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A Review on Endangered Medicinal Plants of Melghat Forest in Amravati District

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Abstract:
The Melghat Forest, located in the Western Ghats region of Maharashtra, is known for its rich biodiversity including a variety of plant and animal species. However, like many other forested area, the Melghat Forest is facing threats from various anthropogenic activities, such as deforestation, habitat destruction, and the introduction of exotic species. (Sharma, 2015) To address these challenges, the state government has implemented various conservation measures, including the establishment of a threatened fauna management framework. Some of these endangered medicinal plants are *Saussaureea lappa, Picorrhiza kurroa, Ginkgo Biloba, Swertia chirata,Gymnema sylvestre, Tinospora cordifolia, Salaca oblonga, Holostemma, Celastrus paniculata, Oroxylum indicum, Glycyrrhiza glabra,Typophora indica,Bacopa monnieri,Rauwolfia serpentine.* The most important species in these forests is Teak(Tectona Grandis).Teak forests occupy over 11500 sq.km.area which is about 1/5 of the area under forest department.The present investigation of some of the plants which are more important to human healthcare and may be extinct in future.

Keywords: Biodiversity, Medicinal plant, Melghat Forests.

Introduction:

Biodiversity conservation is a critical issue that has gained increasing attention in recent years. Forests play a crucial role in maintaining biodiversity, as they provide habitats for a wide range of species(Talaat et al.,2012).In India , efforts have been made to manage and protect threatened species and their habitats, particularly within the state forests(Powell & Sedunary,2013). This research paper aims to examine the current state of biodiversity conservation in the Melghat Forest of Maharashtra, with a specific focus on the endangered species.

The Melghat Forest, located in the Amravati district of Maharashtra, India, is home to an array of medicinal plants that have been utilized by the local tribal communities for centuries. (Milow et al., 2017)

However, due to various anthropogenic pressures, including deforestation, habitat destruction, and unsustainable harvesting practices, many of these plant species have become endangered (Milow et al., 2017).

To address this issue, it is crucial to assess the current status of these endangered medicinal plants and to develop effective conservation strategies.

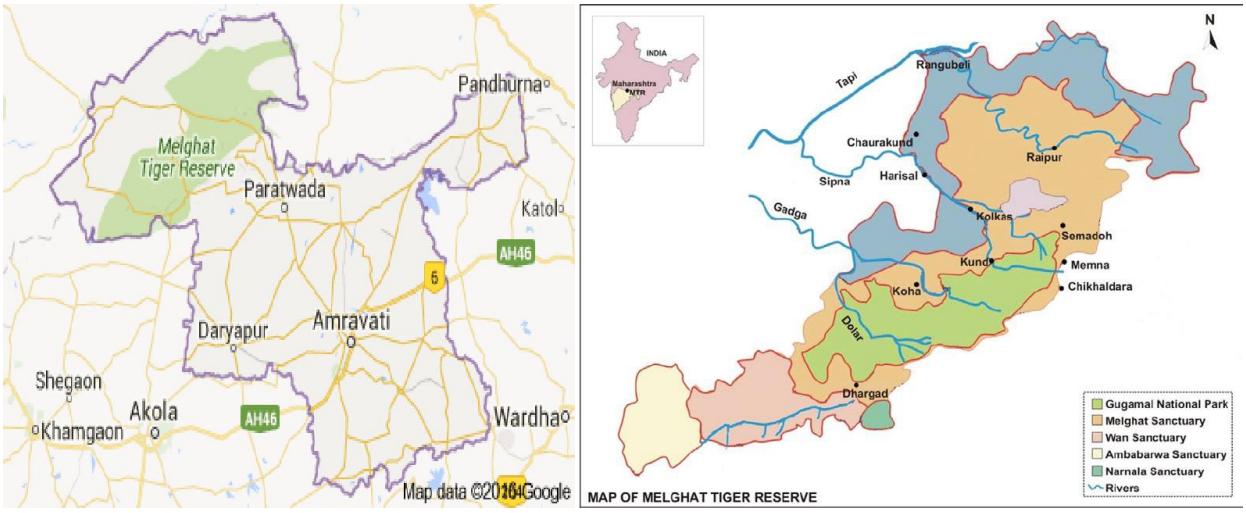


Figure 1: Melghat location in Biogeographical zone in Amravati District.

The Melghat region of Amravati division has some of the best moist deciduous forest of the state. The soil in this forest are redish brown and the slopes under fairly high rainfall permit leaching of soils making them poor in time and alkalis. Some medicinal plants have been in the focus as life saving drugs right from the beginning of the human civilization. Medicinal plants have been the subject of research in both systematic and advanced areas of plant sciences. The Indian system of medicine has identified 1500 medicinal plants, of which 500 species are mostly used in the preparation of drugs. The medicinal plant contribute to cater 80% of the raw materials used in the preparation of drugs. It is evident that trade in medicinal plant has serious implication on the survival of species. If one considers the material exported to developed countries and the material collected for indigenous use, certainly the survival of many species may well be under threat. Interest in collection, production and marketing of medicinal and aromatic plants has increased manifold in recent years (Maiti et al., 2003).So it is important to given the variety of species in the area. Conservation of biogiographical status because of the Melghat Tiger Reserve(MTR) in Maharashtra and critical existence and endangered species of flora and fauna, and the role of this area, it is important to be conserved and preserved these species at regional, national and global level.

Review Of Literature:

Numerous studies have been conducted on the status and conservation of threatened medicinal plants in India ,including a comprensesive review by Uniyal et al.(Gowthami et al.,2021). This study collated a consolidated list of 84 threatened medicinal plant species in India, highlighting the need for targeted conservation efforts. Similarly, a field survey conducted in the Dhaulandhar Nature Park in the north western Himalayas revealed the threats posed to the local flora and fauna, including habitat destruction, deforestation, and the introduction of exotic species (Sharma, 2015).The development of a threatened fauna management framework in Victoria's state forests (Powell& sedunary, 2013) serves a s an example of a proactive approach to biodiversity conservation. This framework involves surveying for threatened species in areas sladed for timber harvesting, therby improving the improving the management and protection of these species and their habitats.

Role of indigenous Knowledge

Indigenous knowledge held by local communities can also play a crucial role in the conservation of threatened species and their habitats. A stud on the Maasai community in Africa showed that the local people were able to identify plant species that were threatened with extinction due to overharvesting for medicinal and other uses (Macharia & Ekaya.2001). This highlights the complementary nature of indigenous and technical knowledge, and the need for a participatory approach to research and natural resourse management.

Challenges and Opportunities

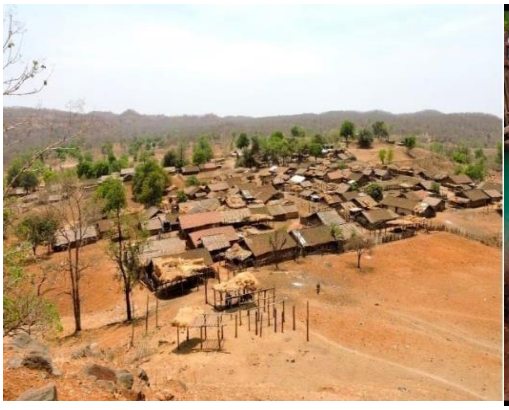
The conservation of threatened species in the Melghat forest faces several challenges, including limited resources, lack of awareness, and competing demands for land use. However, there are also opportunities to enhance the conservation and sustainable use of these species.

One such opportunity is the growing interest in environmentally friendly agriculture and the greater participant of local communities in the sustainable management of natural resources'.

Material and Method:

A mixed-methods approach will be used for this project, combining the gathering and analysis of both qualitative and quantitative data. Focus groups, field surveys, and stakeholder interviews in the area will be used to gather primary data. Secondary data will be acquired from numerous sources, including scientific publications, government reports, and local records. The gathered data will be subjected to a combination of thematic coding and stastical analysis in order to uncover important trends, obstacles, and chances pertaining to the conservation of endangered species.

Tiger Sanctuary and low hills, and water bodies. Tiger reserve covers a total area of 1676.73 sqkms.The forest is of dry deciduous type and vegetation changes occur at close intervals. Tapti River and the Gavilgadh ridge of the satpura range forms the boundaries of the Reserve.Korku,Gond,Nihal, Balai, Gawali, Gawalan, Halbi and Wanjari are main tribes inhabiting the Melghat area.Ethonomedicinal survey was conducted in the rural and tribal pockets of Melghat wildlife area which includes places like Madizadap,Raipur,Semadoh, Makhala, Pili, Memana,Kund, Churni, Pastalai, Vairat,Malor, Bari, Dharghar and Gullazghat.




MELGHAT
मेळघाट व्याघ्र प्रकल्पाला भेट द्या
Visit Melghat Tiger Reserve
Relax at Semadoh
Experience nature at Kolkaz
Be adventurous at Shahnoor
Unwind at Chikhaldhara

PLATE NO:1

PLATE NO: 2

Anticipated outcomes :

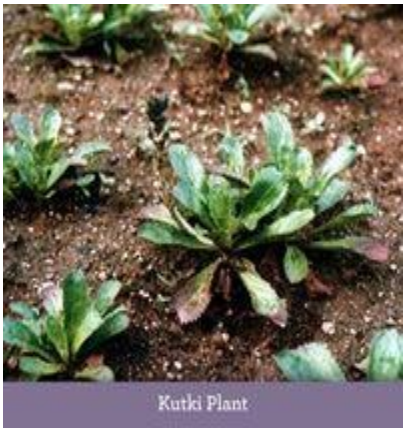
It is anticipated that the results of this study will enhance knowledge about the condition of biodiversity conservation in the Melghat Forest at the moment, with an emphasis on endangered species. Along with making recommendations for management and policy actions, the research will also highlight the main obstacles to and chances for improving the conservation and sustainable use of these species. The results of this study should have a significant impact on the preservation of biodiversity in India's other wooded areas, such as the Melghat Forest.

The study on the "Status and consolidated list of threatened medicinal plants of India"provides valuable insights into the conservation efforts and policy framework in place for the protection of threatened plant species in Melghat Forest region. The "Key Biodiversity Areas: An important Approach in Mainstreaming Biodiversity Conservation in Malaysia" article highlights the importance of landscape-based approaches to biodiversity conservation, which could be applicableto the Melghat Forest.

List of Endangered plant species found in Melghat:

Sr.No	Botanical Name	Local name	Family
1	Celastrus paniculata	Jyotishmati	Celastraceae
2	Bacopa monnieri	Brahmi	Scrophulariaceae
3	Ginkgo biloba	Maidenhair tree	Ginkgoaceae
4	Glycyrrihiza glabra	Licorice(Sweet wood)	Papilionaceae
5	Gymnema sylvestre	Gurmar	Asclepiadaceae
6	Holostemma ada-kodien	Jivanti,Arkapushpi	Asclepiadaceae
7	Oroxylum indicum	Indian trumpet flower	Bignoniaceae
8	Picrohiza kurroa	Kutki	Scrophulariacae
9	Saussurea lappa	Kuth	Compositae
10	Swertia chirata	Chirata	Gentianaceae





Ginkgo biloba ***Celastrus paniculata*** ***Picorrhiza kurroa***

Opportunities for Endangered Conservation

The literature review has also identified several opportunities for enhancing the conservation of endangered plant species in the Melghat Forest.

Conclusion:

The present research has provided a comprehensive overview of the current status of biodiversity conservation in the Melghat Forest, with a specific focus on endangered species.The findings highlight the need for a multifaceted approach to conservation, involving policy interventions,community engagement, and the integration knowledge. Future research should explore the socio-economics and cultural dynamics that influence the conservation of these species,as well as the potential for innovative, collaborative approaches to natural resourcemanagement.

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