



GREEN MEDICINE: THE POWER OF MEDICINAL PLANTS FOR PEOPLE AND PLANET

Medicinal plants known for their therapeutic properties are an integral part of modern-day medicine (Fan et al. 2023) and find humongous uses in traditional medicine date back thousands of years, and their therapeutic properties are well-documented. These plants contain various bioactive compounds known as Secondary Metabolites or Secondary Metabolites such as alkaloids, terpenoids, flavonoids, and phenolic acids produced by plants as part of their natural defence mechanisms they are not directly involved in plant growth and development, but they play a crucial role in the interaction between plants and their environment and have pharmacological actions such as anti-inflammatory, antioxidant, antimicrobial, and pain-relieving effects, among others, assure health benefits. The role of secondary metabolites in environmental sustainability is significant and multifaceted, as these compounds have a range of ecological functions that contribute to the stability and health of ecosystems.

Since they grow naturally in the environment, and their use can help to reduce the negative impact of synthetic drugs on the environment which would ultimately promote biodiversity and support the conservation of natural resources. In addition, secondary metabolites have significant potential for their use in various applications, such as pharmaceuticals, food additives, and cosmetics also they can be used as natural alternatives to synthetic chemicals, which can have adverse environmental impacts.

Worldwide recognition of medicinal plants as a reliable and affordable substitute for manufactured chemotherapeutic compounds and their potential for low-cost applications in greener economies and lifestyles is growing. However, like all living organisms, these plants are susceptible to environmental factors that can impact their growth, quality, and availability. Environmental factors such as climate change, air pollution, deforestation, habitat destruction, soil erosion, soil quality, heavy metal toxicity and water pollution can significantly impact the growth and availability of medicinal plants.

The impact of environmental factors on medicinal plants can have significant consequences for human health, loss of biodiversity can lead to the extinction of medicinal plants, which can result in the loss of potential cures for diseases. Changes in the quality and availability of medicinal plants can also affect the efficacy of herbal remedies and modern medicines derived from plant sources. In addition, environmental degradation can reduce the supply of medicinal plants, leading to increased prices, making traditional medicines inaccessible to many people. Since numerous species of medicinal plants are in danger of going extinct due to unrestrained commercialization, habitat loss, and degradation, the National Medicinal Plants Board's establishment has sped up and provided momentum for the sustainable use of medicinal plants throughout the nation.

Meanwhile, recent developments in “omics” research, biotechnology, and tissue culture hold the potential to become an effective tool for conservation and identifying features with significant economic implications in the future.

References-

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Sumit Kumar, USEM,
Guru Gobind Singh Indraprastha University

