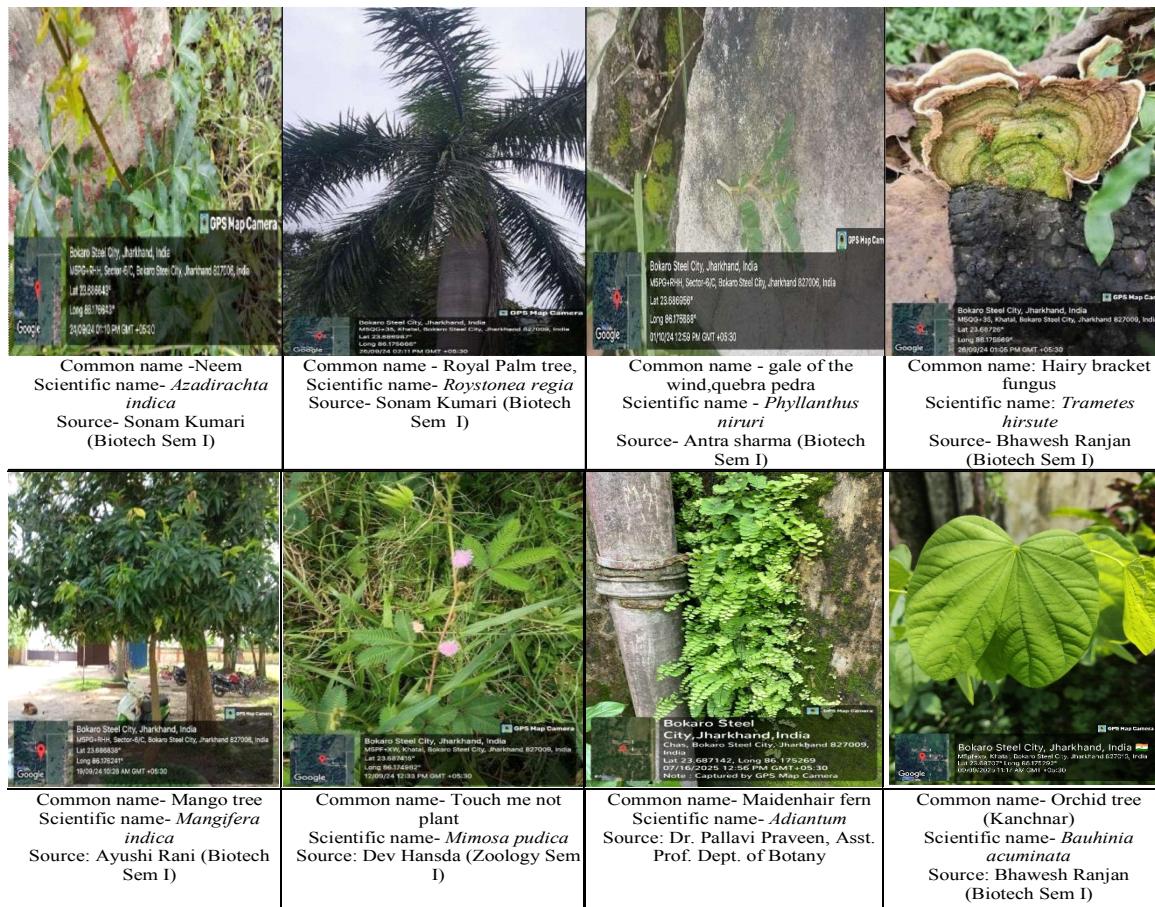


Figure 3: Geo-tagged photographs of flora found inside the college campus.

Table 1: List of flora found in the college campus.

Sl. No.	Common Name	Scientific Name	Family	Habit	Medicinal Properties
1.	Hairy bracket	<i>Trametes hirsute</i>	Polyporaceae	Fungi	Anti-microbial, Immunomodulatory, Antioxidant properties.
2.	Nutgrass (Mutha)	<i>Cyperus rotundus</i>	Cyperaceae	Sedge	Treat diarrhoea, malaria, inflammation, bowel disorders.
3.	Bamboo (Bans)	<i>Dendrocalamus strictus</i>	Poaceae	Grass	Treat stomach disorders, menstrual irregularities, intestinal worm killing.
4.	Bermuda grass (Doobh)	<i>Cyanodon dactylon</i>	Poaceae	Grass	Stops bleeding from cuts, treat skin issues, diabetes, inflammation.
5.	Kans Grass	<i>Saccharum spontaneum</i>	Poaceae	Grass	Is a valuable medicinal herb used to treat digestive disorders, respiratory conditions, anti-inflammatory, wound healing etc.
6.	Little bluestem/ beard grass	<i>Schizachyrium scoparium</i>	Poaceae	Grass	Stems burned and its ashes used to treat syphilitic sores.
7.	Wild sugarcane (Kans grass)	<i>Saccharum spontaneum</i>	Poaceae	Grass	Useful in burning sensation, blood diseases, treat respiratory problems, constipation and piles.
8.	Apple of Sodom (Madar)	<i>Calotropis procera</i>	Apocynaceae	Weed	Dried leaves to treat rheumatic pain, migraine, wound healing. Flower to treat asthma, diarrhoea.
9.	Big sage (Putus)	<i>Lantana camara</i>	Verbenaceae	Weed	Antibacterial, Antifertility, Antifungal, Anti-inflammatory, Antioxidant etc.
10.	Bitter vine (Amar lata)	<i>Mikania micrantha</i>	Asteraceae	Weed	Antimicrobial, Antioxidant, Wound healing, Antidiabetic, Anti-inflammatory, Antimicrobial etc.

11.	Carrot grass	<i>Parthenium hysterophorus</i>	Asteraceae	Weed	Anti-diabetic effect, Antimicrobial, Larvicidal.
12.	Chamber bitter (Lal bhuiyanwalah)	<i>Phyllanthus urinaria</i>	Phyllanthaceae	Weed	Antiviral, anti-tumor, anti-diabetic, hepatoprotective, antioxidant, anti-hypertensive, anti-inflammatory, and antimicrobial properties.
13.	Congress grass (Gajar ghas)	<i>Parthenium sp.</i>	Asteraceae	Weed	Pain relief, digestive issues, infections
14.	Giant milkweed (Arka)	<i>Calotropis gigantea</i>	Apocynaceae	Weed	Latex used for skin disease, flowers used for asthma, jaundice, intestinal worms, and leaves used for headaches, burns etc.
15.	Round leaf bindweed (Vishnukranti)	<i>Evolvulus nummularius</i>	Convolvulaceae	Weed	Wound healing, Anti helminthic, treat cuts and burns, scorpion stings etc.
16.	Sickle senna (Chakunda)	<i>Senna tora</i>	Fabaceae	Weed	Treatment of ringworm, itches, leprosy, liver disorders and heart disorders.
17.	Water hyacinth (Jalkumbhi)	<i>Eichhornia sp.</i>	Pontederiaceae	Weed	Antimicrobial, wound healing, Anti-inflammatory properties
18.	Aloe vera	<i>Aloe barbadensis</i>	Asphodelaceae	Herb	Skin healing, lower blood sugar level, laxative, treat inflammatory diseases.
19.	Asian pigeonwings (Aparajita)	<i>Clitoria ternatea</i>	Fabaceae	Herb	Antistress, antidepressant, anticonvulsant and sedative agent.
20.	Asthma weed (Doodhi)	<i>Euphorbia hirta</i>	Euphorbiaceae	Herb	Treat worm infestation in children, increase lactation, treat pimples, jaundice, boils.
21.	Carpet weed (Gudrisag)	<i>Alternanthera denticulata</i>	Amaranthaceae	Herb	Used in herbal medicine.
22.	Chaff flower (Chirchri)	<i>Achyranthus aspera</i>	Amaranthaceae	Herb	Treat scorpion and snake bite, earaches, skin disease, gastro intestinal disorders.
23.	Crested cock's comb (Lalmurga)	<i>Celosia cristata</i>	Amaranthaceae	Herb	Treatment of dysfunctional uterine bleeding, pelvic inflammatory diseases etc.
24.	Diamond flower (Daman pappar)	<i>Oldenlandia corymbosa</i>	Rubiaceae	Herb	Leaves used to treat stomach disorder, treat sores, Anthelmintic, treatment of jaundice, viral infections, acne, boils etc.
25.	Gale of the wind (Bhumi amla)	<i>Phyllanthus niruri</i>	Phyllanthaceae	Herb	Treat jaundice, kidney stones, diabetes, constipation. Have antiviral properties.
26.	Heart leaved moonseed Gulache)	<i>Tinospora cordifolia</i>	Menispermaceae	Herb	Used in Ayurvedic medicine
27.	Hen's nettle (Dam Chorat)	<i>Laportea interrupta</i>	Urticaceae (Nettle family)	Herb	Whole plant is anthelmintic and expectorant, boiled and drunk to relieve whooping cough, rubbed on head to relieve headaches,
28.	Holy Basil (Tulsi)	<i>Ocimum tenuiflorum</i>	Lamiaceae	Herb	Lowers blood glucose level, has antibacterial properties, promotes healthy liver function, boosts immune system, helps in cold and seasonal flu, lowers cholesterol.
29.	Indian squill (Jungli pyaj)	<i>Urginea indica</i>	Liliaceae	Herb	Wound healing, antifungal, antidiabetic, antioxidant properties.
30.	Japanese rose (10 o'clock plant)	<i>Portulaca grandiflora</i>	Portulacaceae	Herb	Fresh juice of leaves and stem used to treat snake and insect bites, burns, skin rashes etc. Rich in Vit A, C, B1, has antimicrobial properties.

31.	Maidenhair fern	<i>Adiantum</i>	Pteridaceae	Herb	Anti-inflammatory, anti-microbial, treat respiratory problems, prevent hair loss and exhibit wound healing properties.
32.	Male fern (Muzakkar)	<i>Dryopteris filixmas</i>	Dryopteridaceae	Herb	Treat tapeworm, gastro intestinal disease, inflammation, ulcers.
33.	Sensitive plant (Lajwanti)	<i>Mimosa pudica</i>	Fabaceae	Herb	Treat diabetes, obesity, urinary infections etc.
34.	Small balsam	<i>Impatiens parviflora</i>	Balsaminaceae	Herb	Treating warts, ringworm, itchy scalp, uterine ailments. Have insecticidal properties.
35.	Wild eggplant (Rengni)	<i>Solanum xanthocarapum</i>	Solanaceae	Herb	Treat infectious diseases, fever, cough, piles, sore throats.
36.	Nepal Trumpet flower (Swari phool)	<i>Beaumontia grandiflora</i>	Apocynaceae	Vine	Anti-inflammatory. Roots and leaves used in treatment of fractures, injury, backache and leg pain etc.
37.	Aralia golden (Ming aralia)	<i>Polyscias fruticosa</i>	Araliaceae	Shrub	Antidepressant, antistress, improve memory, antioxidant, hypoglycemic, hepatoprotective, hypolipidemic, antifungal, and antibacterial effects
38.	Blood leaf (Bishohari)	<i>Iresine herbstii</i>	Amaranthaceae	Shrub	Treat skin conditions like sores, pimples, Antipyretic, Post labour tonic, Antibacterial, Relaxant etc.
39.	Cathedral bells (Patharchatta plant)	<i>Kalanchoe pinnata</i>	Crassulaceae	Shrub	Treatment of kidney stones, gastric ulcer, pain, diarrhoea
40.	Garden croton (Kala bhangra)	<i>Codiaeum varieatum</i>	Euphorbiaceae	Shrub	Used in traditional medicine to treat amoebic dysentery and stomach ache, wounds, infections etc.
41.	Golden dewdrop (Nilkanta)	<i>Duranta erecta</i>	Verbenaceae	Shrub	Antimicrobial, antioxidant, insecticidal properties.
42.	Indian plum (Pani amla)	<i>Ziziphus mauritiana</i>	Rhamnaceae	Shrub	Antioxidant, Antioxidant, Antiasthmatic, Antidiabetic, Antiinflammatory
43.	Jujube (Dhatura)	<i>Zizyphus oenophlia</i>	Rhamnaceae	Shrub	Antimicrobial, anti-inflammatory, antioxidant, treat abdominal pain.
44.	Jungle geranium (Rugmini)	<i>Ixora coccinea</i>	Rubiaceae	Shrub	Roots and flowers used in dysentery, leucorhea, nausea, hiccup. Roots contain tannin, fatty acids, aromatic acid oil used in treatment of sores, eczema etc.
45.	Lily of the desert (Aloe)	<i>Aloe arborescens</i>	Asphodelaceae	Shrub	Treatment of skin infections, preparation of laxative medicines,
46.	Nightshad (Makoi)	<i>Solanum nigrum</i>	Solanaceae	Shrub	Treat skin ulcer, fever, asthma dysentry
47.	Orchid tree (Kanchnar)	<i>Bauhinia acuminata</i>	Fabaceae	Shrub	Anti-inflammatory, anti-diabetic, anti-microbial, and detoxifying properties.
48.	Periwinkle (Sadabahar)	<i>Catharanthus roseus</i>	Apocynaceae	Shrub	Antihypertensive, antimicrobial, anti-inflammatory, anticancer properties.
49.	Skiped pepper (Matico)	<i>Piper aduncum</i>	Piperaceae	Shrub	Antimicrobial, Antiinflammatory, wound healing, insect repellent, diarrhoea, antiseptic.
50.	Velvet bean (Alkosi)	<i>Mucuna prurita</i>	Fabaceae	Shrub	Treat Parkinson's disease, snakebite, neurological disorders, male infertility
51.	Wild Orchid-Tree	<i>Bauhinia acuminata</i>	Fabaceae	Shrub	Anti-oxidant and anti-inflammatory, anti-diabetic, anti-cancer, anti-fertility and pain relief properties.

52.	Adina (Karma)	<i>Haldina cordifolia</i>	Rubiaceae	Tree	Leaves cure boils, cough and cold, bark cure skin disease and bacterial infections, roots cure dysentery and buds used as antidote to snake poison.
53.	Arjuna	<i>Terminalia arjuna</i>	Combretaceae	Tree	Treat chest pain, asthma, high cholesterol, high blood pressure and obesity.
54.	Avaram or ra nawara (Tarwar)	<i>Senna auriculata</i>	Fabaceae	Tree	Antimicrobial, antidiabetic, Antioxidant, Antipyretic, Antiviral properties.
55.	Banyan (Bar)	<i>Ficus benghalensis</i>	Moraceae	Tree	Treat diabetes, wounds, seizures, burns, lung infections, blood purifier
56.	Baobab (Kalptaru)	<i>Adansonia digitata</i>	Malvaceae	Tree	Anti-inflammatory, Antimicrobial, Anti-diabetic, Thrombolytic.
57.	Benteak (Banab)	<i>Lagerstroemia indica</i>	Lythraceae	Tree	Anti-inflammatory, anti-diabetic, antimicrobial, anti-cancer properties.
58.	Blackboard Tree (Saptaparni)	<i>Astonished scholaris</i>	Apocynaceae	Tree	Treat intermittent fever, skin Diseases, leprosy, intestinal Worms, diarrhoea etc.
59.	Bottle Palm	<i>Hyophorbe lagenicaulis</i>	Arecaceae	Tree	Used in cancer therapy, has cytotoxic potential.
60.	Bridelia (Kajhi)	<i>Bridelia retusa</i>	Phyllanthaceae	Tree	Treatment of rheumatic pain, wounds, indigestion, used as laxative and insecticide.
61.	Burflower tree (Kadamb)	<i>Neolamarkia cadamba</i>	Rubiaceae	Tree	Treat fever, skin disease, pain, swelling, gastro intestinal problems, wound healing etc.
62.	Cassod tree	<i>Cassia siamea.</i>	Fabaceae	Tree	Used in traditional medicine to treat abdominal and skin infections. Ornamental tree
63.	Cassod tree (Kassod)	<i>Cassia siamea</i>	Abaca	Tree	Used as laxative, lower blood sugar level, treat typhoid fever, menstrual pain, asthma etc.
64.	Catechu (Khair)	<i>Acacia catechu</i>	Fabaceae	Tree	Cure asthma, sores, leprosy, bacterial infections, dysentery, lesions, cold.
65.	Coralberry (Doca)	<i>Ardisia paniculata</i>	Myrsinaceae	Tree	Treatment of hypertension, irregular menstruation, gonorrhoea, earache.
66.	Date palm (Khajur)	<i>Phoenix acaulis</i>	Areacaceae	Tree	Treat toothaches, used as laxative, treat gonorrhoea.
67.	Dogwood (Dhela)	<i>Alangium salvifolium</i>	Cornaceae	Tree	Treat skin conditions, reduce blood pressure, inflammations, dengue, epilepsy, diarrhoea.
68.	Forest flame (Palash)	<i>Butea monosperma</i>	Fabaceae	Tree	Anti-inflammatory, Anti-diabetic, Antioxidant, Anti-microbial.
69.	Golden shower (Amaltas)	<i>Cassia fistula</i>	Fabaceae	Tree	Flowers show antifungal and antibacterial properties. Dried pulp has anti-inflammatory activity.
70.	Indian beech (Karanj)	<i>Pongamia pinnata</i>	Fabaceae	Tree	Clean teeth and gums, antimicrobial, laxative, cure scabies, leukoderma.
71.	Indian gooseberry (Amla)	<i>Emblica officinalis</i>	Phyllanthaceae	Tree	Help with digestion, inflammation, cholesterol level, inhibit tumour growth, has antioxidant property.
72.	Indian plum (Ber)	<i>Casearia tomentosa</i>	Salicaceae	Tree	Used to treat wounds, diabetes, ringworm, snake bites, malaria, sprains etc.

73.	Indian Rosewood (Sheesham)	<i>Dalbergia sisso</i>	Fabaceae	Tree	Treat sore throats, skin disease, boils, leprosy, anti-inflammatory, blood purifier.
74.	Jackfruit (Kathal)	<i>Artocarpus heterophyllus</i>	Moraceae	Tree	Treat anaemia, dermatitis, used as laxative, promote weight loss.
75.	Jambul (Jamun)	<i>Syzygium cumini</i>	Lamiaceae	Tree	Treat inflammation, anti-diabetic, anti-oxidant, anti-allergic etc.
76.	Mahua	<i>Madhuca longifolia</i>	Sapotaceae	Tree	Treat skin disease, bronchitis, hair loss, used as laxative.
77.	Mango (Aam)	<i>Mangifera indica</i>	Anacardiaceae	Tree	Leaves used to treat hiccups and throat diseases, flowers used as astringent and seeds used to treat asthma.
78.	Marking nut (Bhilwa)	<i>Semecarpus anacardium</i>	Anacardiaceae	Tree	Hair growth promoter, antibacterial, anti-inflammatory, antioxidant properties.
79.	Mohogny	<i>Swietenia mahagoni</i>	Meliaceae	Tree	Anti-microbial, Anti-diabetic, hepatoprotective, antioxidant, insect repellent.
80.	Neem	<i>Azadirachta indica</i>	Meliaceae	Tree	Cure skin problems, infections, digestive problems, anti- dandruff, treat tooth-ache, lice etc.
81.	Peepal	<i>Ficus religiosa</i>	Moraceae	Tree	Treat chronic coughing, stimulate insulin secretion, treat epilepsy, infections, haemorrhages.
82.	Royal Palm	<i>Roystonea regia</i>	Arecaceae	Tree	Roots used as diuretic and to treat diabetes.
83.	Royal poinciana (Gulmohar)	<i>Delonix regia</i>	Fabaceae	Tree	Anti-inflammatory, anti-diabetic, wound healing, antimicrobial, antioxidant.
84.	Sal (Sakhua)	<i>Shorea robusta</i>	Dipterocarpaceae	Tree	Leaves treat wounds, ulcers, barks treat leucorrhoea, skin diseases, resins treat dysentery, burns, UTI etc.
85.	Silk cotton (Semal)	<i>Bombox sp.</i>	Malvaceae	Tree	Treat asthma, tuberculosis, skin conditions, prevent liver damage, cure wounds and cuts.
86.	Silk tree (Siris)	<i>Albizia lebbek</i>	Fabaceae	Tree	Control asthma attack, antimicrobial, antiinflammatory, used to cure cancer
87.	Sticky Nightshade (Shwetrangini)	<i>Solanum sisymbriifolium</i>	Solanaceae	Tree	Diuretic, analgesic, contraceptive, Anticonvulsant properties.
88.	Stone apple (bael)	<i>Aegle marmelos</i>	Rutaceae	Tree	Used to treat chronic diarrhoea, stomach-ache, typhoid, prevent cataract, diabetes.
89.	Sweet neem (Kadipatta)	<i>Murraya koenigii</i>	Rutaceae	Tree	Aiding digestion, reducing cholesterol, controlling diabetes, anti-inflammatory properties.
90.	Tamarind (Imli)	<i>Tamarindus indica</i>	Fabaceae	Tree	Help with constipation, throat pain, malarial fever, dry eye, wound healing.
91.	Teak (Shagwan)	<i>Tectona grandis</i>	Lamiaceae	Tree	Treat bronchitis, inflammation, piles, urinary discharge, relieve headaches.
92.	White teak (Gamhar)	<i>Gamelina arborea</i>	Lamiaceae	Tree	Leaf powder fumes treat headaches, flower to treat leprosy and blood disease, roots to treat menstrual irregularities.
93.	Yellow oleander (Pili Kaneir)	<i>Cascabela thevetia</i>	Apocynaceae	Tree	Useful in heart conditions, epilepsy, painful menstrual periods, malaria, indigestion etc.

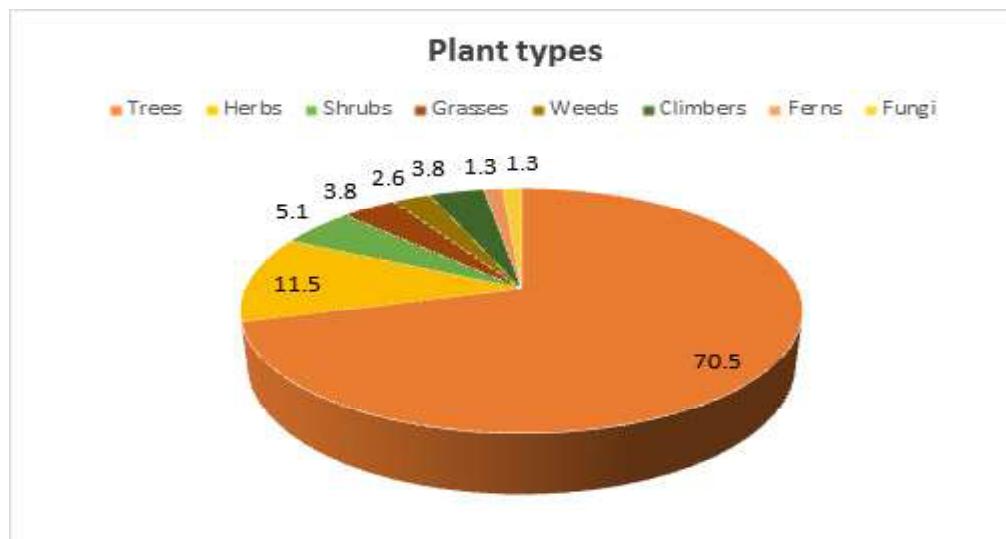


Fig. 4: Pie chart representing the habit wise distribution of plant species (in %) in the campus.

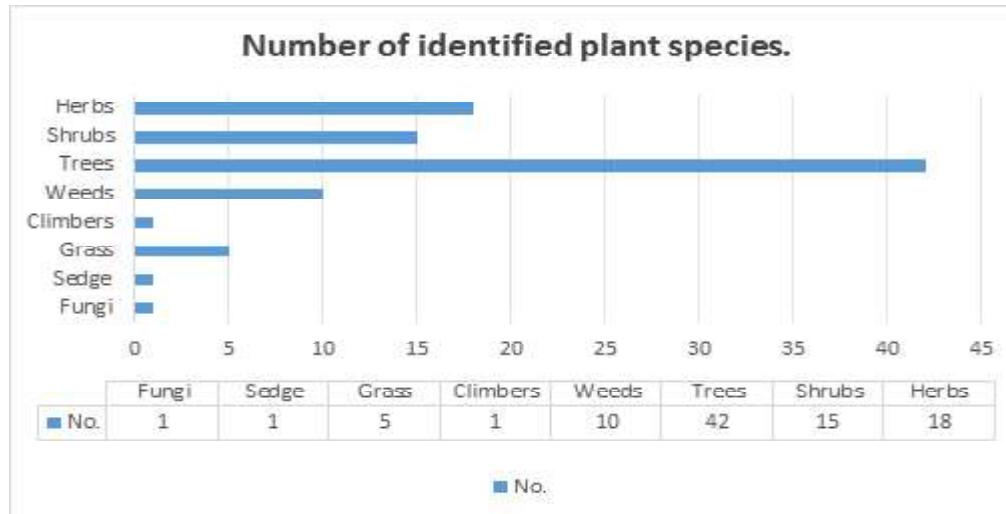


Fig. 5: Bar graph representing the number of identified plant species.

## CONCLUSION

The biodiversity survey conducted at Bokaro Steel City College revealed a rich and diverse composition of plant life. A total of 93 plants were identified, including a variety of Herbs [18], Shrubs[15], Trees[42], and Weeds[10], Climbers [1], Grass[5], Sedge[1] and Fungi [1] observed during the survey with a further estimation of still more plant species prevailing there unidentified. This survey not only highlights the ecological wealth present in the college campus but also emphasizes the medicinal properties of plants to leverage traditional medicine practices. The preliminary survey would be helpful for the exploration of plant diversity. The recorded plant species serve vital

ecological functions such as maintaining soil fertility, supporting pollinators, and contributing to the overall ecosystem balance.

Moreover, the presence of medicinal and economically important plants suggests great potential for further research and sustainable utilization. This study serves as a foundational step in encouraging biodiversity awareness and ecological responsibility among students, faculty members and other stakeholders of the college. Continued monitoring and conservation efforts will be essential to preserve this natural heritage in the face of urbanization and climate change.

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