

Research Paper

Challenges before cultivators of Medicinal and Aromatic plant in Western Maharashtra

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ABSTRACT

India is nations of farmers were agriculture is a major business; more than 60 percent of population is engaged in agriculture. In Maharashtra one of the very less cultivated crops is the medicinal and aromatic plants. Due to global and domestic demand for medicinal and aromatic plants, people are trying to cultivate medicinal and aromatic plants in their fields. All cultivators are not aware about the medicinal and aromatic plants agronomy and the marketing of medicinal and aromatic plants.

Cultivation of medicinal and aromatic plants has become a challenge in front of the agriculture sector and the cultivators as the post harvesting techniques are complicated and the market is unorganized. There is very less control of the government over the market of medicinal and aromatic plants. There are several marketing problems faced by the cultivators of medicinal and aromatic plants in Maharashtra. More over the cultivation of medicinal plants is made easy by providing technical knowhow of agronomy of the medicinal and aromatic plants but the marketing of these plants is major challenge before the agriculture sector and cultivators.

Keywords: Medicinal and aromatic plants, middlemen, agents, essential oils

Introduction:

India is rich in natural resources and known for Agriculture as more than 60% people are engaged in agriculture. One of the less cultivated crops is the Medicinal and Aromatic plants. India has a tradition of using these medicinal plants for the treatment of various health problems. Due to industrialization the number of industries has increased, resulting to development of the nations but with side effect of huge pollution and environmental exploitation. The pollution is affecting the health of the people. As a result the number of hospitals is increasing day by day, which has lead to increase demand for pharmaceutical industry. People across the globe care about their health and have started looking for safer and effective alternatives with minimum negative effects. This is where medicinal and aromatic plants can play a vital role.

India is the largest producer of medicinal herbs and is called the Botanical Garden of the World. In India, medicinal plants are distributed across diverse habitat. Of the total 17,000 species of Indian flora about 7,500 species of higher plants are reported to possess medicinal value (i.e. 44% species possess medicinal value), while percentage of plants having medicinal value is some other countries like China, Mexico and North America is 44%, 7% and 13% of their total reported species respectively. As regards to the habit of the medicinal plants, about one third of all species are trees, 32% herbs, 20% shrubs, 12% climbers and 3% species belonging to other categories. About 70% of India's medicinal plants are found in tropical areas mostly in various forest types.

Although less than 30% of the medicinal plants are found in the higher altitudes, they include species of high medicinal value. A larger percentage of the known medicinal plants occur in the dry and moist deciduous vegetation as compared to the evergreen or temperate habitat. 1

Objective of the study:

To study the marketing problems faced by the cultivators of medicinal and aromatic plants in western Maharashtra area.

Statement of the problem:

According to FRLHT (Foundation for Revitalization of Local Health Traditions), 881 species are currently used in industry for production of herbal products, around 60 species are imported, about 60 species are cultivated, and about 760 species are harvested from the wild. Thus around 90% of medicinal plants used industrially in India are collected from the wild. More than 70% of the plants collected from the wild involve destructive harvesting². The supply base of 90% herbal raw drugs used in the manufacture of Ayurveda, Siddha, Unani and Homoeopathy systems of medicine is largely from the wild. This wild source is speedily shrinking day-by-day. Therefore, there is a need for conservation and sustainable use of medicinal plants. Cultivation is clearly a sustainable alternative to the present collection of medicinal plants from the wild. This can be a potential provider of returns to the farmers. The medicinal plants sector at present is not well organized and needs special attention. Although different Ministries and Departments in the Government sector, NGOs and individuals in the private sector are making efforts in different directions, yet there is a need to co-ordinate and systematize these efforts. Some of the easily cultivable and profitable species are being grown in fields as cash crops. Such growers undertake the production of medicinal plants which are in great demand in the foreign and the domestic markets. Pricing for products of medicinal plants in both domestic and export markets are subject to extreme fluctuations. The markets are controlled by the agents and the middlemen. The market is completely unorganized and it is this uncertain condition for the medicinal plant sector, which is holding off the expansion of medicinal crop industry.

Global Herbal Market

Demand for these herbs is increasing progressively with increase in number of star hotels and multinationals establishing consumer oriented cosmetics, biscuits and pharmaceutical units, as people are aware about the importance of medicinal and aromatic plants in health care. Currently, most of these herbs are grown in large quantities and marketed by France, U.K. Canada, Turkey and U.S.A. It is estimated that Indian consumption alone of these herbs is approximately 200 tons per annum, and only about 60 tones are produced indigenously. Bulk of these herbs (188 tones) is used for culinary purposes and about 12 tones are consumed for medicinal and cosmetic preparations. As estimated by the Exim Bank (1998), the international market of medicinal plants related trade is to the tune of US \$60 billion per year having a growth rate of 7 percent per annum and would touch the level of US \$ 5 trillion market by 2050. The annual exports of these plants are valued at Rs.1000 cores. As per estimated by National Medicinal Plant Board the annual growth in several herbs is between 15-30%.The annual exports of the derivatives from these plants are to the tune of Rs.600-700 million. 3

The largest global markets for medicinal plants are China, France, Germany, Italy, Japan, Spain, UK and US. Japan has the highest per capital consumption of botanical medicines in the world (Laird, 1999). Despite a steady performance over the years, India's Export performance is insignificant in front of the global herbal market place. India accounts for only 1.6% [estimated at—US\$ 1 billion worldwide] of global herbal market ,whereas the Chinese herbals market is estimated at – US\$ 19 billion worldwide accounting for over 30% of the world herbal market.4 Overall the demand for medicinal and aromatic plants is increasing throughout the globe.

Scope and Limitation

India is one word's twelve leading biodiversity centers' with presence of over 45,000 different plant species, out of this about 15,000 to 20,000 plants have good medicinal properties of which only about 7,000 to 7,500 are being used by traditional practitioners. Indian herbal medicine market has been growing at a steady pace of between 15% and 20% ever year. The market size of domestic herbal industry is currently estimated at over Rs.5000 core. According to a study the industry is envisaged to grow at a level of Rs.5, 500 cores. However to be global supplier of herbal medicines conforming to international specifications, India needs to process medicinal plants in an increasing level of scientific, economic and safe way by adopting GAP, increasingly undertake adequate pharmacological and clinical studies to ascertain product efficacy and safety ,increasingly standardize products to ensure uniformity , protect and maintain IPR in the domains of herbals and other natural product development technologies, and undertake documentation research.5 The Marketing of Medicinal and Aromatic plants is much secretive i.e., one cannot understand the system of marketing easily, as this sector is highly unorganized. The study is limited to selected farmers only. The findings and conclusion are drawn on the basis of data collected from the cultivators of medicinal plants. There may be many other problems faced by the cultivators which are not covered by the researcher in his study.

Methodology of the study:

For accomplishing the above objective, both Primary and Secondary data were collected, for the collection of

primary data-Survey Method was used. Survey data was collected from different respondents -100 cultivators cultivating medicinal and Aromatic plants in western Maharashtra area. The MAP cultivators were selected by using Purposive Quota Convenience sampling technique, in which, 'purposive' meant the visiting MAP cultivators, 'Quota' meant the predetermined number of sample respondents, and Convenience Sampling meant that only those cultivators or firms willing to participate in the survey, Non-Participatory observation Method was also used for recording the informal trade of MAP. As the topic has international and nation-wide implications and substantial information is complied by international and national-level agencies and government departments, the Secondary data was collected through Library Research Method and Internet Searches. Researcher also visited agriculture exhibitions held at different location, where he could meet different companies' representatives, traders, and farmers' interested and practicing MAP cultivation in their fields.

Primary and Secondary data Sources: Primary information was collected through questionnaires, on the basis of objectives, and information from the stakeholders.

Structured interview schedule for MAP Cultivators: the researcher collected information through questionnaire and structure interview schedule to total of 100 samples respondents, MAP cultivators.

Table No.1 Methodology of collection of data and tools used:

METHODOLOGY	QUALITY AND QUANTITATIVE RESEARCH	JUSTIFICATION
Technique applied	1. Interview Schedules. 2. Observation 3. Informal Discussion.	To collect personal views and ideas. To understand the practical aspect of phenomena occurring around. To collect informal information.
Tools used	Questionnaire/ checklist.	To collect specific idea and opinion about an issue.
Sampling method	Convenience sampling	Data from cultivators/ Traders is collected as per availability, willingness and positive response.

Before finalizing the tools the researcher conducted a pilot test for a small sample in one district.

Secondary Data: The researcher reviewed existing literature on Medicinal, Aromatic plants and Essential oils and also examined Media reports to understand the MAP sector Review of literature was conducted by referring to the relevant literature and seeking information on internet. The source of secondary data was from various journals, books, government publications and internet sites.

Analysis and statistics used:

The statistical primary data collected from individual respondents was processed on a computer under expert supervision, similarly applicant specific computer software were used for graphical presentation and statistical analysis. The analysis methods included are- Tabular analysis using Excel and windows -2007: In the present study the tabular analysis was carried out to study the characteristics of sample holdings, Problems faced by cultivators of MAP in Marketing of MAP. Simple statistical tools like percentage and frequency distribution were used.

Testing of hypothesis:

Hypothesis : Middleman in the distribution channel of MAP is the most common problem for all cultivators.

X2 TEST (CHI-SQUARE TEST):

H0 : There is no significance difference between the opinion of small cultivators and big cultivators about the problems faced by them in marketing of MAP regarding the Role of middlemen.

H1 : There is significance difference between the opinion of small cultivators and big cultivators about the problems faced by them in marketing of MAP regarding the role of middlemen.

ROLE OF MIDDLEMAN	SMALL CULTIVATORS	BIG CULTIVATORS	TOTAL
SATISFIED	20	24	44
NONSATISFIED	36	20	56
TOTAL	56	44	100

To test we use chi-square test.

OBSERVED VALUE (O _i)	EXPECTED VALUE (E _i)	(O _i -E _i) ² / E _i
20	24.64	0.8738
24	19.36	1.1121
36	31.36	0.6865
20	24.64	0.8738
		3.5462

Calculated X² value is 3.5462.
 I.e. X² statistics = $\sum ((O_i - E_i)^2 / E_i) = 3.5462$
 The value of X² with (2-1)(2-1)= df at 0.05% level of significance is 3.84

We observed that calculated X2 value is < table value so we accept H0

Hypothesis : 'Middleman in the distribution channel of MAP is the most common problem for all cultivators' is accepted

Problems faced by the MAP cultivators: Farmers are the cultivators of medicinal and aromatic plants, this sector of cultivators face many problems related to the agronomy and marketing of MAP. The researcher has presented the problems and analyses those problems and also he has given interpretation on these problems. The researcher has categorized the problems in to groups such as –Agronomy of the MAP, Marketing Mix of the MAP and Social awareness about MAP,

Agronomy of MAP: Most of the cultivators are not aware about the Agronomy of MAP. Cultivators are new to medicinal plants as they are farmers they are familiar with cultivation of few traditional crops like wheat, jawar, tobacco, sugarcane and other cereals. The agronomy of the medicinal plants differs from traditional plants. On the other hand cultivators who are aware about the agronomy of medicinal plants are less in percentage these cultivators are educated and alert, who study and read about medicinal plants agronomy and are aware about the agronomy of medicinal and aromatic plants. Today many cultivators are not aware about the agronomy of medicinal plants, but with the help of different Medias all cultivators can be made aware about the cultivation and agronomy of medicinal and aromatic plants. It is seen that illiterate farmers are not much interested in cultivation of MAP; educated farmers have knowledge about MAP. Maximum cultivators of MAP are educated, they are either graduate, post graduate or they have completed at least secondary education. Those who are educated can do the cultivation, harvesting and marketing of medicinal and aromatic plants in a systematic manner as the can collect the knowledge and implement in a proper manner. Education is a major factor for marketing of medicinal plants.

Prevalence of insects and diseases

The prevalence of insects in the fields is less, where as when the crop is harvested and stored, the prevalence is more. In case there is change in weather there are more chances of diseases on the medicinal plants. As a precaution cultivators dry the crop in natural sunlight to avoid the prevalence of insects. The cultivators who harvest the crop and sell it immediately in the market face less prevalence of insects.

Climate variation problem faced by cultivators : Maximum cultivators faced the problem of climate variation, as it's a natural phenomenon. Precautions have to be taken by the cultivators and timely harvesting of the crops should be done. Addition precaution like storage facility should be

done by the cultivators.

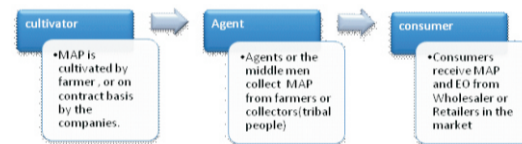
Availability of skilled labor for cultivators

Maximum cultivators do not get skilled labors. A Medicinal and Aromatic plant is a new concept for the cultivators and it's difficult to get skilled labor, as labor is not aware about the medicinal plants agronomy in details. Generally the availability of labor is a general problem in rural parts, as people are moving from villages to cities for employment and education of children. The unavailability of the skilled labor can be solved by using high- tech technology of cultivation and harvesting of the crops. In case of processing also the cultivators face the problem of skilled labor as this concept is new, the labor takes some time in developing his skills in processing and post harvesting techniques of medicinal and aromatic plants. In case of 20% of the cultivators who get skilled labors, it is seen that the cultivators family member only work in the field as a labor. This is only possible if the operations are limited and the area is limited, otherwise most of the cultivators face the problem of availability of skilled labors.

Place: Distribution is an important function of marketing. Due to the good distribution channel the product can reach to the customer in time. The researcher found level-2 and level-3 in the distribution channel of MAP.

Distribution channel of MAP:

Channel 1



In this channel the MAP moves from cultivators to customer through agent or the middlemen. The cultivators may be farmers or the cultivating MAP on themselves or on contract basis with a company. The agent collects the MAP from farmers or from the tribal people near by the forest area.

Channel-2



In this channel the MAP are collected from the forest area or road side area through the tribal people or contract labor. The middleman collects the MAP from the tribal people and supplies it to the processing units for further processing. Through the processing unit the product moves to customer, directly or through wholesaler or retailer.

Channel-3



The above chart shows that the distribution of MAP is mainly done by three different channels,

Channel -1: In this channel the cultivators (farmers) grow the MAP in their farm on their own or on the basis of contract with the private companies. The agents collect this MAP from the cultivators or from the tribal people who collect the MAP from the wild. The agents sell the MAP to processing companies or to the wholesale market and retail market. The ultimate customer receives the MAP from retail market.

Channel- 2: In this channel the MAP is collected by the tribal people from the nearby area of forest and road side of rural

area they are called as pickers, the Agents collect the MAP from these tribal people and sell it to the processing units. Through wholesale and retail market Map reaches to the Ultimate customer.

Channel-3: In this channel the farmers or the local people have a contract with the forest department and cultivate medicinal plants in sustainable manner in the forest area, the commission agents or the company agents collect these MAP, or many a times the harvesting or collection of MAP is done by the Agents and given to processing Units or Exporters, through which the ultimate customer receives it via wholesaler and retailer. The researcher observes that, over all the channel of distribution is a complex phenomenon and the exact distribution channel is not exposed, however the requirement of companies and traders is fulfilled, Researcher feel that the need is fulfilled from the wild harvesting and is secretly reaches the traders, or there is adulteration done by the traders in MAP material in order to fulfill the demand. Over all the channel of distribution is not clearly discussed. Many times the requirement of the companies is fulfilled by the agents by collecting the raw material from the wild in a unsustainable manner. So fixed distribution channel is not observed for medicinal and aromatic plants, however the agents play major role in distribution channel of MAP. It was observed that different levels of distribution like level-1, level-2, and level-3 were observed.

Physical Infrastructure: For development of any organization, the physical infrastructure plays a major role. In case of MAP the important infrastructure are the transport facility, storage facility, the processing facilities and the markets for medicinal and aromatic plants. Most of the cultivators have the facility of transportation as in farming they need vehicles for transports of harvested crops. The cultivators are farmers and for farming they have space for storage of harvested crops, same storages are used for storage of medicinal and aromatic plants. Only few cultivators have the facility of processing, primary processing like drying and sorting is done by many farmers and processing like distillation is done by very few cultivators.

Promotion Mix: In marketing Promotion is communication, the communication between producer and consumer, producer and other stakeholders. This promotion can be done through different tools like -advertising through different Medias, sales promotion, sponsorship, publicity, publications like leaflet, information brochures, journals, handouts etc. In case of medicinal and aromatic plants the promotion is done by different government and non-government organization through the publications, different financial and training schemes for cultivators and traders. Many projects based on medicinal and aromatic plants are sponsored or some subsidy is made available. Many banks have the loan facility for cultivation, trading and processing of medicinal and aromatic plants. Agriculture colleges also play a major role in promotion of medicinal and aromatic plants. Even the commission agent has a role to promote medicinal and aromatic plants for cultivation on the contract basis. Forest department has different scheme like Joint Forest Management scheme for promotion of medicinal and aromatic plants in collaboration with the local and tribal people who collect and cultivate medicinal and aromatic plants.

Source of information, about MAP and EO used by cultivators

The most common source used by the cultivators is

publication. This publications are the Marathi magazines like "shetkari, godwa, kisan bharati and Kissanshakti". Local news papers like Agro-one, sakal are commonly used by the cultivators. Few cultivators also use English magazines like "Amrut, I-MAP India and Agriculture survey." as source of information. Electronic media like television is used by few farmers, programmer like "Amchi Mati Amchi Mansi and Krushi Darshan" and internet sites such as agriculture online and agriculture information are the prime source of information for cultivators of Medicinal and Aromatic plants. Also agents play a role in spreading information about medicinal and Aromatic plants. Sometimes cultivators depend on agents as a source of information as the information is not easily available at other sources. The other source of information consists of information from friends, relatives, other farmers cultivating medicinal plants and agriculture colleges.

Market information received by cultivators

Generally the market information is given by the agents to the cultivators, which can be incomplete. Adequate market information is collected by the cultivators from the internet or from the companies who provide them the planting material. Sufficient market information is collected by the cultivator from the local market or from the supplier who supplied the seeds or the planting material to them. Many times the cultivators are not aware about the markets, as they do not enquire the information and listen to local people and get incomplete market information about the market. The role of the agents and the commission agents is prominent in spreading the market information up to the cultivator. Those cultivators who are aware and keep their knowledge up dated get adequate market information.

Role of Institutions and government in developing MAP sector

The role of the government and Institutions is satisfactory for the development of MAP. Government and organizations like NMPB and AYUSH play a very important role in development of MAP sector. Only few cultivators who are unable to reach the facilities and schemes of government and other organization, say that the role is passive in the development of medicinal and aromatic plant sector.

Availability of Loan for MAP cultivation:

Maximum cultivators say that loan is not easily available for the cultivation of MAP. Even tho there are different financial schemes for medicinal and aromatic plants, these facilities are not easily available to the cultivators. For getting the loan, the cultivator has to fulfill the necessary documents in time which is a tedious task for the cultivator. Many a times the cultivator applies through the agent, and this agent prolongs the process for commission. Those cultivators who have the documents ready and know the right procedure get the loan easily otherwise they have to face problems in getting the loan. Most of the cultivators had already loan for earlier crop and it was difficult for them to get loan for medicinal and aromatic plants. So their opinion was loan is not easily available.

Role of Agent according to cultivators for promotion of MAP:

Maximum cultivators say that they are not satisfied with the role of agent. Many agents contact the cultivators and convince them to buy the seeds or saplings, assuring them that they will buy the harvested product at a particular rate. But it is seen that cultivators are been cheated by agents by doing false promises and by giving some silly excuses like

there is no demand in the market or the quality of the crop is not up to the mark. In few cases it has been seen that agent has not returned to cultivators after selling them the seeds and saplings, the intention of the agents was just to sell the seed or saplings and make money from it. In case of satisfied cultivators it has been seen that they had a buy back bond with the company and companies' agents has to buy the harvested product with the fixed rate, provided that the quality of the crop is good. Overall the role of the agent is more active in selling the seed or the saplings and less active in buying the harvested product.

Social Awareness about MAP:

The society does not accept the new things easily; it takes time to accept the change. As the society has resistance to change. A medicinal and aromatic plant is an old concept to the society but cultivation of MAP in the farmers' field as a regular crop is a new concept. This new concept can be penetrated in the society if there is social awareness about the importance of MAP its social value, its environmental value and its economic value has to be told to the society. Many social awareness programs are carried out by the government and NGOs for conservation and development of medicinal plants through agriculture colleges and research organizations by providing schemes to cultivators, traders, and processing units of medicinal and aromatic plants.

The government and NGO's play a major role in bringing the social awareness about the medicinal and aromatic conservation and proper utilization of medicinal and aromatic plants. Government and allied organizations like NABARD and NMPB have different schemes for promotion of social awareness and cultivation of medicinal and aromatic plants. Many research intuitions working for medicinal and aromatic plants get government support for the research of medicinal and aromatic plants. Research institutions also have different schemes for cultivators of MAP, for the traders of medicinal and aromatic plants and processors of medicinal and aromatic plants.

Finding:

- Market quality Standards of Product: cultivators are facing the problem to match the quality standards of the product in the Market as per the demand in market as they don't get training of proper agronomy of MAP and marketing of MAP.

- Inadequate market demand information: the cultivators do not get the adequate information about the requirement of MAP in market. As all the schemes and information do not reach to the cultivators.

- Unorganized market system: the market system is highly unorganized, there is no fixed pattern of marketing; the rates and the demand for MAP always fluctuate. the middlemen have the major control over the market as all the transactions take place through the middlemen only

- Distribution channel has Existence of Middlemen: cultivators are been cheated by the middlemen as the rate of MAP is decided by him, and the rate always fluctuates. As cultivators has to depend on middlemen to sell his product.

- Long distance Market place: the market places are far away from the farms of MAP cultivator, and they are not able to bear the transportation charges. And other transport facilities are not available as farms are in the remote areas.

- Lack of storage facility Infrastructure: cultivators do not have the facility of storage, so they have to sell their goods, when ever agents buy it.

Conclusion:

The cultivators of medicinal and aromatic plants in

Maharashtra are being aware about the agronomy of medicinal plants, but they face major problems of marketing. There is no proper organized market system of medicinal and aromatic plants. The cultivators do not get the adequate information about the market demand and government schemes available for the cultivation of medicinal and aromatic plants. The cultivators have to study the market demand and the government schemes and fulfill the market demands accordingly. The major barrier in marketing is the role of the agents or the middlemen.

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