



A Comparative Study on Post Monsoon Flora within and in vicinity of GPCOE Campus.

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Abstract: Background - The project was carried out with the goals of documenting the diversity of the campus, comparing it with the surrounding area diversity and comparing the native species to the exotic species of plants within and around the campus of college.

Methodology - It was a post monsoon survey conducted on a lateritic plateau. Photographs of every plant were taken and the identification was done with the help of local floras and literatures. The scientific names, native place and families were gathered from "POWO".

Result - A total of 106 vascular plant species belonging to 56 families were recorded. Fabaceae, Asteraceae and Apocynaceae were dominant families. There are a total of 78 different plant species i.e. 68% in the college campus belonging to 33 families dominated by Fabaceae and Asteraceae families. In the area around the campus, there are 36 species, i.e. 32% species dominated by Fabaceae and Apocynaceae family. 7.6% similarity was discovered between vicinity and campus. When all plants were considered, 39% of native species and 61% of exotic species were discovered. The species endemic to India were also found - *Lepidagathis prostrata* Dalzell, *Eriocaulon* sp, *Jasminum auriculatum* Vahl, *Glyphochloa acuminata* (Hack.) Clayton

Conclusion - Exotic invasive species can be detrimental with regards to native plants. Though the exotic species should be allowed to grow, but the introducing and adding of new species should be avoided as they affect the survival of the native plant diversity. This data provide key information for planning and executing right conservation strategies by local management to protect native flora.

Introduction

- India is known to have a vast diversity of flora due to various reasons; topological conditions immense differences in climatic conditions, and wide range of habitats favoring the life of plants.
- Flora refers to the brief taxonomic treatment of all plants occurring in a geographical location which generates a comprehensive account.
- A complete flora of country is necessary to reflect the whole plant diversity of that country.
- Floristic investigations provide reliable information about the nomenclature, distribution, ecology and utility of various plant species.
- And, efforts are also being put assess the threat level they are facing due to various reasons.
- These kinds of studies are considered to be a significant today, since they provide key information for planning and executing right conservation strategies.
- Recognizing and learning from local management can protect native flora within the systems that are important to well-being.

Result and dissusion

- A total of 106 vascular plant species belonging to 56 families were recorded. Fabaceae, Asteraceae and Apocynaceae were dominant families.
- A total of 78 different plant species i.e. 68% in the college campus belonging to 33 families dominated by Fabaceae and Asteraceae families.
- Fabaceae, Asteraceae and Poaceae were dominant families campus flora (Sainkhendiya, 2019; Singh, 2011).
- In the area around the campus, there are 36 species, i.e. 32% species dominated by Fabaceae and Apocynaceae family.
- 7.6% similarity was discovered between vicinity and campus. 39% of native species and 61% of exotic species were discovered among all plants.
- The species endemic to India were also found - *Lepidagathis prostrata* Dalzell, *Eriocaulon* sp, *Jasminum auriculatum* Vahl, *Glyphochloa acuminata* (Hack.) Clayton

Study Area: Total 21517 square meter area and 50m buffer area.

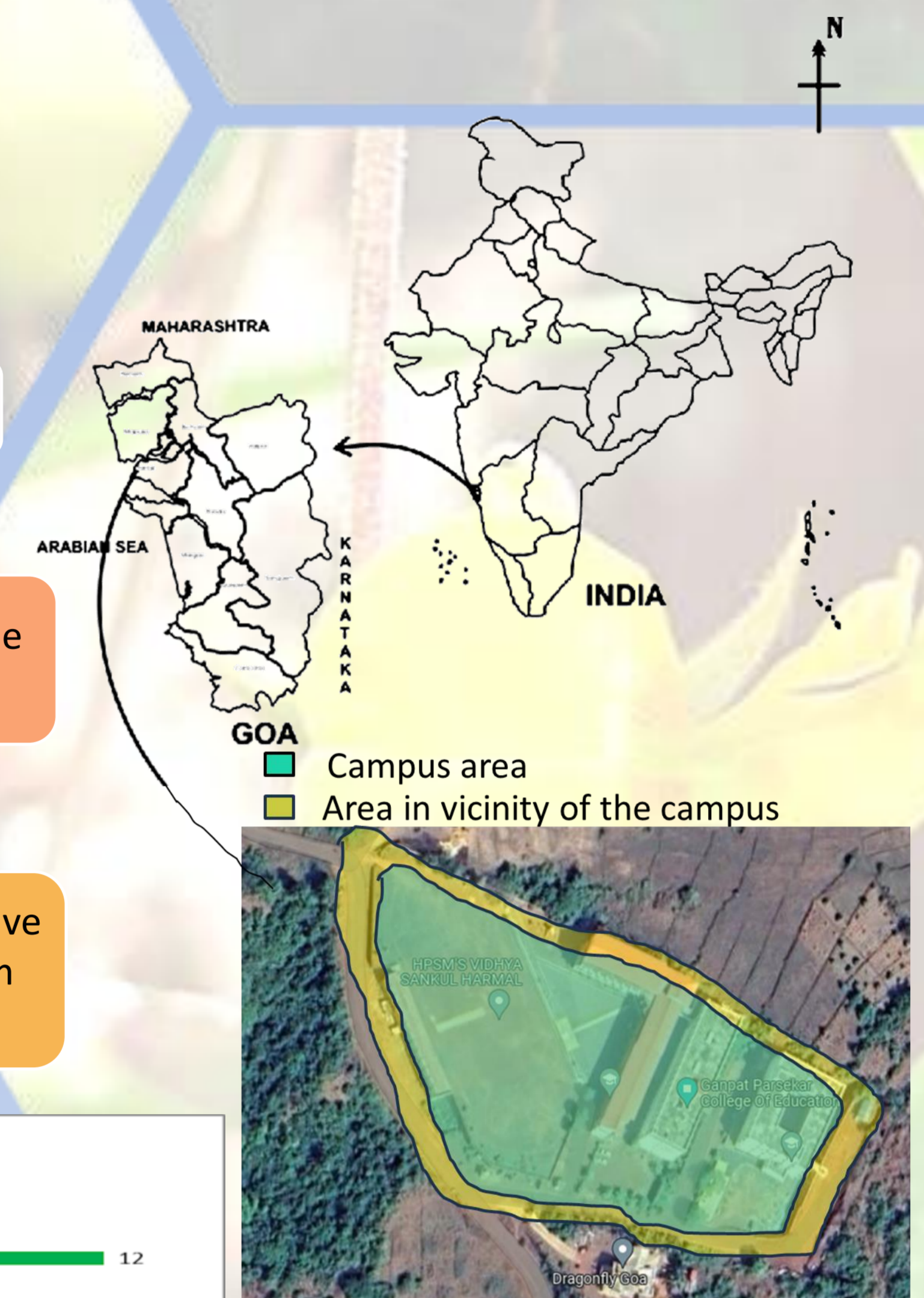
Methodology

A post-monsoon survey

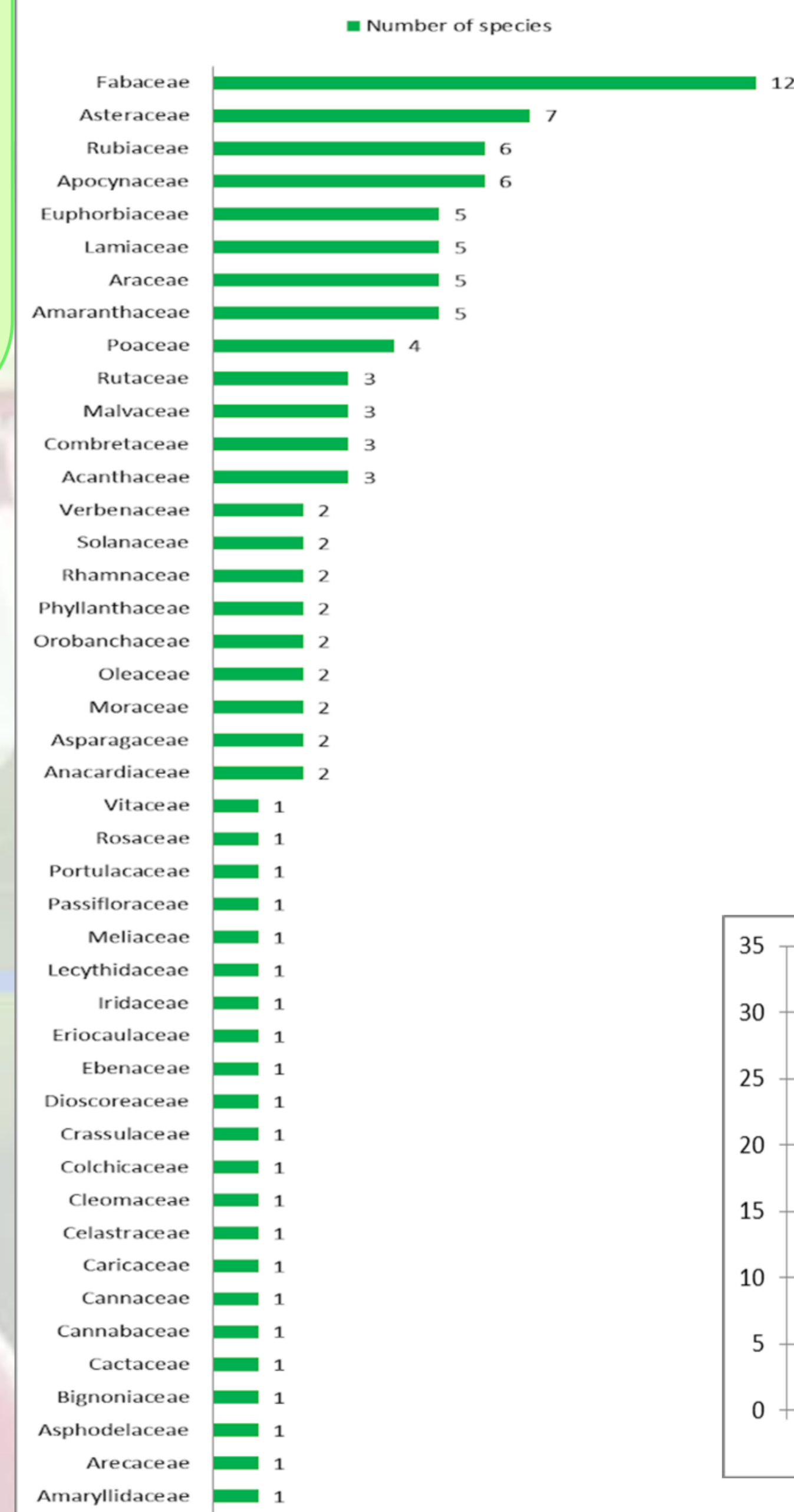
Photographs of plant

The identification was done with the help of local flora and literature.

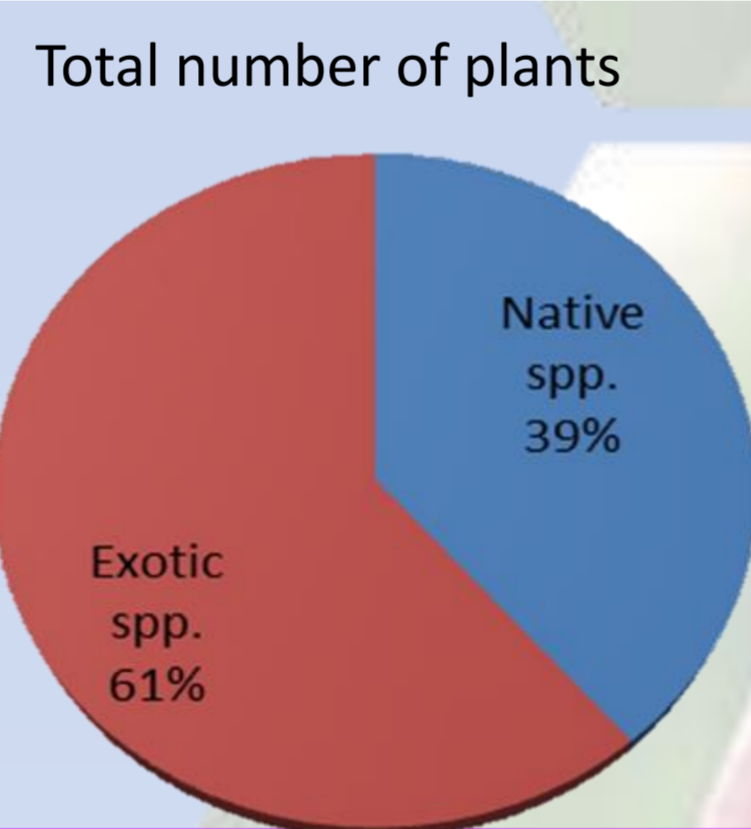
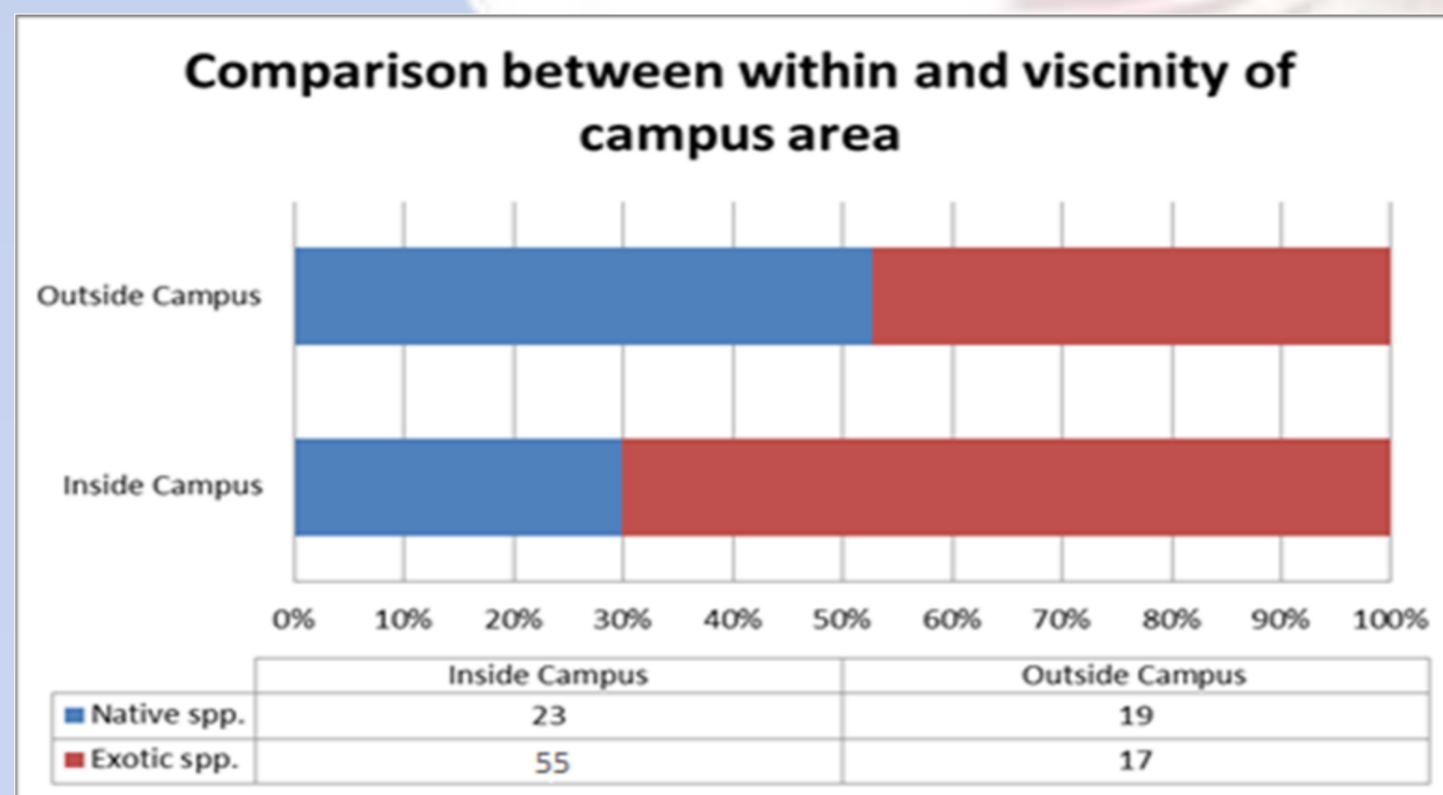
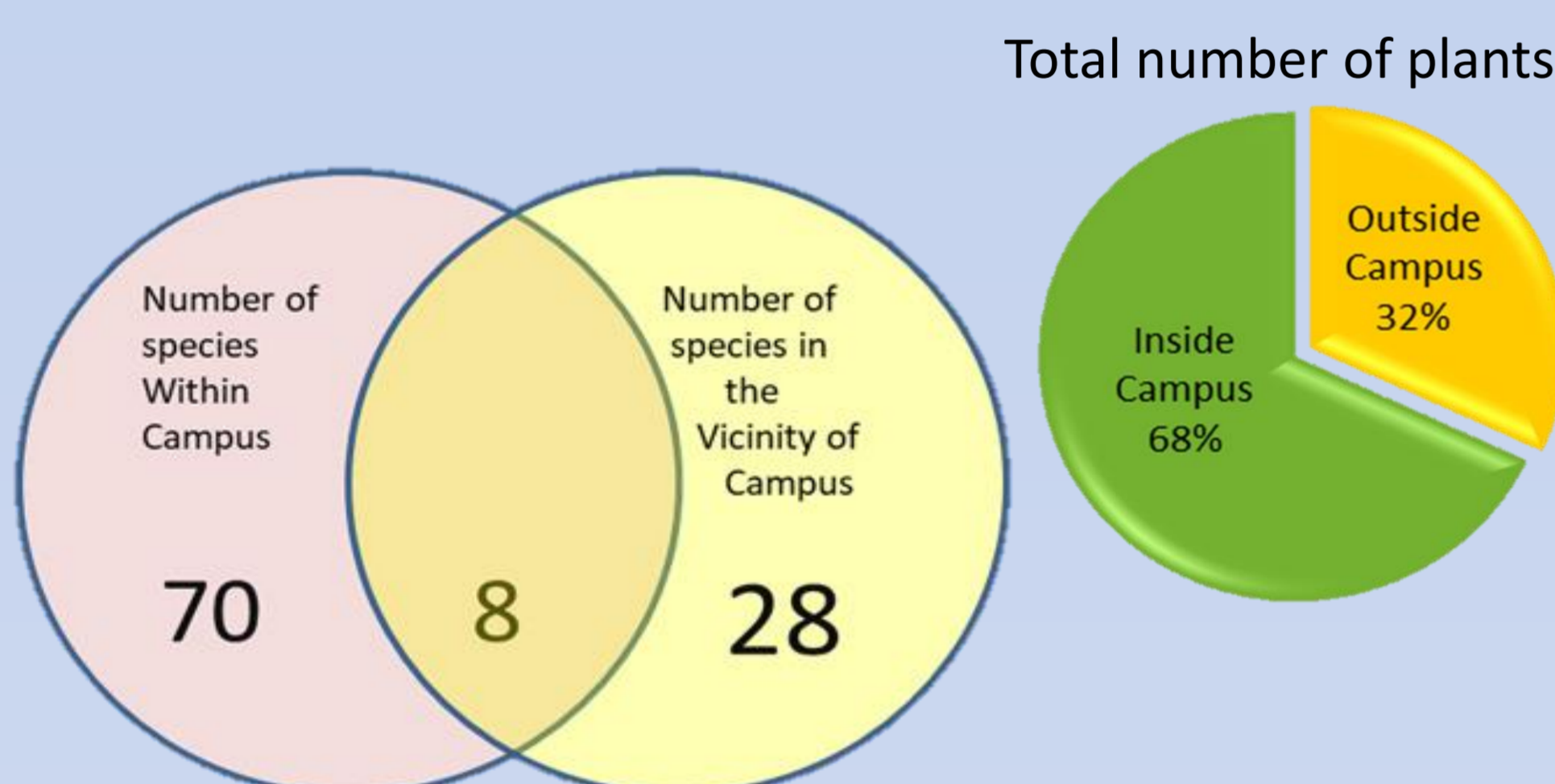
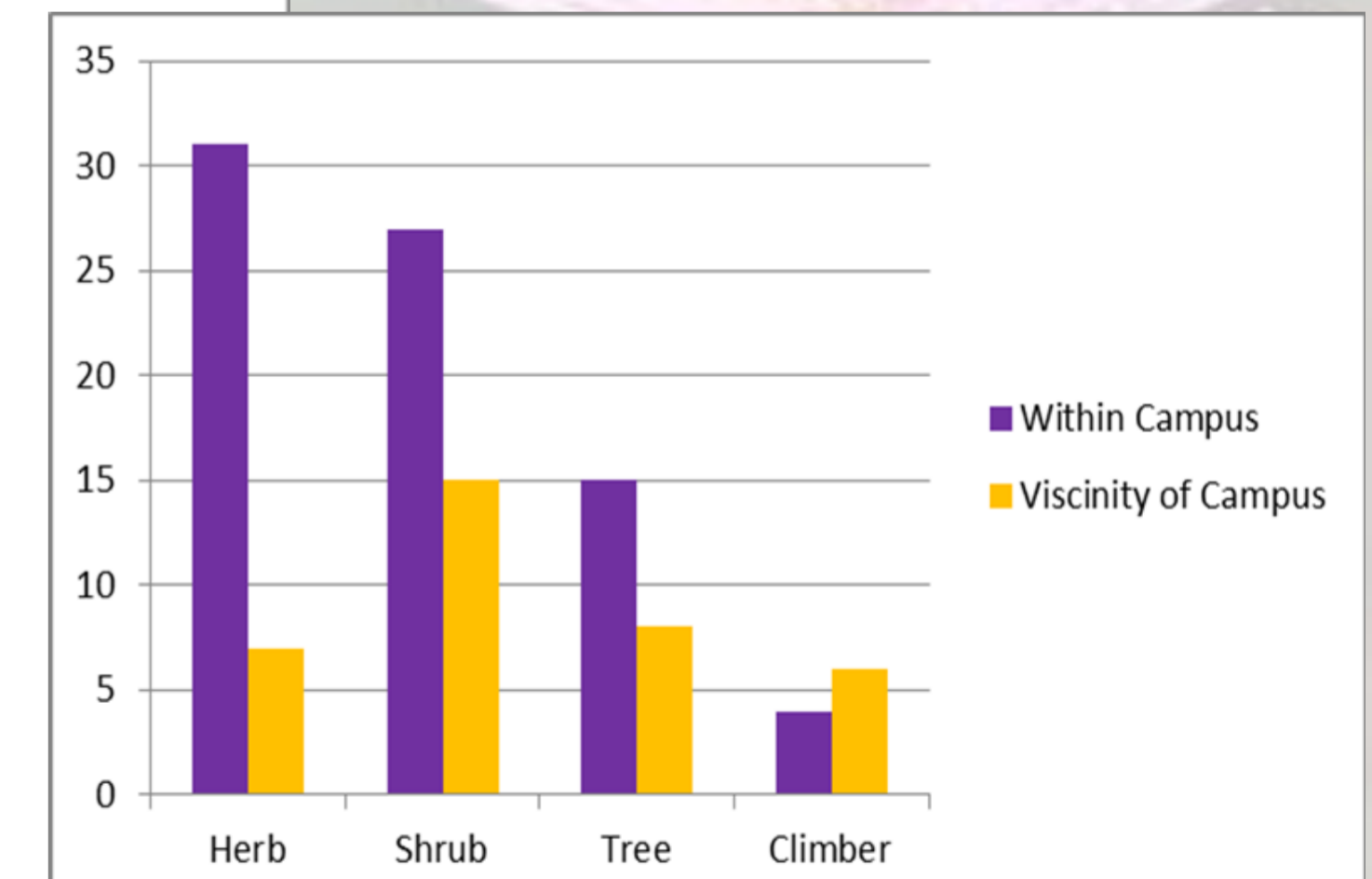
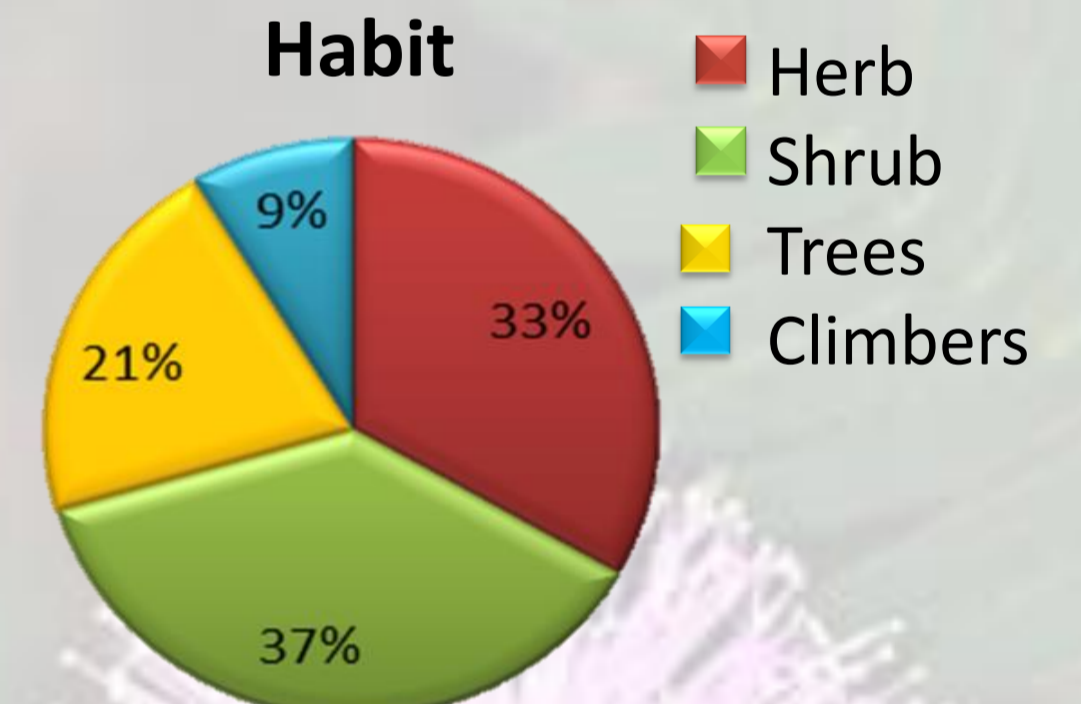
The accepted Botanical names, native places and families identified from "POWO".



Number of species



Habit



Jaccard's Similarity Index

$$J(A,B) = \frac{|A \cap B|}{|A \cup B|} = \frac{|A \cap B|}{|A| + |B| - |A \cap B|}$$

Conclusion

- 106 plant species from different families were found.
- Dominant families - Fabaceae, Asteraceae, Apocynaceae and Rubiaceae.
- 39% of native species and 61% of exotic species of all plants.
- More of ornamental exotic plants have invaded the campus area whereas vicinity area is still untouched.
- Exotic invasive species can be detrimental with regards to native plants.
- Though the exotic species should be allowed to grow, but the introducing and adding of new species should be avoided in the campus as they are affecting the survival of the native plant diversity.

Aknowledgement

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References

- Bhat, F., Mahajan, D. M., & Bhat, A. (2015). Assessment of anthropogenic activities and exotic flora of Lolab valley, Kashmir, India. *International Journal of Bioassays*, 4, 4483-4491.
- Datar, Mandar & Lakshminarasimhan, P. (2013). Flora of Bhagwan Mahavir (Molem) National Park and Adjoinings, Goa.
- Joshi, V. C., & Janarthanam, M. K. (2004). The diversity of life-form type, habitat preference and phenology of the endemics in the Goa region of the Western Ghats, India. *Journal of Biogeography*, 31(8), 1227-1237.
- Lekhak, M. M., & Yadav, S. R. (2012). Herbaceous vegetation of threatened high altitude lateritic plateau ecosystems of Western Ghats, southwestern Maharashtra, India. *Rheedea*, 22(1), 39-61.
- Pyšek, P., Richardson, D. M., Rejmánek, M., Webster, G. L., Williamson, M., & Kirschner, J. (2004). Alien plants in checklists and floras: towards better communication between taxonomists and ecologists. *Taxon*, 53(1), 131-143.
- Reshi, Z. A., & Khuroo, A. A. (2012). Alien plant invasions in India: Current status and management challenges. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, 82, 305-312.
- Sehgal, J. (1998). Red and lateritic soils: an overview. *Red and lateritic soils*, 1, 3-10.
- Simberloff, D. (2003). Eradication—preventing invasions at the outset. *Weed Science*, 51(2), 247-253
- Singh, A. (2011). Exotic flora of the Banaras Hindu University main campus, India. *Journal of Ecology and the Natural Environment*, 3(10), 337-343.
- Singh, A. (2011). Natural vascular floristic composition of Banaras Hindu University, India: An overview. *Int. J. Peace Develop. Stud*, 2(1), 13-25.
- Singh, A. (2012). Exotic floristic composition of the Varanasi district of Uttar Pradesh, India. *Indian Journal of Plant Sciences*, 1, 73-84.
- Singh, A. (2015). Observations on the flora of Varanasi district in Uttar Pradesh state of India. *Global J. Environ. Sci. Technol*, 3(10), 368-389.