https://doi.org/10.56572/gjoee.2023.35.2.0011 Gujarat Journal of Extension Education Vol. 35 : Issue 2 : June 23

CORRELATION ANALYSIS OF SOCIO-DEMOGRAPHIC PROFILE OF TRIBAL FARMERS WITH KNOWLEDGE AND ADOPTION OF IMPROVED PRODUCTION TECHNOLOGY OF AJWAIN

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ABSTRACT

The present study was conducted in Pratapgarh district of Rajasthan with the objective of correlational analysis of socio-demographic profile of tribal farmers with knowledge and adoption of improved production technology of Ajwain. 5 villages from Choti sadari tehsil of Pratapgarh were selected randomly. From each of these selected villages 13 tribal farmers were selected randomly and a sample total of 65 Tribal farmers were selected. The data from these tribal farmers was collected using a well-structured and pre tested interview schedule during the year 2022. The ex-post facto research design of social science was used for the present investigation. On correlation analysis of socio-demographic profile of tribal farmers with knowledge level, it was found that age, education, size of land holding, family type, annual income and social participation were found to be positive and highly significant relationship ($p<0.01$) and extension contacts was found positive significant ($p<0.05$) with knowledge. Findings regarding relationship between adoption of improved production technology of Ajwain shown that, education, family type, annual income and social participation positive and significant correlation coefficient ($p<0.01$) and age, size of land holding and extension contacts was found positive significant ($p<0.05$) with extent of adoption of improved production technology of Ajwain.

Keywords : *adoption, ajwain production technology, knowledge, tribal farmers*

INTRODUCTION

Ajwain (*Trachyspermum ammi*) is an annual herbaceous plant belonging to Apiaceae family. Mediterranean region in Egypt is the origin place of Ajwain. Ajwain falls under minor seed spices and is widely cultivated in arid and semi-arid regions. It is cultivated in India, Iran, Egypt and Afghanistan.

India is one of the leading countries in the world with respect to area, production and export of different seed spices. Rajasthan and Gujarat have emerged as "Seed Spices Bowl" and together they contribute 80% of the total seed spices production in the country. Madhya Pradesh, Uttar Pradesh, Punjab, Haryana, Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu are also contributing to the total seed spices production of the country (Anonymous2020).

Ajwain is mainly cultivated for its seed and volatile oil (Thymol). Ajwain seed generally contains 2.5 to 5% essential oil and 26% fatty oils (Raghavan, 2007). The greyish brown seeds of Ajwain are usually considered for medical and nutritional purposes.

Rajasthan is a leading state in cultivation of spices. It has most suitable Agro-climatic conditions for the cultivation of different spice crops. India, Rajasthan has secured an unique place as it produces about 8-9 lakh t seed from about 8 lakh hectares area (Anonymous 2020). Therefore, it is high time to analyze correlation between socio-demographic profile of tribal farmers with knowledge and adoption to know the reasons hindering the adoption of improved production technology of Ajwain by the Tribal farmers in Pratapgarh districts Rajasthan.

OBJECTIVE

Analyzing correlation of socio-demographic profile of tribal farmers with knowledge and adoption of improved production technology of Ajwain.

METHODOLOGY

The present study was conducted in Pratapgarh districts of Rajasthan. Pratapgarh district was selected purposively due to the reason that Pratapgarh district has the highest area (222 ha) and production (333 t) of Ajwain crop among all tribal districts of Rajasthan (Anonymous 2019-20).

Pratapgarh district comprises of 5 tehsils. Out of which Choti Sadari tehsil selected as it has highest area and production under Ajwain crop among all tehsils of Pratapgarh.

From the selected tehsils, 5 Ajwain growing villages were selected; namely; Karzu, Manpura Jagir, Rawatpura, Bambori and Raghunathpura. From each of the selected villages, 13 tribal farmers were selected randomly. In this way a total sample of 65 tribal farmers was selected.. The ex-post facto research design of social science was used for the present investigation. Selected tribal farmers were interviewed and the desired information was collected with the help of pre-tested interview schedule. After collection of data, all the tribal farmers were divided into three categories namely low, medium and high. The categorization was based on mean and standard deviation. Data were tabulated and analysed with various statistical tools like frequency, percentage and correlation analysis.

RESULS AND DISCUSSION

Socio-demographic profile of tribal farmers

The data in table 1 revealed that majority of the tribal farmers (70.77%) belonged to middle age group and it was found that 44.62 per cent tribal framers were illiterate and 16.92 and 10.77 per cent of the tribal farmers were educated unto secondary and senior secondary, while 3.08 per cent of the tribal farmers had education upto graduation level. These findings are in line with the results of Meena (2010) and Yasmin (2017). Then majority of the tribal farmers (69.23%) were from joint family and rest of the tribal farmers (30.77%) were from nuclear family. The probable reason behind this might be that tribal farmer prefer to live in joint family and follow agriculture as source of living while giving least importance to education. These results are in agreement with the results of Meena (2006). It was observed that from Table 1 that majority (38.46%) of the tribal farmers were marginal farmers followed by (35.39%) small farmers, (20.00%) semi medium farmers and Only (06.15%) medium farmers. These findings are in agreement with the findings of Badhala (2012) and Yadav (2021) who also reported that majority of tribal farmers were small and marginal. The result presented in table 1 indicated that majority of tribal farmers (64.62%) had medium level of annual income, followed by (23.08%) high and (12.30%) low level of annual income. The probable reason might be majority of tribal farmers were local farmers having marginal to semi-medium farm size, which has attributed to the major share of income coming from tribal business coupled with agricultural farming. Then majority (58.46%) of tribal farmers had medium extension contacts while 27.69% and 13.85% were having low and high extension contacts, respectively. It was also observed that majority (78.46%) of tribal farmers had medium social participation followed by 15.39% and 06.15% with low and high social participation respectively. The above findings are

Table 1: Socio-demographic profile of the tribal farmers

(n=65)

Sr. No.	Particulars of Variables	Tribal farmers	
		Frequency	%
A	**Age**		
1	Young (Below 33 years)	09	13.85
2	Middle (From 33 to 49 years)	46	70.77
3	Old (Above 49 years)	10	15.38
B	**Education**		
1	Illiterate	29	44.62
2	Can read only	05	07.69
3	Can read and write	05	07.69
4	Primary school	06	09.23
5	Secondary	11	16.92
6	Senior secondary	07	10.77
7	Graduate	02	03.08
8	Post Graduate & Ph.D.	00	00.00
C	**Family Type**		
1	Joint family	45	69.23
2	Nuclear family	20	30.77
D	**Size of land holding**		
1	Land less farmers	0	0.00
2	Marginal farmers (less than 1 ha.)	25	38.46
3	Small farmers (From 1 to 2 ha.)	23	35.39
4	Semi-medium farmers (From 2.0 to 4.0 ha)	13	20.00
5	Medium farmers (From 4 to10 ha.)	04	06.15
6	Large farmers (more than 10 ha.)	0	0.00
E	**Annual Income**		
1	Low Income (Below ₹ 11,743)	15	23.08
2	Medium Income (From ₹ 11,743 to ₹ 133,036)	42	64.62
3	High Income (Above ₹ 133,036)	08	12.30
F	**Extension contacts**		
1	Low (less than 1.19 score)	18	27.69
2	Medium (from 1.19 to 4.19 score)	38	58.46
3	High (more than 4.19 score)	09	13.85
G	**Social participation**		
1	Low (less than 9.89 score)	10	15.39
2	Medium (from 9.89 to 18.61 score)	51	78.46
3	High (more than 18.61 score)	04	06.15

in contrary with the findings of Badhala (2012), More *et al.* (2015) and Yadav (2021) who reported majority of the tribal farmers were medium social participation. More farmers had used the medium sources of information while lesser per cent of the tribal farmers had used high and low level of sources of information. It could be due to the organization of campaigns, tours, kisan call centres, exhibition, strong network of technical and field staff of KVKs and the free and common access to the electronic media.

Relationship between socio-demographic profiles of tribal farmers with knowledge about improved production technology of Ajwain

Table 2 : Relationship between personal attributes of tribal and non-tribal farmers with their knowledge level

(n=65)

Sr. No.	Independent variables	Correlation Coefficient (r)
X_1	Age	0.364**
X_2	Education	0.560**
X_3	Size of Land Holding	0.321**
X_4	Family Type	0.765**
X_5	Annual Income	0.777**
X_6	Extension contacts	0.232*
X_7	Social participation	0.800**

*P<0.05, **P<0.01

The results in the Table 3 indicate that, Out of 7 variables studied 6 important variables namely, Age, Land Holding, Income, Family Type, Education and Social participation were highly significant (P<0.01) with knowledge level while a significant relationship (P<0.05) was observed only with Extension contacts of tribal farmers. The highly significant positive correlation coefficient of Age, Land Holding, Income, Family Type, Education and Social participation and only significant correlation of Extension contacts with knowledge level of tribal farmers improved production technology of Ajwain may lead to conclusion that these socio-economic independent variables play a pivotal role in increasing the dependent variable knowledge of tribal farmers. These results are in agreement with Badhala (2012), More *et al.* (2015), Chavhan (2019), and Yadav (2021) who explored that there was positive and highly significant relationship between socio-economic independent variables like age, education, annual income, social participation and extension contacts with knowledge. The findings of the study are similar with Meena (2006), Meena (2010) who reported that family type and size of land holdings have highly significant relationship with knowledge level of farmers about improved production technology of Ajwain.

Relationship between socio-demographic profiles of tribal farmers with adoption of improved production technology of Ajwain

Table 3: Relationship between personal attributes of tribal and non-tribal farmers with their extent of adoption

(n=65)

Sr. No.	Independent variables	Correlation Coefficient (r)
X_1	Age	0.278*
X_2	Education	0.506**
X_3	Size of Land Holding	0.297*
X_4	Family Type	0.635**
X_5	Annual Income	0.611**
X_6	Extension contacts	0.239*
X_7	Social participation	0.750**

*P<0.05, **P<0.01

The results in the Table 3 indicate that, out of the seven selected characteristics of tribal farmers, Income, Family Type, Education and Social participation exerted highest positive correlation coefficient (P<0.01) with extent of adoption**.** Variables like Age, Land Holding and Extension contacts had positive significant relationship (P<0.05) with extent of adoption **of improved production technology of Ajwain**. The findings of the study are in conformity with Meena (2006), Meena (2010), Badhala (2012), Chavhan (2019) and Yadav (2021).

CONCLUSION

In conclusion Ajwain production is an important part of Indian agro based economy; it not only provides but also offers employment opportunities to the poor and weaker sections of the society. Today Indian agriculture is at cross roads of industry which has been dominated by government sector and working in co-operative mode. So in order to improve the same an extension agent has to work on the social participation of the tribal farmers which is having direct effect on knowledge and adoption of Ajwain production followed by the tribal farmers. Education and sources of information are also having significant relation which can be effectively utilized by the extension agent for disseminating improved production technology practices of Ajwain in tribal areas. Training programs should be organized frequently in order to improve adoption. While, extension agencies should work on increasing awareness in order to increase knowledge level.

RECCOMENDATIONS

To improve the extent of adoption of improved production technology of Ajwain by the tribal farmers training on certain aspects may be organized to improve their extension contacts and social participation. It is also recommended

that the government, state agriculture department, village cooperative societies should ensure availability of inputs like improved seeds, fertilizers, insecticides, pesticides etc. to the farmers at cheaper costs. Credit facilities should be made available to the farmers at lower interest rates so that farmers with lower income group can easily purchase and adopt new technologies.

ACKNOWLEDGEMENT

I am grateful to all of those with whom I have had the pleasure to work during this research. Each of the authors has provided extensive personal and professional guidance in this research work.

CONFLICT OF INTEREST

This is to declare that there is "No conflict of interest" among researcher.

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Received : February 2023 : Accepted : April 2023