



Exploring Medicinal Plants of Indian Knowledge System (I.K.S.) As A Sustainable Resource for Health Care

Meenakshi Goswami¹, Harinath Dwivedi², Prof. (Dr.) Rajiv Gupta³

^{1,2}School of Pharmacy, Babu Banarasi Das University (BBD University), Ayodhya Road, Lucknow-226 028 (U.P.), India.

³Principal & Dean, School of Pharmacy, BBD University, Lucknow-226 028 (U.P.) India.

³Corresponding Author Email: rajiv961@rediffmail.com, dean.sop@bbdu.ac.in

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Abstract

Medicinal plants provide prophylaxis and treatment to almost 80% of the world's population. Developing countries have now understood the importance of sustainable development to be economically self-reliant. Sustainable growth may be defined as the development that meets the needs of the present without compromising the capacity of future generations to satisfy their own demands. In order to safeguard their survival and prevent pollution, humanity must take good care of its natural resources and avoid overusing them since they are a significant source of renewable energy for the environment and the planet. Plants continue to supply us with the products and services that are vital to our survival and progress.

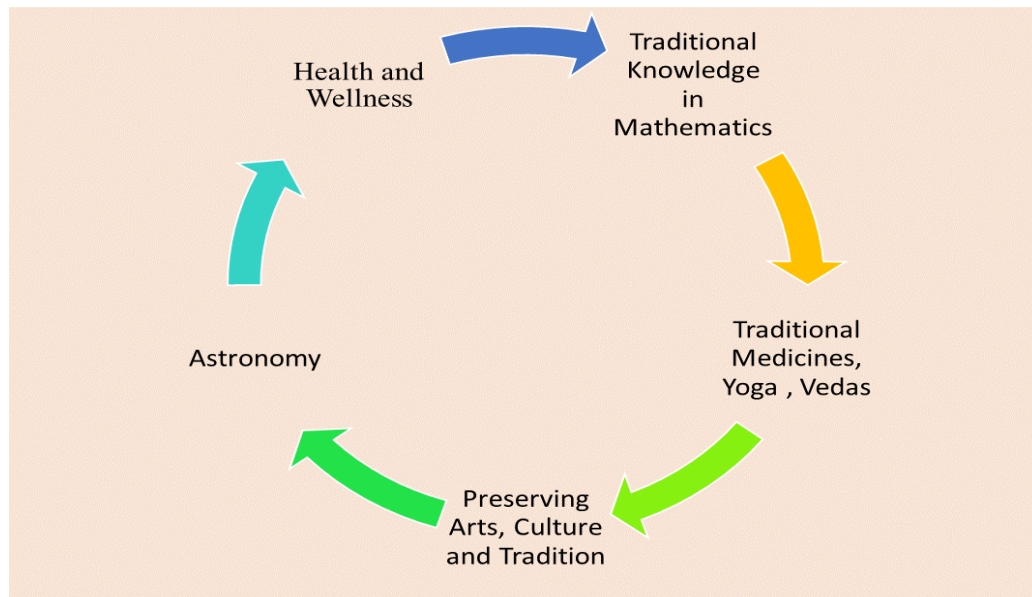
*They obtain the necessities of life from their environment, but they give back far more to the environment than they take: they are a textbook example of sustainable regeneration since they enrich the soil, feed other species, and absorb carbon dioxide. Thanks to medicinal plants like *Bacopa monniera* (H-Brahmi), *Convolvulus pluricaulis* (H-Shankhpushpi), *Chenopodium album* (H-Bathua), *Hibiscus rosasinensis* (H-Gurhal), *Moringa oleifera* (H-Sahjan), *Curcuma longa* (H-Haldi) etc, natural resources provide us food, medicines, and raw materials such as wood, fibers, and even fuel. They also help to preserve soil quality, regulate humidity, generate the oxygen we breathe, and maintain a stable climate. Ethno-medicinal plants are respectful of biodiversity and beneficial to the ecosystem, as they possess several curative properties like antioxidant, anti-malarial, antiviral, antibacterial etc to cure various diseases and disorders including nervous disorders and hair growth. Mankind should use more plant-based therapies to cure diseases to minimize problem of side-effects, also they are being economical to the patient, and are biodegradable also. There must be regulatory checks and control to prevent their overexploitation and extinction. Judicious uses of resources and their management are the key sources of environmental, social, and economic sustainability for a disease-free world.*

Keywords: Sustainable Development, Natural products, Medicinal plants, Biodegradable.

1. Introduction

For the majority of recorded history, the Indian subcontinent, which is home to the oldest continuous civilization in the world, has been a hub of knowledge and industry. A Dharmic culture that prioritized the growth of every aspect of human life, particularly living in harmony with the universe and one's environment and the cosmos. Recent events around the world are making it increasingly evident that the existing development paradigms are unsustainable and in total contrast to nature. The Ministry of Education has created the IKS Division of advancing interdisciplinary and transdisciplinary research on all facets of Indian Knowledge Systems (IKS), as well as updating and spreading IKS knowledge for future innovations and societal uses. The Indian Knowledge System, documented in classical and other Indian languages and transmitted through textual, oral, and artistic traditions, is made up of the people of Bharat's Jnan, Vignana, and Jeevana Darshan, which are constantly developed through in-depth experience, observation, experimentation, and rigorous

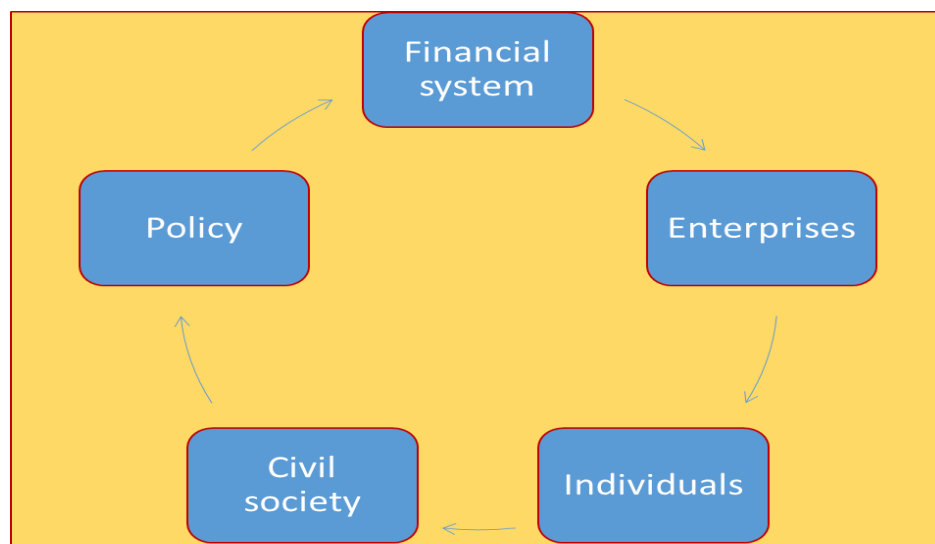
analysis, and which has a tradition of being validated and applied in a number of fields, including education, the arts, governance, law, justice, health, manufacturing, and commerce. [1]



2. Components of Indian knowledge system

Sustainable development

Sustainable development means “meeting the needs of the present without compromising the ability of future generations to meet their own needs”. It is a very complex and broad concept that includes the following principles directly or indirectly applicable to development activities: (a) economic sustainability, (b) ecological sustainability, (c) social sustainability and (d) cultural sustainability. [2]



The five parameters of sustainability

3. Natural Products As A Sustainable Resource

Natural goods have been a crucial factor in human progress, offering unmatched chemical variety and a wide range of biological activities. These bioactive compounds have had a significant influence on sectors as varied as cosmetics, medicine and agriculture, ranging from their origins are just as each with distinct chemical architectures and mechanisms of action that continue to inspire breakthroughs and innovations. [2] Since the earliest human civilizations, illnesses have been treated using natural remedies. Formal systems of traditional medicine were built on the observation that plant based

cures had positive benefits. Indigenous knowledge systems gradually developed into organized frameworks for identifying and curing diseases. Traditional medicine is still the main source of basic healthcare for a sizable portion of the world's population, especially in poor nations. [3]

4. Sustainability in health management

Integrating environmental, social and economic considerations throughout all facets of healthcare operations is what makes healthcare management sustainable. [4] Its goals are to lessen the negative effects of healthcare facilities and practices on the environment, promote the health and welfare of patients and workers, and advocate for a more equitable healthcare system. [5]

List of Herbal Medicines used in health care

Sr.no.	Herb	Active Constituents	Role in Lozenges
1.	Glycyrrhiza glabra	Glycyrrhizin, flavonoids, saponins	Soothing, Anti-inflammatory
2.	Phyllanthus emblica	Vitamin C, tannins, gallic acid	Antioxidant, Immune booster
3.	Terminalia bellirica	Tannins, lignans	Antimicrobial, Anti-inflammatory
4.	Trachyspermum ammi	Thymol, terpenes	Antimicrobial, Antiseptic
5.	Cinnamomum verum	Cinnamaldehyde, eugenol	Flavour, Antimicrobial

5. Historical Use of Medicinal Plants

Medicinal plants have been an integral aspect of human civilization for millennia, and their usage is ingrained in the early healthcare methods of many cultures around the world. Through trial and error, the therapeutic effects of plants were initially discovered and transmitted orally from one generation to the next. The formalization of herbal medicine began with the written documentation of the use of medicinal plants as civilizations progressed. The significance of plants in medicine grew to be essential to the survival and growth of ancient Egypt and Greece, as well as the far east and indigenous communities in Africa and the Americas. The significance of therapeutic plants in the holistic approach to health was further highlighted by their important function in spiritual, religious, and cultural customs in many of these ancient societies, in addition to their use in treating physical diseases. [5]

6. Plants and Modern Medicine

Throughout history, medicinal plants have been essential to the evolution of traditional healing methods. These plants have been used in a variety of cultures to treat a wide range of illnesses, from minor conditions like digestive problems and colds to more serious ones like cancer, infections, and chronic inflammatory diseases. The application of therapeutic plants is based on centuries-old knowledge, transmitted down through generations, that frequently combines empirical observations with religious ideas. These plants are often used in traditional medicinal systems in the form of decoctions, infusions, poultices, or extracts, with experienced practitioners prescribing the precise dosages. Although many of these plants have historical importance, it is only in the last few years that contemporary pharmacological study has started to thoroughly investigate and validate their therapeutics promise, revealing a wealth of bioactive chemicals that support their medicinal benefits. [6]

These Are Some Medicinal Plants of Indian Knowledge System

Sr. No.	Plants Name	Biological name	Family	Uses	Images
1.	Brahmi	<i>Bacopa monniera</i>	Scrophulariaceae	Anxiety, Epilepsy, Insomnia and Anti-inflammatory.	
2.	Shankpushpi	<i>Convolvulus pluricaulis</i>	Convolvulaceae	Boost memory, and treat neurological disorders, stress and anxiety.	
3.	Gurhal	<i>Hibiscus rosasinensis</i>	Malvaceae	Promoting hair growth, Diabetes, Managing blood pressure.	
4.	Sahjan	<i>Moringa oleifera</i>	Moringaceae	Inflammation, Anemia, Diabetes, Liver diseases.	
5.	Haldi	<i>Curcuma longa</i>	Zingiberaceae	Wounds, Inflammation, Skin diseases, Respiratory issues.	
6.	Bathua	<i>Chenopodium album</i>	Chenopodiaceae/ Amaranthaceae	Anti-diarrheal, Contraceptives, Rheumatism	
7.	Ashwagandha	<i>Withania somnifera</i>	Solanaceae	Anti-inflammatory, Immunity booster, Reduced stress and Anxiety.	
8.	Opium	<i>Papaver somniferum</i>	Papaveraceae	Antidiarrheal, Cough Suppression, Pain relief.	

9.	Periwinkle	<i>Catharanthus roseus</i>	Apocynaceae	Enhance brain health, Leukemia, Lymphoma.	
10.	Sarpagandha	<i>Rauvolfia serpentina</i>	Apocynaceae	Hypertension, Insect / Snake bites, Gastro intestinal issues.	

7. Conclusion

Sustainable development and the expansion of its work on the global burden of disease have played a key role in the harmonization of health statistics among relevant UN agencies through interagency collaborations. This has enabled WHO to play a leading role in monitoring global health trends for the Millennium Development Goals and, subsequently, the Sustainable Development Goals, providing essential support and advice to Member States to improve national health data. For many Member States, WHO still retains a unique mandate and responsibility for global health statistics and moral authority as a setter of norms and standards that are not available to academic groups or NGOs. It remains to be seen whether WHO member states will agree to the WHO handing over its global health information mandate to an independent North American academic group. It remains to be seen whether who will continue to have the resource or the will to fulfill its mandate in a world that seems to be in turmoil today. The study of medicinal plants and their use in contemporary healthcare is a

promising area for both therapeutic practice and scientific research. Medicinal plants have been a vital component of healthcare systems around the world since the beginning of time, offering potent treatments for a wide range of diseases. Their enduring worth is highlighted by their significance in conventional medical systems like Ayurveda, Traditional Chinese Medicine, and Indigenous healing methods.

Modern scientific breakthroughs have validated the traditional uses of these plants and opened up new avenues for their incorporation into current medical therapies by providing us with a greater understanding of their bioactive components. The future of medicinal plants in healthcare is very promising, fueled by technological advancements and ongoing research initiatives, despite the difficulties associated with standardization, sustainability, and ethical considerations.

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Authors Contribution:

Meenakshi Goswami (MG) – Literature search and review, Critical analysis of data collected, Compilation of data in form of manuscript, recommendation of prepared manuscript for consideration of publication.

Rajiv Gupta (RG) – Conceptualization of idea for manuscript, overall supervision, proof reading and approval of prepared manuscript for consideration of publication.

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