RESEARCH ARTICLE

UTILIZATION POTENTIAL OF AGRICULTURAL INFORMATION SOURCES

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Abstract: We are now living in the age of information where accessing and utilizing appropriate information source play crucial role in determining the success of any human activity. Agriculture of today has also become very time-critical and information-intense. Hence, the utilization potential of any information source to cater to the information needs of the farmers in various aspects would determine its usefulness to the farming community. With this background, the present research work has been conducted in order to assess the utilization potential of the existing information sources in the study area and thereby identify the factors influencing the utilization potential of the information sources. In the present study, utilization potential of the information sources has been conceptualized as the predicted variable and the nineteen other attributes associated with the farmers has been considered as the predictor variables. The study has been carried out in three villages of Coochbehar-I and two villages of Coochbehar-II block of Coochbehar district in West Bengal. Purposive as well as multistage sampling and random sampling procedures were followed in selecting hundred numbers of respondents. The data were collected with the help of structured questionnaire through personal interview method. The major statistical tools like correlation co-efficient and multiple regression analysis were used to analyse the data. The important findings of the study are that the timeliness of the information sources has positive association with the utilization potential whereas the usefulness of the multiple sources of agricultural information ultimately reduces the utilization potential of individual information source. Farmers have also admitted that the agricultural information sources available in the study area have medium level of potential to cater to their information needs. Therefore, there is a scope to further improvement of those information sources for effective and efficient dissemination of appropriate information for sustainable agricultural development.

Keywords: Information source, Information-intense, Utilization potential, Sustainable agricultural development

INTRODUCTION

The successful use of information as a resource for development of agriculture depends to a large extent on timely availability of existing sources of information, pattern of different sources and channels of agriculture as well as the attitude of farmers towards information and information sources. Information is the driving force behind any development strategy. In India SAU, colleges, research institutes, NGO's, KrishiVigyan Kendra, private agencies have been playing an important role to disseminate the agricultural information to the farmers. Mainly agricultural information is diffused through training programme, demonstration, campaigns and mass media etc.Rural farmers need various type of information regarding agriculture such as availability of agricultural support services,Government regulations, crop production and managements, disease outbreaks, adaptation of technologies by other farmers, wage rates, and so on.Farmers receive agricultural information from a multitude of sources, such as extension agencies,mass media, fellow farmers, input dealers etc. (P. Adhigurua *et al.*, 2009). There are also several portals and SMS system which give the actual information like market value of the commodity, weather report, online buyer or seller of the commodity, pest and insect management procedure, disease management procedure etc. An effective and efficient information delivery system plays a critical role to provide reliable and useful information to the farmers (Demiryurek*et al.*, 2008).

In India, Farmers are being provided with knowledge based information through various toll free numbers, internet sites, mobile apps, and other means. For example, Farmers' Portal (www.farmer.gov.in), m-Kisan Portal (www.mkisan.gov.in) and Kisan Call Centers (KCC) are some of the platforms which are currently active in India (KitturNazhat*et al.*, 2016)**.**But, sometimes, due to poor information network connectivity, farmers can not harness the benefits of the internet related facilities provided by the Government or any other organization. Here, extension services can play a major role in changing the scenario of the village through providing appropriate information to the farmers which are need-based and demand-driven.Consequently, agricultural extension, in the current scenario of a rapidly changing world, has been recognized as an essential mechanism for delivering knowledge (information) and advice as an input for modern farming (Jones, 1997).

Now days, private extension services are also involved in proving information related to agriculture and allied activities, sometimes through paid services which is gaining its popularity among the farming community day by day. In India, though it is generally claimed that public extension system is the predominant source of farm information

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dissemination (Nirmala *et al.*, 1995), it was disappointing to note that it was accessed only by a small proportion of farm households. Therefore, both public and private extension systems are innovating approaches for the transfer of technology and information to farmers so as to empower them to face the challenges of market liberalization and globalization (P. Adhiguru *et al.*, 2009).

But, before formulating any strategic intervention to address the information needs of the farmers, it is very much essential to explore the existing information sources available to the farmers and their usefulness in the context of the farmers' real life situation. The content of the information services needs to reflect their diverse circumstances and livelihoods. Understanding of the communication network in a specific farming system may provide the recognition of basic structures, components, weakness and gap of the system and the different sources of information used by these different components (Demiryurek, 2000**).**Therefore, selecting an appropriate source of information at the right time in agriculture is the basic requisite for sustainability.

Under this research niche, the present study has been conceptualized and conceived to assess the usefulness of the existing agricultural information sources and thereby identify the attributes associated with the farmers which significantly influence the perceived utility of the information sources.

METHODOLOGY

The study is conducted in the villages of Charakpara, Katamari, Elajanerkuthi of Cooch Behar-I block and Gopalpur, DhangDhingguri of Cooch Behar-II block under Cooch Behar district in West Bengal. Purposive as well as multistage and random sampling procedures were followed for selection of the final respondents. The district and block were selected purposively. A total number of hundred (100) respondents were selected from an exhaustive list of farmers who have continuous contact with existing information sources in the locality identified with the help of the local people, local administrators etc. The perception of the farmers regarding the utilization potential of the information source has been conceptualized as the predicted variable and the nineteen other attributes associated with the farmers were delineated as the predictor variables in the present research work. The data were collected with the help of a structured interview schedule through personal interview method. The statistical tools like co-efficient of correlation and multiple regressions were the key analysers for drawing a definite conclusion from the collected data.

RESULTS AND DISCUSSION

Table 1. Distribution of respondents according to their utilization potential of information sources

Category	Score	Frequency	Percentage	Statistics
Low	18-21.3	11	11	Range=18-28 Mean=24.18 SD=2.00 CV=8.27%
Medium	21.4-24.6	45	45	
High	25.7-28	44	44	

Table-1 presents the distribution of the farmers according to utilization potential of information sources. The results show that majority of the respondents have agreed upon medium level of utilization potential of information sources with score 21.4-24.6 (45%) followed by high level with score25.7-28 (44%) and low level of utilization potential with score18-21.3(11%). The mean score of total distribution is 24.18 and standard deviation is 2. The coefficient of variation value within the distribution is 8.27% which signifies very high level of the distribution for the variable 'utilization potential of information sources'. The result implies that most of the farmers in the study area have admitted that existing information sources have the potential to satisfy their information needs related to their farming activity.

Table 2. Correlation Coefficient of utilization potential of information source (Y_2) with 19 independent variables

Variables	Coefficient of correlation (r)
Age(X_1)	-.162
Education (X_2)	.136
Family Education Status (X_3)	-.018
Major occupation(X_4)	.161
House Type (X_5)	-.115

Social Participation (X_6)	-.031
Material possession (X_7)	.050
Land Holding (X_8)	-.123
Farm power (X_9)	-.056
Livestock possession(X_{10})	.094
Extension contact (X_{11})	.151
Mass media exposure(X_{12})	.131
Risk Preference (X_{13})	.162
Economic Motivation (X_{14})	.157
Decision making ability (X_{15})	.056
Attitude towards use of information sources (X_{16})	-.005
Utilization pattern of information sources (X_{17})	.157
Usefulness of the information source (X_{18})	.042
Timeliness of the information source (X_{19})	.235*

** Significant at 1% level, *Significant at 5% level

Table-2 reflects the Pearson's coefficient of correlation among the dependent variable, utilization potential of information sources with the nineteen causal variables. The result shows that the variable, timeliness of the information source (X_{19}) is the only variable which is positively and significantly associated with the dependent variable, utilization potential of information sources.

Timeliness of the information source and utilization potential of information source

Timeliness always plays an important role in case of determining effectiveness of an information source. Timeliness refers to the ability of the information source to provide required information to the information users at the right time in right format with adequate accuracy. Therefore, it is obvious that timeliness of the information source in providing appropriate information would certainly enhance the credibility of the information sources to the end users and in this way, utilization potential of the information source would be increased. In the present study, the farmers have also identified some of the information sources with the ability to provide timely information correctly and therefore, they regularly access those information sources for solving many problems of their farm and home by utilizing the information provided by them. Hence, utilization potential of the information sources has increased. That is why the variable timeliness of the information source is significantly and positively associated with the dependent variable, utilization potential of the information source.

Table 3. Multiple regression analysis of utilization potential of information source (Y_2) of respondents with 19 predictor variable

Variables	**Standardized regression coefficient (β)**	**Unstandardised regression coefficient (B)**	**S.E of 'B'**	**t-value**
Age(X_1)	-.158	-.029	-.158	-.949
Education (X_2)	.076	.146	.306	.477
Family Education Status (X_3)	-.007	-.017	.268	-.062
Major occupation(X_4)	.061	.193	.352	.547
House Type (X_5)	-.152	-.616	.458	-1.344
Social Participation (X_6)	-.148	-.750	.532	-1.408
Material possession (X_7)	.007	.002	.030	.063
Land Holding (X_8)	-.062	-.110	.203	-.539

Farm power (X_9)	-.039	-.054	.152	-.359
Livestock possession(X_{10})	-.024	-.024	.116	-.206
Extension contact (X_{11})	.095	.079	.098	.802
Mass media exposure(X_{12})	.099	.145	.181	.803
Risk Preference (X_{13})	.058	.046	.093	.501
Economic Motivation (X_{14})	.082	.064	.090	.705
Decision making ability (X_{15})	-.012	-.010	.103	-.100
Attitude towards use of information sources (X_{16})	-.001	-.001	.104	-.012
Utilization pattern of information sources (X_{17})	.079	.027	.042	.652
Usefulness of the information source (X_{18})	-.301	-.077	.038	-2.000*
Timeliness of the information source (X_{19})	.376	.107	.045	2.410**

** Significant 1% level, * Significant at 5% level R^2= 0.213

Table-3 reflects the multiple regression analysis of the utilization potential of information source with the 19 predictor variables. From the table it is observable that the variable usefulness of the information source (X_{18}) are significantly and negatively contributing towards characterizing the dependent variable, utilization potential of information source while another variable namely timeliness of the information source (X_{19}) is significantly and positively contributing towards characterizing the dependent variable, utilization potential of information source.

Usefulness of the information source and utilization potential of information source

The utilization potential of information source is measured through accomplishment of several goals in agricultural sector like improvement of farming practices by reducing drudgery, enhancement of productivity, usefulness of information and easier handling of technology. The enhanced usability of information sources increases the potentiality of getting more information on a particular issue. The issues may be related to farming practices, climate resilience etc. But, more information creates a conflicting state of mind in case of an individual/farmer who does not have the acumen to analyse the information and comprehend the information to be utilized by himself for accomplishing the improved production practices, productivity and easier technological intervention. That is why the variable usefulness of information source is significantly and negatively contributing towards characterizing the dependent variable, utilization potential of information source. The variable usefulness of information source is directly contributing 37.60% in case of characterizing the dependent variable, utilization potential of information source. One unit change of the variable usefulness of information source is delineating the 0.107 unit change in the predicted variable.

Timeliness of information source and utilization potential of information source

Utilization potential of information source indicates the extent to which the information provided by the source is helpful for the users to enhance their effectiveness and efficiency in doing their job. Therefore, it is mention worthy that timeliness of the information source in providing needed information to the users would act as one of the determinants of utilization potential of the information source. In agriculture, farmers require to consult with various information sources for getting appropriate information related to several aspects of farming starting from production to marketing of their produce. In this regard, timeliness is an important factor which could improve the utilization potential of existing information sources to which the farmers access. It is discernible that more timely the information is, more is its utilization potential in catering the information needs of the farmers. In the present study, it has been found that the farmers can utilize those information more successfully towards improving their farming practices which have timeliness than those which are untimely. That is why the variable timeliness of information source is significantly and positively contributing in case of characterizing the dependent variable, utilization potential of information source. The variable timeliness of information source is directly contributing 37.60% in case of characterizing the

dependent variable, utilization potential of information source. One unit change of the variable timeliness of information source is delineating the 0.107 unit change in the predicted variable.

The R^2 value being 0.213, it is to infer that the nineteen predictor variables put together have explained 21.30% variation embedded with the predicted variable, utilization potential of information source. Still 78.70% variable embedded within predicted one remains unexplained. Thus it would be suggested that inclusion of some more contextual variables possessing direct bearing on utilization potential of information source could have increased the level of explicability.

CONCLUSION

In this present age of information, every human activity relies largely upon a host of information sources and the quality of information they provide. In this regard, the reliability and credibility of the information also contribute a lot to the usefulness of the information in the farming situation of the farmers. The capacity of the information source to satisfy the information needs of the rural folk in different aspects of cultivation determines its usefulness to the farming community. In this context, utilization potential of the information source is a very relevant concept through which one can measure the usefulness of information source. Similarly, in the present study, farmers' perception about the utilization potential of the agricultural information sources available in the study area has been analysed and the important socio-economic, socio-personal and socio-psychological attributes of the farmers have been identified which have a determining role in case of characterizing the utilization potential of the information sources. What have been found in the study area is that most of the farmers consider the existing information sources as moderately useful for their farming profession but at the same time, they also locate some areas where there is ample scope of further improvement in case of disseminating appropriate information at the right time to the farmers. Another important finding of the present study is that the timeliness of the information source improves its utilization potential in case of using the information for betterment of the farming enterprise. On the other hand, presence of so many useful information sources often put the farmers in a confusing state of mind regarding selection of the appropriate information source which ultimately affect the utilization potential of the information sources. Hence, in totality, a holistic approach needs to be adopted considering all the elements of the agricultural information network existing in a local rural setting to tap maximum utilization potential of the information sources towards catering the information needs of the farming community in a sustainable way.

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