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Medicinal Plant Diversity for Health, Wellness and Livelihood in Indian Perspective

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India is bestowed with 45,000 plant species out of which about 15,000-20,000 plants are known to have medicinal properties and about 7,000-7,500 are being used in Indian System of Medicine (ISM). Medicinal and aromatic plants being natural, non-narcotic, easily accessible, affordable and changing concepts from 'health to healthy living' and balance between 'mind and body' have revived this sector. Besides, their role in prevention as well as curing of human health problems, MAPs are also a source of significant livelihood opportunities for many rural communities, especially, primitive forest-dwellers, landless poor and marginalized farmers. In spite of scope, importance and awareness and several scientific innovations in the field of MAPs, still more than half of the global population does not have access to the primary health care facilities.

India is still careworn to reduction of child mortality, maternal health, HIV/AIDS, malaria, and other diseases and more than 50% child births unattended by skilled health worker, 16% children are undernourished, 40% child deaths occur in the first month after birth and among these 25% deaths are due to malaria alone in the world. This is mainly due to poor accessibility of healthcare services. High prices of medicines are also considered as main barrier to use of medicines and health products. Due to these, the whole world is looking for an easily accessible, affordable, effective medicine as an alternative to allopathic medicines which are costly having side effects and becoming non-responsive in several diseases. Various human migration and settlements in the history led to discover new and new plants of medicinal values and there distribution over wider areas. Further, increased knowledgeable and consciousness among the consumers about health during the 1980s and 1990s, aroused the interest in organic and natural foods using medicinal and aromatic plants. But the sector is plagued by loss of biodiversity, lack of standards formulations and finished product ingredients. This is one of the major hindrances for sustainable growth of this sector and can partly be attributed to the absence of any recognized central or regional authority with this responsibility.

There is huge diversity of medicinal plants in India. According to FAO report Himalaya, Southern India and North eastern India is the largest MAPs species inhabiting centres.

Table 1. Region wise number of medicinal plant species in India

Geographic region	Estimated no. of medicinal plants sp.
Trans Himalayas	700
Himalayan	2500
Desert	500
Semi-Arid	1000
Western Ghats	2000
Deccan Peninsula	3000
Gangetic Plain	1000
North-East India	2000
Islands	1000
Coasts	500

Development of standardized, synergistic, safe and effective traditional herbal formulations with robust scientific evidence can also offer faster and more economical alternatives. For instance, Ayurvedic texts include thousands of single or poly herbal formulations which have been rationally designed and have been in therapeutic use for many years. There are an estimated 119 medicines derived from phytochemicals which occupy 74% space of modern medicines.

Providing future healthcare will be an extremely complex, technology and capital-intensive process. Better validated pre clinical targets with proof-of-concept of better efficacy and safety of drugs can, however, mitigate such attrition risks. The most of the work in this field has remained within the clinics of traditional practitioners or confined to academic research laboratories and not

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Table 2. Drugs Derived from Wild Plants

Plant	Location	Drug	Use
Willow	Worldwide	Aspirin	Fever and pain
Cinchone	Tropics	Quinine	Malaria
Rosy periwinkle	Medagascar	Vinblastine Resprine	Leukarria
Pacific yew tree	Pacific Northwest	Taxol	Ovarian cancer
Opium poppy	Eurassia, Africa	Morphine	Pain
Curane	Amazon	Tubocursrine	Muscle relaxant
Snakeroot	India	Roserpine	Hypertension
Frosk glow	Eurassia, Africa	Digoon	Cardiac anty

taken seriously by industries that are strong in research and development. Therefore, path-breaking initiatives are crucially important. The Government project should be formulated by integrating biomedicine, modern sciences and traditional medicine is indicative of a trend where traditional sciences like Ayurveda are increasingly embracing the scientific evidence-base and the spirit of robust research.

The future will be more problem some and complex with full of all type of healthcare glitches. The problem will be more aggravated due to changing personal and global perspectives of living and non-living factors. Most important factors are, burgeoning human population for which providing healthcare itself will be a daunting task; changing food habits leading to several new health problems; changing climate which spawned several new disease causal organisms; changing life style; progression of disease susceptible genes in the pool; dwindling biodiversity and the increasing pollution. There is a huge challenge to development of technologies for gearing up supplies via large-scale cultivation and appropriate post-harvest technologies and establish the safety, quality and efficacy of the traditional health products. This again calls for immediate research into development of location specific high yielding and better quality varieties of MAPs, quality planting materials and standardization of agro-technologies and agro-economics.