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Minor Research Project  
**Executive Summary**

**“A STUDY OF COST-PROFIT VOLUME ANALYSIS  
OF MEDICINAL PLANTS PRODUCTION  
IN AKOLA DISTRICT”**

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**INTRODUCTION:**

Since the time immemorial the use of medicinal plants was carried out by our ancestors. The use as a traditional system developed into many paths. The old system of use of medicinal plants, hybridized and adapted into modern science to develop Biomedicines, Natural Products, Pure Herbs and Phytomedicines etc. The medicinal plants have a great potential from the angles of cultivation and availability of quality material to pharma industries. Medicinal plants have human values and global values. The various values of medicinal plants are as below:

**a) Medicinal Value:**

Since time immemorial Indians are using medicinal plants to cure specific ailments. The indigenous system of medicine, namely Ayurvedic, Siddha and Unani have been in existence and use since last 3000-5000 years. Knowledge of medicinal plants and use of these plants in Indian Medicinal System was inherited traditionally. It was greatly restricted to vaidyas or to some interested persons. In lesser way it was practiced in every household as first aid in the form of Grandmas Medicinal Pouch.

**b) Agricultural Value:**

There is a need for conservation of all such useful plants. These should be scientifically cultivated, maintained, assessed for germplasm and phytochemically analyzed, and studied further for their usage in modern medicines.

**c) Commercial Value:**

The modern pharmaceutical industry is using many medicinal plants for their drugs. These herbs are not only cheap sources but are also superior and natural sources than the artificial synthetic ones. The increased use of these herbs, diminishing natural supply, inferior material due to lack of

knowledge of the harvesting, has forced us to the level that there is an immediate need for commercial cultivation of these herbs as crops.

**d) Marketing Value:**

In India itself there are more than 7000 Pharmacies manufacturing Indian System of Medicines including Ayurvedic formulations, Siddha, Unani and Homeopathic manufacturers. The total market value is more than Rs. 45,000 corers. The large and medium manufacturers constitute with more than Rs. 3,000 corers turnover and smaller and small-scale and cottage industries constitute Rs. 1,550 corers share. In allopathy also manufacturers are utilizing the herbals.

The global market for herbal medicines is around 10 Billion US Dollars in which India's share is less than 0.1%. By 2012-13 market will be fourfold to touch 50 Billion US Dollars and hence, there is enormous potential. But that requires organized cultivation, collection and processing of herbal material as well as ayurvedic products which will match global standards.

**RESEARCH METHODOLOGY:**

There were 200 various sets of respondents i.e. farmers, ayurvedic doctors, vaidyas, interested persons etc. rendering primary data through the questionnaire method and observation method. For additional information interview techniques was used for experts. Secondary data was collected from the library, books, reports and internet. Based on this data a survey was planned to collect data pertaining to the medicinal plants. Final conclusion drawn on the basis of the analysis and interpretation and a detailed report of the same prepared taking into consideration the objectives of the study.

**OBJECTIVES OF THE PROJECT:**

The main objective of the research is to extract the potential cultivation of medicinal plants in the local areas network which will satisfy the various problems related to agriculturalist from the revenue point of view and to make the use of medicinal plants for curing the diseases at the local level in the economic way and to evaluate the revenue in the area for the development purpose. In addition to this other objectives are as under:

- 1) To study the cultivation pattern of medicinal plants in Akola district.
- 2) To study the availability of medicinal plants in Akola district.
- 3) To find out the commercial and marketing value of medicinal plants.
- 4) To find out the cost of production of medicinal plants.
- 5) To find out the profit.
- 6) To study the medicinal aspects of medicinal plants.

**WHETHER OBJECTIVES WERE ACHIEVED:**

**I)** From the study it is concluded that:

- 1) Many of medicinal plants have very short life span of rainy season only and can be cultivated as non-irrigated crops.
- 2) They are easy to grow with expenditure on these crops is very less and hence, marginal or poor farmers can cultivate them easily. The farmers suicide can also be stop by cultivating medicinal plants.
- 3) Income from them is more than that of some traditional crops and hence, can be cultivated as cash crops.
- 4) Selection of crop and crop rotation can be maintained according to the soil available, climate, irrigation facilities etc.
- 5) Collection of the material from the same area and region and the processing of raw material into semi finished state not only leads to the value addition but saves many fold on expenditure on transportation of these voluminous raw material.
- 6) Western and European countries are turning towards herbal or BACK TO THE NATURE and it may be partially due to emphasis given by WHO but more due to practical use and result obtained by these peoples. These have increased the demand of natural, herbal medicines rather than synthetic ones.
- 7) India with its vast bio-diversity and potential for commercial exploitation of these crops will generate ample raw material to nation market of market of all types (IMS and Allopathy) pharma industries. Export of them as raw material in raw, semi finished or finished form to international phyto herbal and pharmaceutical industries will make India a world leader in this field.

**II)** The study represents that, the modern pharmaceutical industry is using many medical plants for their drugs. In India itself there are more than 7000 Pharmacies manufacturing Indian System of Medicines including Ayurvedic formulation, Siddha, Unani and Homeopathic manufactures. The total market value is more than Rs. 45,000 crores. The large and medium manufactures constitute with more than Rs. 3,000 crores turnover and smaller and small-scale and cottage industries constitute Rs.1,550 crores share. In allopathy also manufactures are utilizing the herbals.

The Global market for herbal medicines is around 10 Billion US Dollars in which India's share is less than 0.1% by 2012-13 market will be fourfold to touch 50 Billion US Dollars and hence, there is enormous potential. But that requires organized cultivation, collection and processing of herbal material as well as ayurvedic products which will match global standards.

## **SUMMARY AND FINDINGS:**

It has been proven by various experiments of cultivations of medicinal plants that it is a cash crop, profitable rather than traditional crops like Jawar, Wheat, Soyabean and also cotton. The various

soils of Indian states are suitable for cultivation of these crops. The product obtained by these produce has not only national market but has also international market fetching precious foreign exchange.

The modern pharmaceutical industry is using medicinal plants for their drugs, since the time immemorial; the use of medicinal plants was carried out by our ancestors. The use as a traditional system developed into many paths. The old system of use of medicinal plants, hybridized and adapted into modern science to develop Biomedicines, Natural products, pure Herbs, Phyto-medicines etc. The farming of these plants is helpful in increasing the standard of living of the farmers.

Indian biodiversity is helpful in development and cultivation of different medicinal plants in different areas. The climate of Akola district is positive for the cultivation of few medicinal plants. Like Aloe Vera, Datura metal Linn, Rubia cordifolia Linn, Solanum Viarum Dunal etc. Many medicinal plants have very short life span of rainy season only and can be cultivated as non-irrigated crops. Expenditure on these crops is very less and hence, poor farmers can cultivate these crops easily. Income from medicinal plants is more than traditional crops. The suicides of farmers can be stopped in this area by starting the cultivation of medicinal plants scientifically. The P/V Ratio of medicinal plants is more than 50% and it is highest up to 84%. A high P/V ratio suggests that a small increase in sales will earn higher profit if fixed costs remain constant.

One famous scientist said that, "Ask not what Ayurveda can do for Agriculture, but ask what you as an Agriculturist, can do to develop Agro-technologies of Ayurvedic plants".

#### **FINDINGS:**

- 1) Most of medicinal plants are weeds which can be cultivated in neglected, or on non-fertile or waste land.
  - Many of them have inspectoral properties hence, pest attack and expenditure on their control is not incurred, or if incurred is very less. Some being aromatic, pungent or with bristles on leaves, hence, protection from cattle is not required.
  - Many of them are shade or partial shade loving which can be grown as intercrops in plantation, orchards or in horticultural crops.
  - Indian biodiversity will help in development and cultivation of different plans in different areas.
  - Many medicinal plants have very short life span of rainy season only and can be cultivated as non-irrigated crops.
  - They are easy to grow with expenditure on these crops is very less and hence, marginal or poor farmer can cultivate them easily.
- 2) Akola district with its vast biodiversity and potential for commercial development of various medicinal plants crop i.e. Adhatoda Vasika, Bacopa monniery, commiphara mukul, Gloriosa Superba, psoralia Coryfolia withania somnifera etc. generate ample raw material to national and international market of all types pharma industries.
- 3) Selection of crop and crop rotation maintained according to the soil available, climate, irrigation facilities etc.

- The selection of best and useful planting material result in quality of crop and quality raw material will lead to development and establishment of small-scale processing industries in this region leading to generation of employment in Akola district.
  - Collection of the material from the same area and region and the processing of raw material into semi finished state not only leads to the value addition but saves many fold on expenditure on transportation of these voluminous raw material.
  - Commercial cultivation of these crops generate ample raw material to national market of all types (IMS and Allopathy) pharma industries. Export of them as raw material in raw, semi finished or finished form to international phyto herbal and pharmaceutical industries will make India a world leader in this field.
- 4) Western and European countries are turning toward herbal or BACK TO THE NATURE and if may be partially emphasis given by WHO but more due to practical use and result obtained by these peoples. This has increased the demand of natural, herbal medicines rather than synthetic ones. As compare to the traditional crops cast of production the cost of production of Medicinal plants is less. In this area the labour cost is also very low.
  - 5) The cultivation techniques for medicinal plants are simple and most of them are short-term crops, hence, lesser recurring expenditure of these plants are better earners than other traditional crops, The growing, processing is a labor intensive and hence generate lot of employment, preventing migration of labor from rural to urban area. The large-scale cultivation of medicinal plants provides impetus and thrust not only to Indian pharma industries but also to export. The profit margin is also very high in the cultivation of these plants.
  - 6) In India the knowledge of medicinal plants has been continuously passed on through generation right from the Vedic period. The earliest and the main source of Ayurved is Atharvaveda. Even today people in remote villages and the tribals in far-flung areas have great faith in the effectiveness of the medicinal herbs provided by nature. Medicinal herbs do not have side effects. Medicinal plants used in cronic and common diseases like cold, cough, headache, stomach and skin disorders, ulcers, leprosy, paralysis, eczema, piles, scabies, kidney pain, cancer, chicken pox etc. Different medicinal plants have their different usage.