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## **Cultivation and Conservation of Medicinal Plants and Role of Women**

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### **ABSTRACT**

The Indian System of Medians, viz Ayurveda, Siddha, Unani and Homeopathic system predominantly use plant based raw materials in most of their preparations and formulations. Modern pharmacopoeia also contain at least 25% drugs derived from plants and many other which are synthetic analogues but on prototype compounds isolated from plants.

India is a country of diverse cultures and rituals. Women have played a vital role in maintaining these virtues. Plants are an integral part of these cultures as they are variously utilised in the rituals. Women take an utmost care for maintaining plant species for this purpose. Agriculture is another sector which is largely dependent on women.

Women play a significant and crucial role in rural economy. 90% of agricultural activities are organized by the women in the State, like, agriculture allied fields including the main crop-production, livestock management, post harvest operations and processing activities etc. But the women farmers remained as invisible workers. The socio-economic status of women in Indian agriculture is a matter of widespread concern.

Low production costs and high yielding are encouraging women farmers to go for the cultivation of Medicinal and Aromatic Plants.

### **Objectives of the study:**

1. To study the importance of medicinal plants in the agriculture.
2. To examine the role of women in cultivation and conservation of medicinal plants in Indian agriculture.
3. To know the need and importance of conservation of medicinal plants in resource management and in employment generation.
4. To analyse the role of agricultural diversification.

### **Hypothesis:**

Conservation and cultivation of medicinal plants will ensure the empowerment of women.

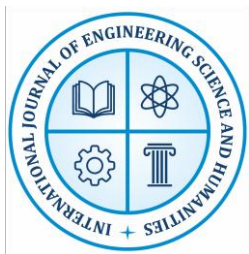
### **Methodology:**

The methodology used in this paper with the help of the data from secondary sources.

**Keywords-** Medicinal Plants, Cultivation, Conservation, Women's Empowerment, Sustainable Development

### **Introduction**

In India, the collection and processing of medicinal plants and plant products contributes a major



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part each year to the national economy, as a source of both full and part time employment. Micro-studies suggest that a large number of those employed are women.

Women have been custodian of plant genetic diversity from time immemorial. They have adequate knowledge regarding importance of plants as food, medicine, clothing and raw materials for various house-hold purposes. Plants are the backbones of religious events and rituals. Obviously, these aspects of life are dependent on women. Since time immemorial, role of women has been acclaimed by society as gatherer and conservator of plant species.

Medicinal plants occupied an important position in the socio-cultural, spiritual and medicinal arena of rural people of India. Their sustainable management and harvesting can conserve biodiversity, sustain human and environmental health, generate employment and enhance export earnings. Therefore, a Task Force was set up, by the Planning Commission for Conservation and Sustainable use of Medicinal Plants.

The World Health Organisation (WHO) estimated that 80% of the population of developing countries rely on traditional medicine mostly plant drugs, for their primary health care needs. Medicinal plants being natural, non-narcotic, having no side effect of any kind, a range of safe, cost effective, preventive and curative therapies which could be useful in achieving the sustainable and equitable development of medicinal plants sector provide "Health for All", boost exports, and will improve livelihood of the people and green the country for the present and the generation to come.

Medicinal plants sector has traditionally occupied an important position in the socio-cultural, spiritual and medicinal arena of rural and tribal lives of India. The global thrust areas for drugs from medicinal plants include disease conditions, whose incidence is increasing and where the modern drugs are either unavailable or unsatisfactory.

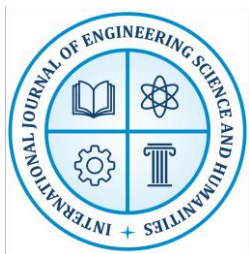
The introduction of high-yielding varieties along with canal irrigation facilities and the lower productivity of the traditional land races are the main causes of genetic erosion of the traditional cultivars. Of the 514 000 workers registered in the district, nearly 336 000 are cultivators and agricultural labourers.

In the process of agricultural evolution, women have played a distinct role in planting, weeding and in post-harvest operations such as harvesting, threshing, seed selection and storage.

## **Women Empowerment and Employment creation through cultivation of Medicinal Plants**

Women are traditional caretakers of crop genetic diversity in agriculture. Their knowledge of the growing conditions and nutritional characteristics of various species gives them a vital fund of experience in seed selection and plant breeding.

In a wider context, there is a growing demand for plant based medicines, health products, pharmaceuticals, food supplements, cosmetics, etc., in the national and international markets. Conservation and sustainable use of medicinal plants are issues on which immediate focus is



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required in the context of conserving biodiversity and promoting and maintaining the health of local communities, besides generating productive employment for the women with the objective of poverty alleviation in tribal and rural areas.

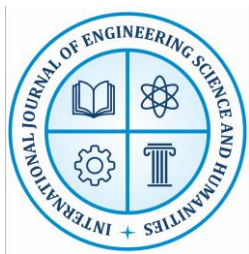
At present, 90% collection of medicinal plants is from the wild, generating about 40 million mandays employment (part and full) and since 70% of plants collections involve destructive harvesting many plants are endangered or vulnerable or threatened. Currently medicinal plants are collected without paying attention to the stage of maturity. They are stored haphazardly for long period of time under unsuitable conditions. This results in deterioration in quality. Such materials are not acceptable to importers and standard manufacturing drug units.

It is expected to formalize and organize medicinal plants marketing and trade, coordinate efforts of all the stakeholders of the sector and ensure health for all by improving the awakening and availability of herbal products, besides generating productive employment to 10 million tribals and women on a regular basis. The "Medicinal Plant Board" will need a financial assistance of Rs.50 crores over a period of three years. About 90% of medicinal plant used by the industries are collected from the wild. While over 800 species are used in production by industry, less than 20 species of plants are under commercial cultivation. Over 70% of the plant collections involve destructive harvesting because of the use of parts like roots, bark, wood, stem and the whole plant in case of herbs (See figure 5). This poses a definite threat to the genetic stocks and to the diversity of medicinal plants if biodiversity is not sustainably used.

## **Conservation and Cultivation of Medicinal Plants**

Medicinal plants are potential renewable natural resources. Therefore, the conservation and sustainable utilization of medicinal plants must necessarily involve a long term, integrated, scientifically oriented action programme. This should involve the pertinent aspects of protection, preservation, maintenance, exploitation, conservation and sustainable utilization. A holistic and systematic approach envisaging interaction between social, economic and ecological systems will be a more desirable one. The most widely accepted scientific technologies of biodiversity conservation are the in-situ and ex-situ methods.

It will be necessary, based on an understanding that where medicinal plants are currently distributed, to develop novel programmes for their in-situ conservation and to designate specific genetic reserves, giving the viability of medicinal plants for generating income as well as rehabilitating degraded lands. Due to their position as the major stewards of the resource base women and tribal groups, Given the higher cost of cultivated material, cultivation is often done under contract. In the majority of cases, companies would cultivate only those plant species which they use in large quantity or in the production of derivatives and isolates, for which standardisation is essential and quality is critical. More recently growers have set up cooperatives or collaborative ventures in an attempt to improve their negotiating power and achieve higher



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price. Some of the constraints associated with the processing of medicinal plants which may result in reducing their competitiveness in global markets. Systematic cultivation of many medicinal plants needs specific cultural practices and agronomical requirements. These are species-specific and are dependent on soil, water and climatic conditions. Hence research and development work has to be done to formulate good agricultural practices which will include appropriate selection and identification, propagation methods, cultivation techniques, harvesting, stepwise quality control of raw material upto processing stage, post-harvest treatment, storage and safety.

## **These aspects have to be incorporated into protocols for the cultivation of medicinal plants;**

There is an immediate need to consolidate and finally link the existing herbal gardens and gene banks as well as reference specimens in herbaria to ensure that the 540 species of importance in the major classical systems, as well as those supplied to the international market, are protected in ex-situ reserves.

Botanical gardens can play a key role in ex-situ conservation of plants, especially those facing imminent threat of extinction.

Field gene bank of medicinal plants: The concept of establishing field gene banks of plants provide ample options for long term preservation of the genetic variability (inter-specific) of species.

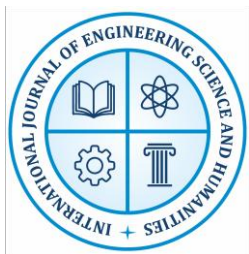
Involvement of a competent local NGOs like Self Help Groups for organising the community and helping in implementation of programme.

Building and strengthening community institutions for long term management of the sites and a management plan to be formulated for sustainable harvesting and development of medicinal plants.

Organic farming is another practice that is gaining wide acceptance as world demand particularly in developed countries for organically grown crops is rapidly on the increase. Farmers have to be trained in all aspects of organic farming of medicinal plants including obtaining certification from associations that do the monitoring starting from cultivation to final harvesting. Organic farming which is labour-intensive gives the developing countries the comparative advantage to be competitive.

Forest areas with biodiversity sites traditionally valued for medicinal plant diversity having a contiguous area of about 5000 hectares should be identified for creating Medicinal Plant Development Area (MPDA). The boundaries of MPDA may correspond to the boundary of reserve and protected forests.

Detailed botanical studies to be carried out and stock map to be prepared for this area. Establishing a system of scientific and sustainable harvesting, drying and grading of species. Creation of market links for sale of produce at the outset of the programme. Building and



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strengthening forestry institutions for sustainable management of MPDA sites. Availing financial assistance from Government of India and other agencies/donors.

## Conclusion

Plants are an integral part of these cultures as they are variously utilised in the rituals. Women take an utmost care for maintaining plant species for this purpose. Agriculture is another sector which is largely dependent on women. They collect; gather and conserve plant varieties and thus conserve the biodiversity. A large number of women from unorganised sectors are contributing significantly in the conservation of the medicinal plants

Women's contribution to resource management has not been widely used and the lack of documentation on such fund of knowledge bars access to it and has resulted in inequality in sharing the benefits. The understanding and appreciation of gender roles in the conservation and enhancement of genetic resources guarantee gender justice in sharing the benefits.

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