



Research Article

DETERMINANTS INFLUENCING INFORMATION NEEDS AND INFORMATION SEEKING BEHAVIOUR OF FARMERS IN RELATION TO ORGANIC VEGETABLE FARMING IN ASSAM

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Abstract: The study was undertaken in the North Bank Plains Zone and the Central Brahmaputra Valley Zone of Assam exclusively to identify the determinants influencing the information needs and information seeking behaviour of farmers in relation to organic vegetable farming. Although the state of Assam has immense potential to grow crops organically, organic farming is yet to taste success in the state. The study is attempted to explore the attributes that should be taken into consideration to fulfil farmers' information needs and information seeking behaviour in relation to organic vegetable farming. For the study a multi-stage, purposive-cum- proportionate random sampling design was adopted in order to select 120 respondents. A set of 15 independent variables were selected for the study. The results of the study identified the educational level, area under organic vegetable production, economic motivation, management orientation, risk bearing ability and scientific orientation to be the major determinants that have significant and positive influence in the information needs and information seeking behaviour of farmers in relation to organic vegetable cultivation and age, social participation, experience as organic vegetable grower and exposure to training on organic vegetable production to have significant and negative relationship with the information needs and information seeking behaviour of farmers in relation to organic vegetable cultivation. Taking these determinants into account the policy makers can formulate a strategy to increase the extent of practice of organic vegetable farming by dissemination of relevant information to the farmers on various aspects of organic vegetable cultivation.

Keywords: Determinants, Information Needs, Information Seeking, Organic Vegetable

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Introduction

It is hypothesized that the information needs and information search behaviors of farmers are affected by various factors. The age of the individual, their experience, education etc. influences information search behaviours of farmers as well as their urge for information. This study can provide useful insights for policy-makers and researchers to formulate implementation plans to promote practice of organic farming. Makwan (2005) [1] found that among selected independent variables education, use of information sources, extension participation, size of land holding, annual income, economic motivation, scientific orientation and market orientation had significant correlation with information needs of farmers. Gunawardana and Sharma (2007) [2] revealed in their study that various personal characteristics such as level of education, level of extension contacts and size of land holding influenced the information seeking behaviour of farmers on improved farm practices. The study also revealed that the size of the family, type of the family and age were not associated with the information seeking behaviour of farmers on improved farm practices. Parmar (2008) [3] revealed that eight variables viz., education, land holding, annual income, extension participation, use of information sources, economic motivation, market orientation and cosmopolitanism had positive and significant relationship with the information need while three variables viz., age, occupation and size of family showed negative and significant relationship with the information need of tobacco growers. Dinpanah and Lashgarara (2011)[4] found that personal, social and farming characteristics were the three factors which determined 71.99% of information seeking knowledge of the wheat farmers. The study demonstrated that familiarity with media and social participation were important social characteristics.

The study also found that age and experience were more important than education and on the other side farming and social characteristics were important than personal characteristics. Verma (2012) [5] found that 11 independent variables viz., education, caste, social participation, size of land holding, annual income, source of information, mass media exposure, closeness with extension agent, knowledge level, economic motivation and adoption behaviour had significant relationship with information need of farmers. Sinha and Das (2015) [6] found that information needs and information seeking behaviour was a type of communication behaviour and was influenced by many factors. The findings of the study further revealed that the information needs and information seeking behaviour of rural population were specific and varied from each other due to different demographic, economic, social and cultural factors.

Bhane *et al.*, (2017) [7] found that extension contact, radio and mobile ownership, membership of local organization, participation in training organization were the factors which determined the information seeking behaviour of smallholder farmers. The findings of the study recommended that it was essential on the part of the extension agents to create awareness among the rural farmers on the significance of information in uplifting rural livelihood along with agricultural technologies. The authors also suggested that proper training should be provided on how to seek information from modern ICTs and also in strengthening extension contact. Mahindaratne and Min (2019) [8] found that information seeking behaviour of the vegetable farmers was influenced to a large extent by their type of need of information and channel characteristics. The study also revealed that demographic factors such as age, education, farming experience, training,

Table-1 Correlation co-efficient between information needs and selected independent variables

SN	Independent variables	Correlation coefficient (r)	t-value
X ₁	Age	-0.816**	11.681
X ₂	Educational level	0.723**	9.461
X ₃	Family type	0.049	0.538
X ₄	Family size	0.090	0.990
X ₅	Occupational status	0.080	0.871
X ₆	Social participation	-0.606**	7.390
X ₇	Experience as organic vegetable grower	-0.743**	9.873
X ₈	Area under organic vegetable production	0.657**	8.227
X ₉	Net annual income	0.128	1.349
X ₁₀	Exposure to training on organic vegetable production	-0.730**	9.611
X ₁₁	Working capital availability for organic vegetable cultivation	0.097	1.060
X ₁₂	Economic motivation	0.602**	7.325
X ₁₃	Management orientation	0.603**	7.344
X ₁₄	Risk bearing ability	0.818**	11.734
X ₁₅	Scientific orientation	0.626**	7.700

Table-2 Relative contribution of selected independent variables towards information needs of farmers in relation to organic vegetable production

SN	Independent variables	Regression coefficient(b _i)	Standard error of b _i	t-value	R ²	Adjusted R ²
X ₁	Age	-0.222**	0.048	4.621	0.795	0.776
X ₂	Educational level	-1.504**	0.522	2.879		
X ₆	Social participation	-1.482**	0.552	2.681		
X ₇	Experience as organic vegetable grower	-0.173	0.282	0.613		
X ₈	Area under organic vegetable production	1.457**	0.412	3.536		
X ₁₀	Exposure to training on organic vegetable production	-2.450**	0.602	4.065		
X ₁₂	Economic motivation	0.405	0.630	0.643		
X ₁₃	Management orientation	0.445	0.636	0.699		
X ₁₄	Risk bearing ability	0.284**	0.107	2.654		
X ₁₅	Scientific orientation	0.386**	0.144	2.664		

Table-3 Correlation co-efficient between information seeking behaviour and selected independent variables

SN	Independent variables	Correlation coefficient (r)	t-value
X ₁	Age	-0.680**	10.075
X ₂	Educational level	0.581**	7.769
X ₃	Family type	0.052	0.566
X ₄	Family size	0.131	1.437
X ₅	Occupational status	0.153	1.685
X ₆	Social participation	-0.539**	6.962
X ₇	Experience as organic vegetable grower	-0.772**	11.357
X ₈	Area under organic vegetable production	0.589**	7.932
X ₉	Annual net income from organic vegetable production	0.205	2.277
X ₁₀	Exposure to training on organic vegetable production	-0.572**	7.592
X ₁₁	Working capital availability for organic vegetable production	0.032	0.351
X ₁₂	Economic motivation	0.518**	6.592
X ₁₃	Management orientation	0.523**	6.666
X ₁₄	Risk bearing ability	0.683**	10.182
X ₁₅	Scientific orientation	0.573**	7.609

Table-4 Relative contribution of selected independent variable towards information seeking behaviour of farmers in relation to organic vegetable production

SN	Independent variables	Regression coefficient (b _i)	Standard error of b _i	t-value	R ²	Adjusted R ²
X ₁	Age	-1.504**	0.522	2.879	0.812	0.795
X ₂	Educational level	0.780	0.647	1.205		
X ₆	Social participation	-1.759**	0.562	3.128		
X ₇	Experience as organic vegetable grower	-1.201**	0.274	4.383		
X ₈	Area under organic vegetable production	1.693**	0.623	2.715		
X ₁₀	Exposure to training on organic vegetable production	-1.693**	0.623	2.715		
X ₁₂	Economic motivation	0.823**	0.302	2.725		
X ₁₃	Management orientation	1.457**	0.412	3.536		
X ₁₄	Risk bearing ability	0.268*	0.120	2.231		
X ₁₅	Scientific orientation	0.192*	0.095	2.020		

operational factors such as land ownership, land extent and types of farming system and other role-related and personal factors such as perception of information related to agriculture and information sharing behaviour also played a significant role in influencing the information needs and information seeking behaviour of the organic vegetable growers.

Material and Methods

The study was conducted in North Bank Plains Zone and the Central Brahmaputra Valley Zone of Assam. The Sonitpur district which belongs to the North Bank Plains Zone and the Nagaon district which belongs to the Central Brahmaputra Valley Zone were selected randomly for the study. The Sonitpur district consists of

two sub-divisions, viz., Tezpur and Dhekiajuli and the Nagaon district consists of two sub-divisions, namely Nagaon and Kaliabor. Out of these, one sub-division from each of the two districts, viz., Tezpur from Sonitpur district and Nagaon from the Nagaon district were selected at random for the present investigation. From each of the selected subdivisions four numbers of villages were selected at random. Thus, a total of eight villages, namely, the Nonoideori village, Gomariati village, Kothiatoli Lalung Village, and Deodhar Pakhimoria village from Nagaon sub-division were selected and likewise, Noghoria village, Araliloga village, Bharalisaporia village, and Murhadol village were selected at random from Tezpur sub-division. A list of farmers of each of the selected villages was prepared with the help of the concerned AEAs.

Then from each village, farmers were selected by adopting proportionate-cum-random sampling method (probability proportionate to size) to obtain a sample size of 120 respondents. The data for the study was collected by the personal interview method with the help of a structured research schedule.

Keeping in view the objectives of the study a set of 15 independent variables and 2 dependent variables were included in the study. The dependent variables selected for the study were information needs and information seeking behaviour of farmers in relation to organic vegetable farming. The scale developed by Gogoi (1988) [9] with slight modification was used for measuring data on information seeking behavior of farmers and for measuring the information needs of a respondent structured schedule was used. The independent variables included in the study were age, educational level, family type, family size, occupational status, social participation, experience as an organic vegetable grower, the area under organic vegetable production, annual net income from organic vegetable production, exposure to training on organic vegetable production, working capital availability for organic vegetable production, economic motivation, management orientation, risk bearing ability and scientific orientation.

Data on age, family type, family size, experience as organic vegetable grower, area under organic vegetable production, annual net income from organic vegetable production, exposure to training on organic vegetable production, the working capital availability for organic vegetable production and degree of information needs were collected with the help of structured schedule. The SES scale (Rural) developed by Trivedi and Pareek (1964) [10] was used for measuring the data on educational level and social participation of the respondents. The scale developed by Salim (1985) [11] was used for measuring the occupational status of the respondents. The scale developed by Samanta (1977) [12] was used for measuring the management orientation of the respondents. The scale developed by Supe (1969) [13] was used for measurement of economic motivation, risk bearing ability and scientific orientation of the respondents. The statistical techniques and tests used in the study for analysis and interpretation of the data were frequency, percentage, mean, standard deviation, co-efficient of variation, multiple correlations, multiple regression and t-test

Findings and Discussions

In order to identify the determinants influencing information needs and information seeking behaviour of farmers in relation to organic vegetable farming, the correlation of selected independent variables with information needs and information seeking behaviour was found out with the help of Pearson Product-Moment Correlation Co-efficient(r). A total of 15 independent variables viz., age, educational level, family type, family size, occupational status, social participation, experience as an organic vegetable grower, the area under organic vegetable production, annual net income from organic vegetable production, exposure to training on organic vegetable production, working capital availability for organic vegetable production, economic motivation, management orientation, risk bearing ability and scientific orientation were selected for examining their relationship with information needs and information seeking behaviour of farmers in relation to organic vegetable farming. The significance of the observed correlation co-efficient was ascertained with the help of "t" test. The decision criterion was stipulated at 0.01 and 0.05 level of probability. It is evident from [Table-1] that 10 independent variables were significantly correlated with the information needs of farmers in relation to organic vegetable farming. Among the 10 independent variables, 6 variables, viz., educational level, area under organic vegetable production, economic motivation, management orientation, risk bearing ability and scientific orientation showed significant and positive relationship with the information needs of farmers in relation to organic vegetable farming at 0.01 level of probability. The other 4 variables, viz., age, social participation, experience as organic vegetable grower and exposure to training on organic vegetable production showed significant and negative relationship with the information needs of farmers in relation to organic vegetable farming at 0.01 level of probability.

The variables which were found to have significant correlation with the information needs of farmers in relation to organic vegetable farming were further selected for multiple linear regression analysis with a view to determining the relative influence

of those variables in predicting the variation in the information needs of farmers in relation to organic vegetable farming. The prediction power of multiple regressions was estimated with the help of coefficient of multiple determinations (R^2) and adjusted R^2 . A perusal of the [Table-2] reveals that out of 10 independent variables only 7 variables, viz., age, educational level, social participation, area under organic vegetable production, exposure to training on organic vegetable production, risk bearing ability and scientific orientation on organic vegetable production practices were found to contribute significantly towards the variation in the information needs of farmers in relation to organic vegetable production.

The value of R^2 (0.795) indicated that 10 independent variables selected for the study were efficient in predicting the information needs of farmers in relation to organic vegetable production. The 10 independent variables used in the regression analysis could predict 79.50 per cent of the variation in the information needs of farmers in relation to organic vegetable production. The adjusted R^2 (0.776) gives the actual measure of R^2 which means the some variables included in this analysis was not useful and 77.76 per cent of variation is seen in this multiple regression analysis.

It is evident from the [Table-3] that 10 independent variables were significantly correlated with the information seeking behaviour of farmers in relation to organic vegetable farming. Among 10 variables, 6 variables viz., educational level, the area under organic vegetable production, economic motivation, management orientation, risk bearing ability and scientific orientation showed significant and positive relationship with the information seeking behaviour of farmers in relation to organic vegetable production at 0.01 level of probability. Another 4 variables age, social participation, experience as organic vegetable grower and exposure to training on organic vegetable production showed significant and negative relationship with the information seeking behaviour of farmers in relation to organic vegetable production at 0.01 level of probability. Hence the corresponding null hypothesis stating that these independent variables have no significant relationship with the information seeking behaviour of farmers in relation to organic vegetable production were rejected and the alternative hypothesis were tentatively accepted.

The variables which were found to have significant correlation with the information seeking behaviour of farmers in relation to organic vegetable production were further selected for multiple regression analysis with a view to determining the relative influence of those variables in predicting the variation in the information seeking behaviour of farmers in relation to organic vegetable production. The prediction power of multiple regressions was estimated with the help of coefficient of multiple determination (R^2) and adjusted R^2 . A perusal of the [Table-4] reveals that out of 10 independent variables, only 9 variables, viz., age, social participation, exposure to training on organic vegetable production, experience as an organic vegetable grower, economic motivation, management orientation, risk bearing ability and scientific orientation were found to contribute significantly towards the variation in the information seeking behaviour of farmers in relation to organic vegetable production.

The value of R^2 (0.812) indicated that 10 independent variables selected for the study were efficient in predicting the information seeking behaviour of farmers in relation to organic vegetable production. The 10 independent variables used in the regression analysis could predict 81.20 per cent of the variation in the information seeking behaviour of farmers in relation to organic vegetable production. The adjusted R^2 (0.795) indicated the actual measure of R^2 which meant that all the variables included in the regression equation was not equally efficient in explaining the variation in the dependent variable. The value of adjusted R^2 , thus, indicated that the independent variables fitted in the regression equation could actually explain 79.50 per cent of the variation in the information seeking behaviour of farmers in relation to organic vegetable production.

The findings of the study is supported by the earlier studies pertaining to the area of factors influencing information needs and information seeking behaviour of farmers conducted by Kalita (2016) [14] and Mahanta (2018) [15].

Implications and Conclusions

The major findings of the present study have a number of implications for policy makers, NGOs, KVKs, various development workers and extension agencies.

The findings of correlation analysis revealed that variables viz., age, educational level, area under organic vegetable production, social participation, economic motivation, management orientation, risk bearing ability, scientific orientation, experience as organic vegetable grower and exposure to training on organic vegetable production showed significant relationship with the information needs and information seeking behaviour of farmers in relation to organic vegetable production. These attributes should be taken into consideration while undertaking any programmes to fulfill growers' information needs in relation to organic vegetable production. The results of regression analysis showed that variables, viz., age, educational level, exposure to training on organic vegetable production, social participation, experience as organic vegetable grower, economic motivation, scientific orientation and risk bearing ability were found to contribute significantly towards the variation in the information needs and information seeking behaviour of farmers in relation to organic vegetable production. This implied that there is possibility for the extension agencies to manipulate these crucial factors in order to bring about desirable changes in information needs and information seeking behaviour of organic vegetable growers. With these attributes suitable extension/educational methods may be adopted to modify information needs and information seeking behaviour of organic vegetable growers in the desirable direction.

Application of research: The findings of correlation analysis revealed that variables viz., age, educational level, area under organic vegetable production, social participation, economic motivation, management orientation, risk bearing ability, scientific orientation, experience as organic vegetable grower and exposure to training on organic vegetable production showed significant relationship with the information needs and information seeking behaviour of farmers in relation to organic vegetable production. These attributes could be taken into consideration while undertaking any programmes to fulfill growers' information needs and information seeking behaviour in relation to organic vegetable production.

Research Category: Extension Education, Organic Agriculture

Abbreviations: NGO-Non Governmental Organizations,
ICT-Information and Communication technology, SES-Socioeconomic Status

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Cultivar / Variety / Breed name: Nil

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