

RELATIONSHIP BETWEEN THE PROFILE CHARACTERISTICS ON TECHNOLOGICAL GAP AMONG THE TURMERIC GROWERS

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ABSTRACT

The study was conducted in Yavatmal District of Maharashtra state. Two talukas Umardhed and Mahagoan were selected on maximum area under turmeric crop. The list of turmeric growing villages of Umardhed and Mahagoan tahsil was obtained from Taluka Agriculture Officer. The area out of these, 5 villages from Umardhed and 5 villages from Mahagoan tahsil that were total 10 villages were selected having highest area under turmeric cultivation. The 12 farmers from each selected village were selected by proportionate random sampling technique on the basis of area under turmeric crop. Thus, total 120 respondents were selected as a sample for the study. From the study it was found that majority of the respondent turmeric growers were in medium age group, educated upto secondary and primary education, had medium family size, medium size of land holding, medium area under turmeric cultivation, medium annual income, medium income from turmeric yield, medium sources of information, medium irrigation facilities and medium risk orientation.

Keywords: characteristics, respondent turmeric growers

INTRODUCTION

Turmeric (*Curcuma longa* L.) the ancient and sacred spice of India known as 'Indian Saffron' is an important commercial crop grown in India. It is used in diversified forms as condiment, flavoring and coloring agent and as a principal ingredient in Indian culinary as curry powder. It has anti-cancer and antiviral activities and hence, finds use in the drug industry and cosmetics industry. 'Kum-kum' popular with every house wife is also by product of turmeric. It finds a place in offering on religious and ceremonial occasions. As a medicine turmeric has been used in Ayurvedic system of medicine in India from times immemorial. It is claimed to be a stomaching tonic, blood purified, antiseptic, anti-acid, antiperiodic and carminative. It is used medically for extended application and taken internally as a stimulant. It also used in cosmetic industries. In India companies like Godrej, Vicco are engaged in manufacturing different new products from turmeric like soaps, anticeptics, cosmetics, etc. Turmeric or Haldi powder boiled in milk along with small quantity of black pepper may be taken two-three times a day for sore throat, cough, cold and other acute respiratory infections. Further, clean white cloth dyed in turmeric and dried in sun can be used for wiping sore eyes thus, cures

eye infection. Further it is also regarded by the Hindus as sacred item for use in ceremonial and religious function. A few years ago, India got the patent of turmeric due to strong evidences, ancient literature and references available with our country about the turmeric. The present era of liberization and globalization farmers can benefit from it by growing high quality turmeric and exporting it to the foreign countries to earn foreign exchange. This export will help in raising the economy of the country and farmers as well (Chaudhari et al., 2022). Turmeric can be stored well after processing for 5-10 months and marked when the prices are reasonably good. This will help to increase the earnings.

OBJECTIVES

- (1) To study the personal, economic, communication, psychological characteristics and situational attributes of the respondent turmeric growers
- (2) To find out the relationship between selected independent and dependent variables of the respondent turmeric growers

METHODOLOGY

The study was conducted in Yavatmal District of

Maharashtra state. Two talukas Umardhed and Mahagoan were selected on maximum area under turmeric crop. The list of turmeric growing villages of Umardhed and Mahagoan tahsil was obtained from Taluka Agriculture Officer. There are 158 and 116 villages in Umardhed and Mahagoan tahsil respectively. The area under turmeric cultivation in Umardhed and Mahagoan tahsils were 300 ha and 200 ha. The area out of these, 5 villages from Umardhed and 5 villages from Mahagoan tahsil that were total 10 villages were selected having highest area under turmeric cultivation. A list of turmeric growers was prepared from village functionaries. The 12 farmers from each selected village were selected by proportionate random sampling technique on the basis of area under turmeric crop. Thus, total 120 respondents were selected as a sample for the study. The structured interview schedule was prepared keeping in the view the objectives of the study. This includes relevant questions for seeking information in respect of independent and dependent variables. The schedule was in local language i.e. Marathi few care was taken those questions formulated clear and easy to understand by the respondents. The schedule was pretested from the respondents who are not included in the study. The interview scheduled pretested prior to its finalization by the researcher. It was pretested by interviewing 15 turmeric growers from tahsil who were not included in the sample in order to know whether the turmeric growers furnish the required information. The pretesting of the interview schedule of 15 turmeric growers helped the researcher to make

modifications and alternations in order to get spontaneous responses from the respondents. After making the required changes in the interview schedule it was finalized and used for data collection. The data was collected by administering the pretested interview schedule to the respondent turmeric grower. The questions and statements were asked in local language i.e. Marathi. The respondent turmeric growers were personally interviewed by the investigator which enabled him to get first-hand information and an opportunity to observe the respondent personality. It was made sure that the questions correctly understood by the respondent turmeric growers by repeating questions whenever necessary. The researcher attempted to contact the respondents at home as well as at their farms during their convenient time to get information. Friendly atmosphere was maintained during the interview to see that respondents were at ease and expressed their opinions fairly and frankly.

The information collected was transferred from the interview schedule to primary tables and to secondary tables. Qualitative data were quantified. From the quantified data the frequency, percentage and different scores in order to find out correlation between the dependent and independent variables were worked out for further needful. As earlier mentioned, the qualitative data were converted into qualitative data by giving scores. The scores obtained by each turmeric grower respondents in respect of particular characteristics under the study were worked out.

RESULTS AND DISCUSSION

Personal, economic, communication, psychological characteristics and situational attributes of the respondent turmeric growers

Table 1: Distribution of the turmeric growers according to their personal, economic, communication, psychological characteristics and situational attributes (n =120)

Sr. No.	Characteristics	Frequency	Percentage
1	Age		
1	Young (upto 36 years)	21	17.5
2	Middle (37 to 52 years)	79	65.9
3	Old (53 and above years)	20	16.6
2	Education		
1	Illiterate (No education)	07	5.8
2	Primary (Upto 4 th Std.)	19	15.9
3	Secondary (5 th to 10 th Std.)	66	55.0
4	Higher secondary (11 th to 12 th Std.)	16	13.3
5	College (Above 12 th Std.)	12	10.0

Sr. No.	Characteristics	Frequency	Percentage
3	Size of family		
1	Small (Upto 4 members)	20	16.7
2	Medium (5 to 7 members)	70	58.3
3	Big (Above 7 members)	30	25.0
4	Experience in turmeric cultivation		
1	Low (Upto 4 years)	14	11.7
2	Medium (5 to 6 years)	76	63.3
3	High (7 and above years)	30	25.0
5	Size of land holding		
1	Small (Upto 1.26 hectares)	13	10.9
2	Medium (1.27 to 2.67 hectares)	90	75.0
3	Large (2.68 and above hectares)	17	14.1
6	Area under turmeric cultivation		
1	Small (Upto 0.32 hectares)	15	12.5
2	Medium (0.33 to 0.89 hectares)	88	73.3
3	Large (0.90 and above hectares)	17	14.2
7	Annual income		
1	Low (Upto ₹ 69530)	16	13.3
2	Medium (₹ 69531 to 1,40,287)	86	71.7
3	High (₹ 1,40,288 and above)	18	15.0
8	Income from turmeric yield		
1	Low (Upto ₹ 30954)	15	12.5
2	Medium (₹ 30955 to 88597)	76	63.3
3	High (₹ 88598 and above)	29	24.2
9	Marketing behaviour		
1	Local (Umarkhed / Mahagaon)	0.0	0.0
2	District	0.0	0.0
3	Hingoli	98	81.6
4	Nanded	17	14.2
5	Other state (A.P.)	5	4.2
10	Sources of information		
1	Low (Upto 11)	24	20.0
2	Medium (12 to 23)	73	60.9
3	High (24 and above)	23	19.1
11	Irrigation facilities		
1	Low (Upto 1)	22	18.3
2	Medium (2 to 4)	80	66.7
3	High (5 and above)	18	15.0
12	Risk orientation		
1	Low (Upto 16)	19	15.8
2	Medium (17 to 24)	76	63.3
3	High (25 and above)	25	20.9

(1) Age

Table-1 shows that, 65.9 per cent of the respondent turmeric growers belonged to middle age group of 37 to 52 years followed by 17.5 per cent of them young age group upto 36 years only 16.6 per cent respondents belonged to the old age group of above 53 years. Thus, it is concluded that, a majority of the turmeric grower respondents belonged to middle age group followed by young and old age group categories, respectively. Similar findings were reported by Kulkarni (1999), Patil (2002), Wankhede (2004) and Jadhav (2009).

(2) Education

The data in Table-1 shows that, 55 per cent of the respondent turmeric growers had received secondary level of education, while 15.9 per cent received primary education, only 13.3 per cent respondent turmeric growers received higher secondary education and 10.0 per cent received college education. However, 5.8 per cent of the respondent turmeric growers were illiterate.

Thus, it is concluded that, a majority of the turmeric growers had received secondary and primary education followed by higher secondary and college education These findings are in conformity with the findings Sawant (2002), Mate (2006) and Kadam (2008).

(3) Size of family

Observation of Table-1 revealed that, 58.3 per cent of the respondent turmeric growers had medium size of family (5 to 7 members), while 25.0 per cent of them had big size of family (above 7 members). Only 16.7 per cent of the turmeric growers belonged to small size of family (upto 4 members).

Thus, it is concluded that, majority of the respondent turmeric growers belonged to medium size of family followed by big and small size of family. Present findings are supported from the results of Patil (2007), Shete (2008) and Jadhav (2009).

(4) Experience in turmeric cultivation

From Table-1 it is observed that, majority (63.3 per cent) of the respondent turmeric cultivators were having medium (5 to 6 years) experience in turmeric cultivation, while 25 per cent of the respondents having high experience (7 and above years) and 11.7 per cent of the turmeric growers had low experience (upto 4 years).

Thus, it is concluded that, maximum number of turmeric growers had medium experience in turmeric cultivation ranging from 5 to 6 years. These findings are similar to the findings of Deokate (1998), Thorat (2003), and

Hawale (2009).

(5) Size of land holding

It is observed from the Table-1 that, 75 per cent of the respondent turmeric growers had medium size of land holding (1.27 to 2.67 hectares) followed by 14.1 per cent of them had large size of land holding (upto 2.68 and above hectares) while, 10.9 per cent of them had small size of land holding (Upto 1.26 hectares).

Thus, it is concluded that, a large size of the turmeric growers had medium size of land holding followed by large and small size of land holding. Similar findings were reported by Mane (2005), Maghade (2007) and Vijaykumar (2008).

(6) Area under turmeric cultivation

From the Table-1, it is revealed that, 73.3 per cent of the respondent turmeric growers had medium size of area under turmeric cultivation followed by 14.2 per cent of them had large area under turmeric cultivation, while 12.5 per cent of them had small area under turmeric cultivation. Thus, it is concluded that, a large size of the turmeric growers had medium size of area under turmeric cultivation followed by large and small area under turmeric cultivation. Similar findings were reported by Mate (2006), Maghade (2007) and Hawale (2009).

(7) Annual income

From the Table-1 it is observed that, 71.7 per cent of the turmeric growers had medium annual income while, 15.0 per cent of them had high annual income and only 13.3 per cent had low annual income. Thus, it is concluded that, a large number of the turmeric growers had medium annual income. Similar, findings were reported by Mate (2006), Walke (2008) and Wankhede (2008).

(8) Income from turmeric yield

It is observed from Table-1 that, a majority (63.33 per cent) of the respondent turmeric growers had medium income from turmeric cultivation, while 24.2 per cent of the respondent receiving high income and only 12.5 per cent had low income from turmeric cultivation by Similar, findings were reported by Maghade (2007), Kadam (2008) and Jadhav (2009).

(9) Marketing behaviour

It is observed from Table-1 that, 0 per cent of the respondent turmeric growers sold their produce in the local market i.e. Umarkhed and Mahagaon and district market, while 81.6 per cent sold in Hingoli market and 14.2 per cent in Nanded market, whereas, 4.2 per cent sold in other state i.e. Andhra Pradesh. Similar findings were reported by Koli (2003) and Maghade (2007).

(10) Sources of information

It is observed from Table-1 that, 60.9 per cent of the respondent turmeric growers were using medium sources of information, whereas, 20.0 and 19.1 per cent of the respondent turmeric growers had used low and high sources of information, respectively.

Thus, it is concluded that, majority of the respondent turmeric growers had used medium sources of information. These findings are in the line with those of Sawant (2002), Mate (2006), Maghade (2007) and Hawale (2009).

(11) Irrigation facilities

The Table-1, revealed that, 66.7 per cent of the respondent turmeric growers had medium level of irrigation facilities followed low level of irrigation facilities 18.3 per cent and 15.0 per cent had high irrigation facilities.

Thus, it is concluded that majority of the respondents had medium level of irrigation facilities. These finding is in line with Shete (2008) and Andhari (2009).

(12) Risk orientation

It is observed from Table-1 revealed that, 63.3 per cent of the respondent turmeric growers belonged to medium risk orientation category. The 20.9 per cent of them belonged to high and 15.8 per cent belonged to low risk orientation category. Similar findings were reported by Dhakane (2005), Kadam (2008) and Vijaykumar (2008).

Relationship between technological gap and selected independent variables

Table 2. Relationship between technological gap and selected independent variables (n=120)

Sr. No.	Independent variables	Correlation coefficient (r)
X ₁	Age	0.76**
X ₂	Education	-0.83**
X ₃	Size of family	0.139 ^{NS}
X ₄	Experience of turmeric cultivation	-0.71**
X ₅	Size of land holding	-0.40**
X ₆	Area under turmeric cultivation	-0.44**
X ₇	Annual income	-0.35**
X ₈	Income from turmeric yield	-0.32**
X ₉	Marketing behaviour	-0.58**
X ₁₀	Sources of information	-0.75**
X ₁₁	Irrigation facilities	-0.79**
X ₁₂	Risk orientation	-0.68**

N.S. = Non-significant **= Significant at 1 per cent level of significance * = Significant at 1 per cent level of significance

(1) Age and technological gap

The relationship between age and overall technological gap was positive and statistically significant ($r = 0.76^{**}$).

This means that technological gap among the respondent turmeric growers increase as age of the respondent turmeric growers increases.

This means that young turmeric growers are attracted towards scientific favour and look towards the farming as business rather than the way of life.

Similar findings were reported by Bhati (2002), Walke (2008), Vijaykumar (2008) and Andhari (2009).

(2) Education and technological gap

It can be seen that, there was a negative and highly correlated relationship ($r = -0.83^{**}$) between education level of the respondent turmeric growers and technological gap in adoption of improved practices of turmeric production.

This mean higher the level of education lower was the technological gap in adoption of improved practices of turmeric production. Education makes man to believe in science and technology and thereby modernize his way of thinking and acting. Hence, adoption was more among educated persons than less educated.

The findings are in conformity with the findings of Patil (1995), Maghade (2007), Vijaykumar (2008) and Jadhav (2009).

(3) Size of family and technological gap

The data presented in Table-16 about relationship between size of family and technological gap revealed that, there was non-significant ($r = 0.139$ N.S.) relationship between size of family and extent of technological gap. Thus, it was inferred that, the size of family did not exhibit any influence on adoption of the turmeric production practices.

These findings are in line with the findings of Supe *et al.* (1990), Vijaykumar (2008) and Jadhav (2009).

(4) Experience of turmeric cultivation

Data in the Table-16 indicates that, negative but significant ($r = -0.71^{**}$) relationship between experience of turmeric production and technological gap. It is natural that, with increasing experience of turmeric production technological gap in turmeric production technology is decreases and vice-versa.

Similar findings were reported by Andhari (2009) and Hawale (2009). (2008), Andhari (2009) and Hawale (2009).

(5) Size of land holding and technological gap

There was a negative and statistically highly significant correlation ($r = -0.40^{**}$) between size of land holding and technological gap in adoption of improved practices of turmeric production.

This means that higher the size of land holding of the respondent turmeric growers lower is the technological gap. So, the respondent turmeric growers having more land holding adopt the turmeric production technology to higher extent.

Similar findings were reported by Patil (1995), Singh (2000), Maghade (2007) and Jadhav (2009).

(6) Area under turmeric cultivation and technological gap

From Table-16 it was observed that, area under turmeric cultivation established negative but significant ($r = -0.44$) relationship with technological gap. It means that, higher area under turmeric production lower was the technological gap in adoption of practices of the turmeric production.

Similar findings were reported by Wane (2000), Kadam (2008) and Andhari (2009).

(7) Annual income and technological gap

There was negative and significant ($r = -0.35$) relationship between annual income of the respondent of the turmeric growers and technological gap in turmeric production. This means that, respondent having more annual income was able to manage the financial resources in time for purchasing critical inputs that help him to adopt the improved turmeric production technology more rapidly. So, there was less technological gap among the respondent turmeric growers.

The results in conformity with the result of Maghade (2007), Andhari (2009) and Jadhav (2009).

(8) Income from turmeric yield

Table-16 revealed that, income from turmeric production was found to be negative and significantly ($r = -0.32$) related with technological gap in turmeric production technology. It leads to conclude that with increasing income from turmeric production extent of technology gap was decreased and vice-versa. It is obvious that, those farmers have more income from turmeric production able to adopt recommended practices for cultivation of turmeric production.

Similar finding were reported by Vijaykumar

(10) Marketing behaviour and technological gap

The independent character marketing behaviour established negative but significant ($r = -0.58$) relationship with technological gap.

This negative but significant trend of relationship leads to hypothesized that, marketing behaviour is helpful for updating the knowledge of farmers and keep them with changing scenario regarding the turmeric production technology.

These findings are in line with Maghade (2007), Shete (2008) and Andhari (2009).

(10) Sources of information and technological gap

The independent character sources of information established negative but significant ($r = -0.75$) relationship with technological gap. It may be due to reasons that when a farmer is exposed to different communication source like radio, TV, printed materials and other medium of mass communications, his knowledge level may increase, which makes him to have better understanding about the improved practices of turmeric production technology resulting in more adoption of these practices which narrowed down the technological gap.

These findings are in line with Bhati (2002), Maghade (2007) and Jadhav (2009).

(11) Irrigation facilities

The relationship between irrigation facilities available with the respondent turmeric growers and overall technological gap was negative and significant ($P = -0.79$) at 5 per cent level of significant.

This means that respondents having more irrigation facilities lead them to adopt improved turmeric technologies. So, there was low technological gap between recommended and actually adopted package of practices of turmeric production.

The result is in conformity with the findings of Shete (2008) and Vijaykumar (2008).

(12) Risk orientation

Level of risk orientation of the respondent turmeric growers and overall technological gap in turmeric production was negatively and significantly correlated ($r = -0.68$) at 5 per cent level of significance.

This means that, higher the level of risk orientation of the respondent turmeric growers, lower is the technological gap. So, the respondents having high risk orientation had lower technological gap. Similar result was reported by

Maghade (2007), and Jadhav (2009).

CONCLUSION

A majority of the respondent turmeric growers were in medium age group, educated upto secondary and primary education, had medium family size, medium size of land holding, medium area under turmeric cultivation, medium annual income, medium income from turmeric yield, medium sources of information, medium irrigation facilities and medium risk orientation. The correlation coefficient (r) was used in order to find out the association between the technological gap and some independent variables viz., age, education, experience of turmeric cultivation, size of land holding, area under turmeric cultivation, annual income, income from turmeric yield, market behaviour, sources of information, irrigation facilities and risk orientation. The all above variables were found to be negative and significant relationship between technological gap in adoption of improved practices of turmeric production, whereas, family size is non-significantly associated with overall technological gap.

CONFLICT OF INTEREST

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

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