Farmers Perception on Cultivating Medicinal Plants as an Agribusiness Venture: A Study at Pambahinna Agrarian Services Division

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Abstract
Herbal plants have used in Sri Lanka for many purposes since early civilization. These herbal plants have a variety of uses including culinary and medicinal and in beauty culture. Recently both national and international demand for Ayurvedic medicinal materials increased due to increased health awareness. However, Sri Lankan cultivations presently do not meet the local demand leading to import many plants from countries like India, Pakistan and Dubai. The objective of this research was to identify farmers' perception on adopting medicinal plant cultivation as an agribusiness. A research was carried in Pambahinna Agrarian Services Division. A survey was conducted among randomly selected sample of 111 farmers within 10 gramaniladari divisions. Data were collected through an interviewer administrated structured questionnaire, face to face interviews and group discussions and analyzed using Minitab version 14.0. Descriptive statistics, graphical explanations, and chi square test were used to elaborate the results. Though the farmers were aware about the value of herbal materials, they showed less motivation and inspirational levels due to lack of information about herbs related agribusinesses ventures. Chi square analysis revealed that experience and knowledge on herbal planting do not have a relationship with education level but with years of farming, age, and gender. Majority of the farmers are willing to start this business but only a few of them are currently practicing in a minor scale. Another reason for poor adaptation is the lack of knowledge about and access to the good planting material for a commercial level cultivation. In order to develop this sector both private and government sector should work together to initiate awareness programs, breeding and distribution of planting materials and maintain an unambiguous supply chain.

Keywords: Agribusiness, Health Benefits, Perception, Underutilized herbal plants
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Introduction

Usage of medicinal plants for the relief for common diseases at household level has used since ancient times. Common medicines like ginger, garlic, and coriander were used by ancient physicians and used by the people even today. In fact the chemicals used in western drugs were originally extracted from herbal plants. But most of the synthetically made drugs reported to have numerous side effects. There is a trend in many developed and developing countries to move back to old traditions of medicine and especially in beauty culture. Though herbs are used extensively as a highly nutritious food and in the preparation of medicine since ancient times, today it is the basis of a whole new industry of natural beauty care products. The national demand for medicinal plant materials was 3,864,760 kg in 2000 and approximately 1,509,201 kg of this amount were imported to meet the national demand at a cost of about Rs. 13 million (Abeywardana and Hettiarachchi, 2001). Hence great potential exists to organize the cultivation herbal plants on commercial scale to increase the domestic supply of raw materials (Joseph and Abeysekera, 2004; Gunasena *et al.*, 2003). This paper looks at the farmers' willingness to cultivate herbal plants as an agribusiness venture and to find out the potentials and constraints in herbal plant cultivation.

Materials and Methods

Pambahinna "Krushi Paryeshana Niladhari Sahakara" division under Imbulpe divisional secretariat was selected as the research area since it is one of the main region for herbal plant cultivation. Lists of farmers within 10 gramaniladari divisions were and systematic sampling technique was used to randomly select 111 Respondents out of 2507 farmers. A survey research design was implemented. Pre-tested self-administered structured questionnaires and face to face interviews with the respondents were used to collect data. Few group discussions with farmers were done to get detailed information on popularity of medicinal materials, their collection and marketing etc. Data Analysis was done by Minitab version 14.0 and Ms excel software. A descriptive analysis was conducted to develop the profile of farmers' demographic factors. To find out the level of experience and knowledge available within the farmer community on herbal plant cultivation,

mean comparison was used. Relationship between factors effecting experience and knowledge, attitudes and perceptions on herbal plant cultivation was analyzed using cross tabulation chi square test.

Results and Discussion

Demographics of farmers were analyzed in order to get a profile of the respondents. Majority of farmers were above 50 years (47 %). Age category from 41 to 50 was the second largest (30%). About 19% of the respondents were between age group 31- 40. And only 4% were below 30 years of age. When considering about the level of education majority of the farmers (40%) were educated only up to Ordinary Level (O/L).

First objective of the research was to evaluate the experience and knowledge level associated with the farmer community on medicinal plant cultivation. Within the selected sample 33% of the farmers engaged only in turmeric and ginger cultivation either in their home gardens or as a business. Around 24% of farmers engaged in Aloe Vera cultivation in addition to turmeric and ginger. The rest 27% of the farmers engaged in planting a number of medicinal plant varieties. Though, 84% engaged in planting medicinal plants including commercially grown ones, only 17% have made attempts to trade them which are also not in a regular basis. They have gained their knowledge on medicinal plants mostly from their elders and also through experience. And it was a good trend that 16% of them have tried to gain knowledge by studying.

Their awareness on medicinal plant business and its market was analyzed as the second objective. Concerning price, they state that turmeric, ginger, araththe, binkohomba, and thippili like medicinal material have higher prices. But unfortunately 60% of the farmers were unaware about successful medicinal plant businesses and only 40% of them have heard about such ventures. Surprisingly 58% of the farmers were unaware about the importation of medicinal materials to Sri Lanka. Lack of such knowledge had a detrimental effect on their motivation to adopt this venture.

One of the biggest problems they faced was to find good planting materials. As the planting material sources 21% considered forests and surrounding, 38% stated Department of Agriculture, while the rest 41% had no clear idea where to find them. Relationship between demographic factors and awareness on medicinal plant cultivation was analyzed as a part of the second objective. Null hypothesis was considered as there is no relationship between demographic factors (age, farming experience, gender, and level of education) with the awareness on market demand of medicinal plant varieties, importing medicinal materials, sources of planting materials and market values of medicinal materials.

Results reveal that there were no relationships of age and education with knowing the sources of planting materials. There exist relationships between age with awareness on demand, imports, and buyers of medicinal plants. Gender and level of education showed a relationship with awareness on imports. Further it was revealed that there is a relationship between farming experience and awareness on value of medicinal plants.

Third objective was to identify potentials and constrains of this business from farmers' point of view. High profitability, supportive climate, and serving as an alternative income were the most popular reasons. Reasons for not adopting this venture includes, land limitation, demand uncertainty, loopholes in value chain and theft.

As the final objective, farmer attitudes in practicing herbal plant cultivation as a new business were evaluated. About 73% of the

Table 1: Relationship of demographic factors to awareness on medicinal plant cultivation

Factor	Awareness	Chi square	D.F	P Value
Age	Demand	15.103	8	0.047
	Imports	6.541	2	0.038
	Sources	15.683	6	**0.316**
	Buyers	7.458	5	0.011
Farming experience	Value	12.936	6	0.044
Gender	Imports	1.474	1	0.025
Level of education	Imports	11.909	4	0.018
	Sources	10.254	5	**0.998**

farmers agreed with the fact that, there is a high demand for herbal plants and 58% showed their willingness to try this new venture. Farmers desire to adopt herbal cultivation showed a significant positive relationship with farmer's attachment to farmer societies ($p< 0.01$). But the agrarian services did not have such a relationship with the surety/indemnity to invest on this new business ($p>0.05$) Farmers who were active members of the farmer societies showed a desire to adopt the venture on the profitability of the business. Farmers who received agrarian services showed a positive attitude on surety of this business.

Conclusion

Majority of the farmers are not aware about the success ventures of medicinal plants and are reluctant to engage in medicinal plant cultivation. Though they have the knowledge on medicinal plants, constraints such as land limitation, demand uncertainty, loopholes in value chain and theft, discourage them from engaging in medicinal plant cultivation. Another reason for poor adaptation for the business is unavailability of good planting material for a commercial level cultivation. If they are provided with necessary information on the market, demand and no shortage of planting materials, there could be a possibility of getting more farmers involved in herbal plant cultivation as a venture or as an additional income source. Therefore, it is recommended to create awareness on the potential of growing herbal plants as a venture.

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