



# Association between Socio Economic Profile with Knowledge of Respondents towards Improved Banana Cultivation Practices in Vaishali District of Bihar

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## Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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## ABSTRACT

The present study was conducted to assess the socio-economic profile and association between independent variables with knowledge of the banana growers in Vaishali district, Bihar. The study used purposive sampling to select two blocks, namely Hajipur and Bidupur, and simple random sampling to select three villages from each block. In total, six villages were selected for the study, and a total sample of 120 banana growers was chosen using proportionate simple random sampling technique. The study employed path coefficient analysis to measure the effect of the independent variables on knowledge. There was a significant and positive correlation between the

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level of knowledge regarding improved banana cultivation practices and the variables of age, annual income, source of information, scientific orientation, risk orientation, mass media exposure at a 0.01 per cent level of probability. On the other hand, extension contact was positive and significant association with the level of knowledge toward improved banana cultivation practices at 0.05 per cent levels of probability. The variables of education, caste, type of family and size of land holding were not significant.

*Keywords: Knowledge; socio economic; banana cultivation.*

## **1. INTRODUCTION**

India has always relied heavily on agriculture for its economy, and it remains a central part of rural life despite the industry's growth in recent decades. As reported by the Food and Agriculture Organization [1] of the United Nations, India was the world's second-largest producer of fruits and vegetables. India ranks second after China in overall fruit production but is the world's largest producer of mangoes (39%), bananas (29%), papayas (38%), limes, and lemons. Bananas are the most popular fruit in the world and are the primary fruit in international trade. India leads the world in banana production, producing an annual output of 33.06 million tonnes in 2020-21. The average productivity of fruits in India has increased from 10.72 million tonnes during 2001-2002 to 11.87 million tonnes during 2010-11 [2].

Horticulture contributes 29.65 per cent to the gross domestic product (GDP) from 13.5 per cent area out of the 18.5 per cent contribution from Indian agriculture to GDP. It has proved beyond doubt its potential for gainful diversification [3]. Economic gains are progressively becoming knowledge-based activities and are getting globalized faster, which can be achieved through adopting advanced technologies [4]. One of the significant developments is that horticulture has moved from rural confine to commercial production, and this changing scenario has boosted the horticulture industry. Cultivation and utilization of horticultural crops play a key role in raising the prosperity of India and are linked with the health and happiness of its people [5]. Bananas play an important role in the socio-economic and cultural life of a rural community in addition to their economic value, nutritional value, and the diverse uses of the fruits [6-8].

The Vaishali district in Bihar has a significant presence of banana cultivation, with a total cultivated area of 3402 ha and production of 142083.53 MT in 2017-18, Bihar Horticulture

Development Society, [9]. This data shows that the cultivated area and production have remained relatively stable over the past few years, with a cultivated area of 3400 ha and production of 142000 MT reported in 2014-15. This suggests that banana cultivation in the Vaishali district is consistent, and the farmers can maintain their production level over the years.

## **2. METHODOLOGY**

The study was carried out in the northern Indian state of Bihar's Vaishali district. This region is well-known for having rich soil and a climate that are conducive to agricultural endeavours. Out of the several crops grown in the Vaishali district, banana growing has become an important economic driver. Banana farming is a prominent industry in the district, according to the Bihar Horticulture Development Association, with a total cultivated area of 3402 hectares and production of 142083.53 metric tonnes in the year 2017-18.

A descriptive research design was followed for the present study. Hajipur and Bidupur, two of the 16 blocks in the Vaishali district, were purposively selected because they have the maximum number of farmers involved in banana cultivation. Bidupur block comprises 133 villages, whereas Hajipur block includes 212 villages, and three villages were selected from each block, making a total of six villages that were randomly selected. A total number of 120 respondents were selected for the present study. The data were collected using a personal interview schedule.

## **3. RESULTS AND DISCUSSION**

Significant disparities were observed between the pre-hypothetical framework and the study's post-observation, which can be attributed to the many qualitative and quantitative characteristics displayed by the communities that banana growers in the study areas.

**Table 1. Socio-economical characteristics of the respondents**

		(N=120)	
Sl. No	Variables	Frequency	Percentage
<b>01.</b>	<b>Age</b>		
	Young (18-35)	12	10.00
	Middle (36-55)	75	62.50
	Old (56 and above)	33	27.50
<b>02.</b>	<b>Caste</b>		
	General	73	60.83
	Other backward class	47	39.17
<b>03.</b>	<b>Family type</b>		
	Joint	46	39.33
	Nuclear	74	61.67
<b>04.</b>	<b>Education</b>		
	Illiterate	49	40.83
	Primary school education	30	25.00
	High school education	11	09.17
	Intermediate	12	10.00
	Graduate	18	15.00
<b>05.</b>	<b>Land holding</b>		
	Marginal	57	47.50
	Small	42	35.00
	Medium	20	16.67
	Large	01	00.83
<b>06.</b>	<b>Annual income</b>		
	Low (>1 lack)	15	12.50
	Medium (1 – 2 lakhs)	70	58.33
	High (<2 lakhs)	35	29.17
<b>07.</b>	<b>Source of Information</b>		
	Low (11-13)	42	32.50
	Medium (13-15)	74	61.67
	High (16 & above)	04	03.33
<b>08.</b>	<b>Risk orientation</b>		
	Low (6-8)	39	32.50
	Medium (9-11)	61	50.83
	High (12-13)	20	16.67
<b>09.</b>	<b>Scientific orientation</b>		
	Low(14-15)	22	18.33
	Med(16)	62	51.67
	High(17)	36	30.00
<b>10.</b>	<b>Mass media exposure</b>		
	Low(12-14)	35	29.17
	Medium (15-16)	57	47.50
	High(16-18)	28	23.33
<b>11.</b>	<b>Extension Personnel</b>		
	Low(6)	53	44.17
	Medium (7)	48	40.00
	High(8)	19	15.83

The data presented in Table 1 revealed that 62.50 per cent of the respondents belonged to the middle-aged group, The maximum number of respondents were belongs to general caste (60.83%) and majority are nuclear family type (61.67%). The majority of respondents (59.17%)

belonged to literate. Similar finding was reported by Malarkodi, et al. [10]. The majority of the respondents (58.33%) had a medium annual income, 47.50 per sent belonged to marginal land holdings, and the 72.50 per cent belonged to the high level of mass media exposure.

**Table 2. The distribution of respondents as level of knowledge**

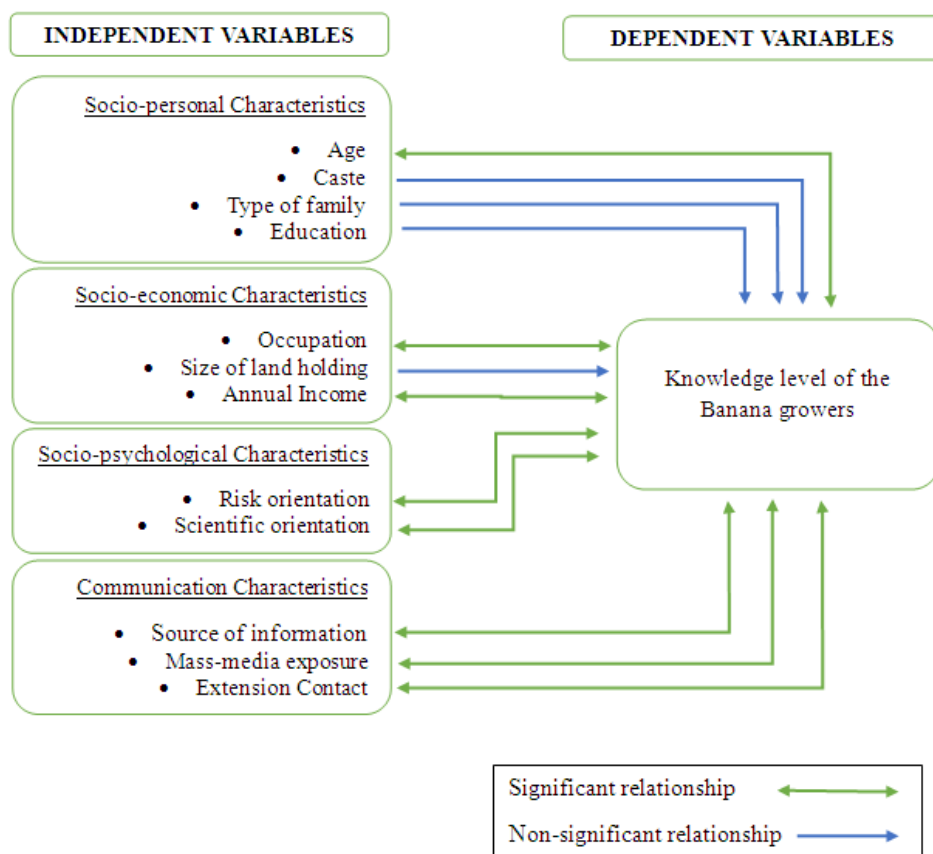
Sl. No.	Knowledge level	Frequency	Percentage
1.	Low (upto 56 score)	29	24.17
2.	Medium (57-60 score)	59	49.17
3.	High (61-64 score)	32	26.66
<b>Total</b>		120	100.00

[Standard deviation = 3.89]

**Table 3. Correlation coefficient (r) between different Independent variables and Knowledge about improved banana cultivation practices**

Sl. No.	Independent Variable	Correlation coefficient
1.	Age	0.970725*
2.	Education	0.080507 NS
3.	Caste	0.073609 NS
4.	Annual income	0.962013*
5.	Type of family	0.048596 NS
6.	Size of land holding	0.00502 NS
7.	Source of information	0.787561*
8.	Scientific orientation	0.966084*
9.	Risk orientation	0.840664*
10.	Mass media exposure	0.947871*
11.	Extension contact	0.291774*

[NS = Non-significant; \* = Significant at 0.01 %; \*\* = Significant at 0.05 %]



**Fig. 1. Conceptual model of study**

Majority of the respondents are having a medium level of risk orientation (50.83%), scientific orientation (51.67%), and source of information (61.67%). The majority of respondents (44.17%) are having a low level of extension contact. Similar finding was also reported by Medhi [11].

### 3.1 Level of Knowledge of the Respondents

The data presented in Table 2 indicated that 49.17 per cent of the respondents had a medium level of knowledge about banana cultivation practices. A significant proportion of banana farmers, approximately (26.66%) had a high level of knowledge, while (24.17%) of the surveyed farmers had a low level of knowledge about banana cultivation practices. Similar finding was reported by Chaudhari and Chauhan [12].

Independent variables namely age (0.970725), annual income (0.962013), source of information (0.787561), scientific orientation (0.966084), risk orientation (0.840664), mass media exposure (0.947871) were positive and highly significant relationship with the level of knowledge of improved banana cultivation practices. (Significant at 0.01% level of probability). On the other hand, extension contact (0.291774) positive and significant association with the level of knowledge toward improved banana cultivation practices (Significant at 0.05 % level of probability). While education (0.080507), caste (0.073609), type of family (0.048596) and size of land holding (0.00502) are non-significant association with knowledge of banana growers about improved banana cultivation practices.

### 4. CONCLUSION

It was concluded that majority of the respondents (62.50%) are middle-aged, medium income (58.33%), marginal land holdings (47.50%), high media exposure (72.50%). Majority have medium risk & scientific orientation (50.83% & 51.67%) and source of information (61.67%), 55.00 per cent have medium level of knowledge about improved banana cultivation practices. Age, annual income, source of information, scientific orientation, risk orientation and extension contact positively significant relationship with knowledge at (0.01 %) probability. Government should formulate the appropriate extension strategy to increase the knowledge and adoption behaviour of farmers towards improved banana cultivation practices.

### CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

### REFERENCES

1. FAO. Statistical pocketbook: world food and agriculture. Rome, Italy: Food and Agriculture Organization of the United Nations; 2018.
2. Delhi PIB. Production of Fruits and Vegetables; 2021.
3. Sujatha RV, Rajasekhar M, Srinivasulu B, Sarma CVSK. Farmers income: increasing the viability of small and marginal landholders through horticulture. *Agric Situation India*. 2012;69(9):485-92.
4. Kakodkar A, Ronge B, Patankar A, Mule S, Pawar P. A concept of knowledge and technology enabled empowerment of rural Indian villages. *Curr Sci*. 2017;112(4): 750-8.
5. IIHR. Indian Institute of Horticultural research report 2014. Bengaluru, India: Indian Council of Agricultural Research-IIHR; 2014.
6. Hapsari L. Indonesian banana cultivars Purwodadi Botanic Garden's collection. In: Martono E, Yamao M, Muh, editors; 2011. Nurcachyanto et al., editors: International Conference on Food Safety and Food Security. Yogyakarta: Gadjah Mada University; December 1-2 2010.
7. Hapsari L, Masrum A, Lestari DA. Diversity of bananas (*Musa spp.*) in Madura Island, east Java: exploration and inventory. *J Bio Environ Sci*. 2015;6(3):256-64.
8. Hapsari L, Kennedy J, Lestari DA, Masrum A, Lestari W. Ethnobotanical survey of bananas (Musaceae) in six districts of east Java, Indonesia. *Biodiversitas*. 2017;18(1): 160-74.
9. Bihar Horticulture Development Society. Problems and constraints in banana cultivation: A case study in Bhagalpur District of Bihar, India; 2018.
10. Malarkodi M, Indumathi VM, Divya K, Navaneetham B, Krishnakumare B. Study on assessing the socio-economic characters of banana cultivating farmers in Coimbatore and erode districts of Tamil

- Nadu. *Curr J Appl Sci Technol.* 2020; 39(36):18-22.
11. Medhi S. Socio-economic status and Drawback of Banana Growers: a review on Asia's Largest Banana Market Daranggiri, Goalpara, Assam, India. *Ecol Environ Conserv.* 2021;27(3):1367-72.
12. Chaudhari D, Chauhan NM. Knowledge and attitude of banana growers regarding strategic involvement of public and private sectors in banana crop cultivation in South Gujarat. *Gujarat J Extension Educ.* 2017;28(2): 300-4.

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