

Received : 28.05.2022 | Accepted : 24.07.2022 | Online published : 01.10.2022

https://doi.org/10.54986/irjee/2022/oct_dec/64-67I
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ESOCIETY OF
EXTENSION
EDUCATION

RESEARCH ARTICLE

Entrepreneurial Behavior of Farmers towards Cultivation of Medicinal and Aromatic Plants in the Ujjain District of Madhya Pradesh

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ABSTRACT

The present study was carried out in Ujjain district of Madhya Pradesh with the objectives of to know awareness level, identify factors which encourage farmers towards cultivation of medicinal and aromatic plants and constraints in cultivation, and entrepreneurship in medicinal and aromatic plants. Multistage sampling was adopted for the study to collect data from the farmers. Total 50 farmers were selected randomly for the present study. Findings of the study revealed that majority of the farmers unaware about latest technology and cultivation of the medicinal and aromatic plants in study area. All the factors were found to be significant more profitable than other crops, good marketing opportunity, training and subsidy provided by government, easy availability of planting material, adequate knowledge except (p-value 0.60) good demand and (p-value 0.12) low cost in cultivation of the medicinal and aromatic plants were found to be non-significant. The farmers' friends or fellow farmers were the major source of information to farmers about cultivation of medicinal and aromatic plants in the study area. Lack of availability of ready market for selling of medicinal and aromatic plants followed by lack of finance and credit facility were the major constraints faced by the farmers in the study area.

Key words: Medicinal and aromatic plants; Farmers; Entrepreneurship; Constraints.

India is a leading exporter of the medicinal plants in the world trade. Most of medicinal and aromatic plants like Isabgol, Ashwagandha, Sarp Gandha, Bach, Safed Musli, Lemon grass, Chandrasur, Aloe vera and opium etc. cultivated in the Madhya Pradesh state. Medicinal plants have high potential in creating jobs and pushing economic growth in where resource constraints is main hurdle. Cultivation of medicinal and aromatic plants is a relatively new concept in farming and some selected plants once planted can be harvested over almost five years of period. Many of the selected growers or cultivators have not had gone through the entire crop cycle period. Lack of information exposure to formal sources gives out dated, inadequate and inaccurate information as a result entrepreneurs may lose many opportunities for enterprises (Spandana et al, 2022). The markets for disposal of cultivated medicinal

plants have not very well developed and organized even though its cultivation on a small scale, started a few years ago. As a result, almost all the cultivators normally have no option but to sell their produce to a local middleman. In the present case also all the cultivators of medicinal plants that they sold their entire marketable surplus to the local middleman in low price. Farmers are showing interest in cultivation of medicinal and aromatic crops. But due the price fluctuations, lack of marketing facilities, absence of value addition by processing, lack of technical know-how of cultivation and procurement etc. problems related to these crops, the area as well as production of these crop fluctuate year to year or even season to season. Medicinal and aromatic plants (MAPs) are receiving considerable attention all over the world because of their enormous untapped economic potential, especially in the use of herbal medicines. India is a varietal emporium of

the medicinal and aromatic plants. (Kapoor, 2012). The Indian system of medicines derive many of their curative tools from plants (Kumar et al., 2005). Use of innovative technologies like text to speech, recognition of image as also big data analysis and data intelligence, direct benefit transfer etc. Anonymous (2018). The objectives of the study are as follows:

- i. To know awareness level and assess the need of the farmers for the cultivation of medicinal and aromatic plants.
- ii. To identify factors which encourage farmers towards cultivation of medicinal and aromatic plants.
- iii. To study constraints in cultivation, use of technology and entrepreneurship in medicinal and aromatic plants.

METHODOLOGY

The study focused on Ujjain district of Madhya Pradesh. Multistage and convenient sampling was adopted for the study to collect data and information from the farmers. Firstly the selection of district will be taken up followed by selection of block, villages and selection of farmers. Tarana block of Ujjain district was selected for the study. From Tarana block two higher population villages Kaytha and Kanasiya was selected purposively and from two village 25 farmers each were selected. Total 50 farmers were selected randomly for the present study. The farmers those cultivating medicinal and aromatic plants and few farmers, those engaged in others crops but they willingness to cultivate medicinal and aromatic plants were also selected. Primary data were collected through the structured and pre-tested questionnaire. The data is presented in terms of frequency, percentages and Garret score, t-test etc.

RESULTS AND DISCUSSION

Socio-economic status of respondent's farmers in the study area : Table 1 revealed that majority of farmers (40%) were between 36 to 45 year age group followed by 22 per cent were 46 to 55 years age group. Majority of the farmers educated (28per cent) up to high school followed by (20%) up to higher secondary level only 8 per cent were graduated in the study area. Similar results were found by (Channa and Natikar, 2022). Majority of the farmer's income Rs. 21 thousand to Rs. 30 thousand per annum which is highest 24 per cent in the study area followed by 20 per cent farmers income

Table 1. Age of the respondent farmers in the study area (N=50)

Particular	No.	%
<i>Age</i>		
0-25 year	5	10
>26-35 year	10	20
>35-45 year	20	40
>45-55 year	11	22
>55 year	4	8
<i>Education</i>		
Illiterate	4	8
Primary level	8	16
Middle level	10	20
High school	14	28
Higher secondary	10	20
Graduate	4	8
<i>Income</i>		
0-10000	4	8
11000-20000	5	10
21000-30000	12	24
31000-40000	10	20
41000-50000	9	18
<50000	10	20

Table 2. Awareness regarding cultivation of medicinal and aromatic plants (N=50)

Particular	No.	%
Aware	24	48
Not aware	26	52

was Rs.31 thousand to Rs.40 thousand, 18 per cent farmers income was between Rs.14 thousand to 50 thousand followed by 10 per cent farmers income was Rs.11 thousand to Rs.20 thousand in the study area.

Awareness is very important before move to enter into cultivation or farming. Awareness or knowledge about particular crops is important to get profit. Non-awareness or lack of knowledge about particular crops and their market leads to dissatisfaction and farmers can shifts towards other crops.

Above Table 2 revealed majority of the farmers 52 per cent are not aware and 48 per cent are aware about cultivation of the medicinal and aromatic plants.

The entrepreneurial components or factors like innovativeness, achievement motivation, decision making ability, risk ability, leadership ability. Table 3 revealed that majority of farmers believe that innovativeness (82%) is the key and very important factor, followed by (80%) risk bearing ability This results support with finding (Sravani et al, 2022)

Table 3. Entrepreneurial components towards cultivation of medicinal and aromatic plants (N=50)

Particular	Yes		No	
	No.	%	No.	%
Innovativeness	41	82	9	18
Achievement motivation	34	68	16	32
Decision making ability	39	78	11	22
Risk ability	40	80	10	20
Leadership ability	26	52	24	48

Table 4. Entrepreneurial components toward cultivation of medicinal and aromatic plants

Particular	Mean	SD
Innovativeness	1.1800	.38809
Achievement motivation	1.3000	.46291
Decision making ability	1.2200	.41845
Risk ability	1.2000	.40406
Leadership ability	1.4800	.50467

Table 5. Entrepreneurial components toward cultivation of medicinal and aromatic plants (N=50)

Particular	t-value	p-value
Innovativeness	-33.161	.000
Achievement motivation	-25.968	.000
Decision making ability	-30.079	.000
Risk ability	-31.500	.000
Leadership ability	-21.297	.000

Table 6. Factors of motivation to cultivate medicinal and aromatic plants (N=50)

Particular	Mean	SD
Good demand	2.9000	1.35902
Easy to cultivate	1.6000	.80812
More profitable than other crops	1.1800	.38809
Good marketing opportunity	4.1000	1.07381
Training provided by government	4.2200	.91003
Subsidy provided by government	2.2400	1.15281
Easy availability of planting material	4.4800	.61412
Low cost in cultivation	3.3200	1.43484
Adequate knowledge	1.8800	.91785

followed by decision making ability (78%) achievement motivation (68%) and leadership ability (52%).

Table 4 show that the entrepreneurial components leadership ability (mean score 1.48) found to be highest followed by achievement motivation (mean score 1.30) decision making ability (mean score 1.22) risk ability (mean score 1.22), Innovativeness (mean score 1.18) were found to be significant.

Observed means have been compared with assumed mean equal to 3 i.e. mid-point of the scale. Table 5 show

that all the components innovativeness, achievement motivation, decision making ability similar results were reported by (*Channal and Natikar, 2022*) risk ability, leadership ability was found to be significant.

Table 6 show that easy availability of planting material (mean score 4.48) to be found highest followed by training provided by government (mean score 4.20), good marketing opportunity (mean score 4.10), low cost in cultivation (mean score 3.32), good demand (mean score 2.90), Subsidy provided by government (mean score 2.24), easy to cultivate (mean score 1.60) and more profitable than other crops (mean score 1.18).

Observed means have been compared with assumed mean equal to 3 i.e. mid-point of the scale.

Table 7 shows that all the factors were found to be significant more profitable than other crops, good marketing opportunity, training provided by government, subsidy provided by government, easy availability of planting material, adequate knowledge except (p-value 0.60) good demand and (p-value 0.12) low cost in cultivation of the medicinal and aromatic plants were found to be non-significant.

Above Table 8 revealed that most 66 per cent farmers aware about mobile based application. Followed by 62 per cent aware about *Kisan* call center databases and internet of things. Overall majority of the farmers not having knowledge regarding use of information technology in cultivation of the crops in the study area.

Table 9 depicted 52 per cent farmers responded that friends or fellow farmers are the major source of information regarding cultivation of the medicinal and aromatic crops. Followed by 44 per cent responded that television is the source of information, followed by 42 per cent respondents that government department or university are the source of information and 40 per cent farmers respondents that newspapers is the source

Table 7. Factors of motivation to cultivate medicinal and aromatic plants (N=50)

Variable	t-value	p-value
Good demand	-.520	.605
Easy to cultivate	-12.250	.000
More profitable than other crops	-33.161	.000
Good marketing opportunity	7.244	.000
Training provided by government	9.480	.000
Subsidy provided by government	-4.540	.000
Easy availability of planting material	17.041	.000
Low cost in cultivation	1.577	.121
Adequate knowledge	-8.628	.000

Table 8. Farmers awareness related to information technology (N=50)

Particular	Yes		No	
	No.	%	No.	%
Internet of Things	31	62	19	38.00
Mobile based app	33	66.00	17	34.00
E-kranti	05	10.00	45	90.00
E-governance	15	30.00	35	70.00
GIS mapping	02	4.00	48	96.00
Artificial Intelligence	00	0.00	50	50.00
AGMARKNET	10	20.00	40	80.00
Kisan call center databases	31	62.00	19	38.00
Digital green	18	36.00	30	60.00

Table 9. Frequency distribution of source of information on cultivation of medicinal and aromatic plants cultivation (N=50)

Particular	Yes		No	
	No.	%	No.	%
Govt. deptt./University	21	42.00	29	58
NGOs	06	12.00	44	88
Friends/Fellow farmers	36	52.00	24	48
Television	22	44.00	28	56
News paper	20	40.00	30	60
Others	02	04.00	48	96

Table 10. Constraints faced by farmers in the production, and entrepreneurship of Medicinal and Aromatic plants (N=50)

Constraints	Garret score	Rank
Risky crop	30.54	V
Diseases and pest problem	28.55	VI
Lack of good planting material	31.52	IV
Lack of finance and credit facility	56.63	II
Lack of marketing facility	59.73	I
Lack of knowledge	41.33	III

of information. The most important constraints faced by farmers was lack of marketing facility reported as ranked 1st result support with finding of (Singh et al, 2022) followed by lack of finance and credit facility 2nd ranked, lack of knowledge ranked 3rd were the major constraints faced by farmers.

CONCLUSION

New and innovative technology and entrepreneurial

way of its cultivation will be game changer for increasing its production and income of the farmers. The majority of farmers (52%) are not aware about cultivation and 48 per cent farmers aware about cultivation of medicinal and aromatic plants in the study area. The 82 per cent farmers believed that innovativeness is important component to enter into entrepreneurial way of cultivation of medicinal and aromatic plants. The 80 per cent farmers believed that cultivation of medicinal and aromatic plants is more profitable than others traditional crops. Majority of the respondent that lack of availability of ready marketing facility is the important constraints faced by the farmers in the cultivation of the medicinal and aromatic plants followed by lack of finance and credit facility.

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