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Factors Affecting the Information-Seeking Patterns of Smallholder Farmers in Katsina State

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Abstract

This paper explores the Information-Seeking Patterns (ISP) used by Smallholder Farmers (SHF), with particular reference to the factors hindering agricultural development in Katsina. There are three specific research objectives and two hypotheses of the study. Survey design was used and the population of the study was 700 smallholder farmers. The researchers distributed 280 questionnaires to the respondents of the study. The researchers recorded a 91.1% response rate. Descriptive and inferential statistics was used to analyse the collected data in line with the research questions. In addition, the researchers explored the data using null hypotheses. The findings revealed that the factors affecting information-seeking patterns are: inadequate extension workers, unawareness of available information sources, inadequate funds, and lack of knowledge to seek information. Other factors identified include socio-economic status and poor response from government agencies. The study recommends that the government should employ more extension workers and establish agricultural libraries equipped with relevant information resources and services in each local government area of the state. Furthermore, stakeholders should provide adequate funds, organise workshops to train and educate farmers on how to seek and use information for their agricultural systems.

Keywords: Information-Seeking Patterns, Smallholder Farmers and Agriculture, Socio-Economic Status

Introduction

Information-seeking pattern is a wide concept that encompasses many things. Kingrey (2002) stated that information-seeking pattern is the process of obtaining and storing knowledge, social and cultural exchanges, discrete patterns applied when confronted with uncertainty, and a basic condition of humanity in which individuals exist. Information-seeking is not always triggered by the need to solve a problem or make a decision, because, at times, one may desire to have more information, assurance, or a wish to reduce uncertainty. Wilson (2006) opined that information-seeking is much closer to the concept of 'need' than it is to the concept of information itself. An information need may lead to a decision to seek information. Case (2007) describes the information-seeking pattern as a conscious and serious effort of an individual to acquire information in response to his need or gap in his knowledge. Mugwisi (2013), as cited in Kuhlthau (1999), described information-seeking pattern as the user's constructive activity of finding result from information in order to obtain knowledge on a specific topic. Therefore, smallholder farmers must seek information for agricultural development.

Smallholder Farmers (SHF) is one of the categories of farmers in the lowest class and varies from one community to another. Scholars have not provided a single and accepted definition of smallholder farmers. SHFs, according to some scholars, are "marginalised people who have difficulties to access resources, capital, information and technology" (Qiao et al., 2018, cited in IFAD, 2013, pp. 10). In the South-African context, SHFs are classified as subsistence, non-productive, non-commercial, and backward farmers (Kirsten & Zyl, 1998). Awazia and Tchamba (2018) opined that SHFs are subsistence farmers, who usually live in rural areas, and whose main occupation, for their livelihood and survival, is agriculture. SHFs have the largest percentage compared to medium or large farmers. Dyck and Silvestre

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(2019) testified that there are about 500 million SHFs in Africa and other developing countries that are engaged in agriculture and farming systems.

Food shortage, poverty, low level of education, banditry, kidnapping, and insecurity has been deteriorating the state of SHFs in Katsina; however, farmers still maintained their status and contributed immensely to the agricultural and economic development in the state. Therefore, understanding the information-seeking pattern of SHFs is very critical for the development and social well-being of the citizens. It would also enable others to understand the farmer's information needs.

Statement of the Problem

Agriculture has become the predominant occupation of a majority of the population in Katsina, and SHFs have the highest percentage, both in agriculture and farming activities. Katsina State Agricultural and Rural Development Agency (KTARDA), World Organizations, and NGOs are providing agricultural support services to all farmers, irrespective of their status. However, despite the high percentage of SHFs in the state, and government commitments, it is observed that the farmers are unable to produce sufficient food to meet the domestic demands of the state. This could be linked to a number of factors, such as the inability to express in writing the information needs of the farmers, lack of electrification and access roads in the rural areas, or inadequate funds to seek agricultural information. As such, a study on the factors affecting the information-seeking patterns of SHFs in Katsina would enable stakeholders to ensure effective management of the farming activities in the state. Therefore, the present study is intended to contribute to a successful agricultural development and to bridge the knowledge gap by examining the factors affecting the information-seeking patterns of SHFs. In addition, it is hoped that the findings of this study will assist governments and donor agencies to redesign the information dissemination channels, to provide support services to the farmers.

Objectives of the Study

The study aims at determining:

- The information-seeking patterns of smallholder farmers in the state of Katsina.
- The factors affecting the information-seeking patterns of the farmers.
- The ways of addressing the challenges faced by information-seeking farmers.

Research Hypothesis

Ho1: There is no significant statistical relationship between information-seeking patterns and factors affecting the information-seeking patterns of smallholder farmers.

Ho2: There is no significant statistical relationship between factors affecting the information-seeking patterns and the measures taken to address the problems.

Review of Literature

Information-Seeking Patterns of Smallholder Farmers

Farmers' information-seeking pattern refers to any efforts in locating available sources of information, finding facts, and using it effectively to solve problems related to agriculture; information channels include relatives, friends, extension workers, traditional leaders, and newspapers. Ingwersen and Järvelin (2005) opined that an information need may lead to a decision to seek information. Therefore, information-seeking is a form of human behaviour that involves seeking information by means of the active examination of information sources or retrieval activities to satisfy the information need or solve a problem. Odini (2014) revealed that farmers sought information by asking friends, neighbours, families, and discussions. Adetimehin, et al. (2018) revealed that farmers seek information from personal extension workers (78.9%), woreda agricultural extension experts (57.2%), family (51.3%), farmers groups (45.9%), friends and neighbours (37.5%), mobile phones (26.3%), conferences and meetings (21.7%), radio (29.6%), printed documents (22.4%), farmers' cooperatives (17.1%), administrative staff (19.7%), agricultural researchers (7.2%), demonstration and field days (10.5%), and agricultural dealers (5.3%). Information-seeking pattern is very critical for agriculture, especially for SHFs, to assist farmers to articulate their information need. Information-seeking pattern varies according to

demographic characteristics like age, gender, education, exposure, information sources, content, and medium, among others. But it has not been investigated within the area of this study, and most of the similar researches were carried out in developed countries; very few were conducted in developing nations.

Factors Affecting the Information-Seeking Patterns of the Farmers

There is need for good information-seeking patterns among SHFs for better performance and improved farm produce. Information is an essential ingredient for agricultural development programmes. There are several factors affecting the information-seeking patterns of farmers, which have been identified by many scholars as follows.

Tologbonse, Fashola, and Obadiah (2008) revealed that obsolete information, language difference, unawareness of the existence of different information sources, shortage of funds, and poor format of information packages are the major factors affecting information-seeking pattern of farmers. Adetimehin, et al. (2018) observed similar factors, adding that lack of timely information, low level of education on how to access information, as well as the long distance travelled to gain access to the information were other factors.

Mahendra (2012) stated that education background, literacy, and mean years of education are lower for SHFs compared to medium and large farmers. In the study findings, the literacy rate of male and female marginal farmers was 62.5% and 31.2%, respectively. Byamugisha et al. (2008) revealed that farmers in Uganda face lack of cooperation from fellow farmers and language barriers. Brhanel et al. (2017) found that poor electrification in rural areas, insufficient funds for ICT apparatus, poor information packaging, and low-level education and skills in using modern ICT tools for searching for agricultural information were challenges faced by farmers. This is in line with Lwoga, Stilwell and Ngulube (2011), who, in their study, revealed that inadequate extension workers, lack of awareness of information sources, social problems, lack of proximity, and resistance to change and beliefs of farmers, were contributing factors.

However, Lwoga et al. (2010) described other challenges that prevented farmers from seeking information, which includes lack of commitment from the government, unawareness of the available sources of information, and poor knowledge-sharing culture. Naveed and Anwar (2013) observed similar results; the major challenges faced by information-seeking farmers were the low-level of education, language barrier, and inaccessible information. Moreover, Mbagwu et al. (2018) noted that non-existence of ICT infrastructures, a low level of interest in utilising the facilities, inadequate knowledge of information seeking, level of ICT literacy, non-existence of information providing agencies in rural areas, and the non-existence of agricultural advisory services in libraries, were some challenges faced by farmers.

Measures to Address the Challenges of Information-Seeking

Nnenna (2011), in his study, pointed out some measures to address the challenges faced by farmers with regards to information-seeking. The measures include construction of good access roads, installation of radio and television antennas at strategic places, fixing all electrical problems in rural areas, airing of agricultural programmes on the radio during the appropriate time and broadcasting in the native language, and providing community libraries. The library staff could also partner with the Ministry of Agriculture to organise seminars and workshops on agricultural innovations for the rural farmers. Lwoga et al. (2010) reported that the following measures could address the challenges of information-seeking:

- The government should improve access to extension services, by increasing the number of extension officers, with adequate resources and training.
- Provision for rural information services, extension, and library officers to undergo regular studies on the information needs of SHFs.
- Needs assessments to map the communities' knowledge, and multiple information sources to enable the farmers to locate agricultural specialists was considered necessary.
- The government should create awareness of the available information sources and promote reading culture to encourage farmers.

Brhane1 et al. (2017) suggested that the government and relevant stakeholders have to work together to improve social services and promote ICTs to make a difference in overcoming barriers that farmers face when seeking relevant agricultural information.

In addition, Mbagwu et al. (2018) suggested some measures to address the challenges of information-seeking that were associated with Internet-based services: improving Internet services and addressing the problem, creating online farmers' discussion forums by using mobile phones and social media platforms like WhatsApp and Facebook, organising ICT training for farmers, repackaging social media platforms, and providing online advisory and consultancy services to farmers with the help of online agricultural services and library practitioners.

Results

The demographic data of farmers in the area of study includes gender, which revealed that 85.1% of the respondents are males and only 14.9% are females; age group, which demonstrated wide differences with few (5.10%) respondents below 20 years of age, 22.8% between 21 to 30 years, and 19.2% between 31 to 40 years. However, 32.6% and 20.8% of the respondents are between 41 to 50 years and 51 years and above, respectively. Data about educational background revealed that 37.7% of the respondents either possessed National Certificate of Education (NCE) or Ordinary National Diploma (OND) and 25.5% obtained the Secondary School Certificate. The lowest number of respondents. 4.31% and 12.9%, possessed Adult Mass Literacy and Primary School Leaving Certificates, respectively, and 19.6% possessed other relevant certificates like Qur'anic, Hadith, or Islamiyya certificates.

Table 1: Information-Seeking Patterns of Smallholder Farmers in Katsina State

Sr. No.	*Information-Seeking Patterns Used and Obtained Through*	*Agree (%)*	*Undecided (%)*	*Disagree (%)*
1	Referral to information units	183 (71.76)	4 (1.57)	68 (26.67)
2	Asking questions	245 (96.08)	1 (0.39)	9 (3.53)
3	Social media chatting	207 (81.18)	7 (2.75)	41 (16.08)
4	Verbal conversation	230 (90.20)	-	25 (9.80)
5	Collaboration with extension workers	229 (89.80)	7 (2.75)	19 (7.45)

Source: Field data (2019) by using SPSS version 16.0.

From Table 1 it is clear that a majority of SHFs prefer to seek information through asking questions (96.08%), followed by verbal conversation (90.20%), collaboration with extension workers (89.80%), social media chatting (81.18%), and referral to information units (71.76%). These could be attributed to personal interactions verbally or in writing and the educational background of farmers to seek and obtain information among themselves and extension workers.

Table 2: Factors Affecting Information-Seeking Patterns of Smallholder Farmers

Sr. No.	*List of Factors*	*Frequency*	*Percentage (%)*
1	Unavailability of extension workers	218	85.49
2	Lack of awareness of available information sources	222	87.06
3	Inadequate funds to travel or consult extension workers	219	85.88
4	Lack of knowledge to seek information	210	82.35
5	Socio-economic status and age of farmers	191	74.90
6	Poor response from government authorities	222	87.06
7	Resistance to change by smallholder farmers	167	65.49

Source: Field Data (2019).

Table 2 represents the factors affecting information-seeking patterns of farmers in Katsina state. The data revealed that lack of awareness of available information sources by farmers and poor response from government were the most significant factors (87.06%), followed by unavailability of extension workers (85.88%) and inadequate funds to meet them (85.49%). The results further revealed that lack of knowledge to seek

information was a significant factor (82.35%), followed by the socio-economic status and age of farmers (74.90%). The least significant factor is resistance to change (65.49%).

Table 3: Ways of Addressing the Challenges of Information-Seeking Patterns of Farmers

Sr. No.	*List of Measures*	*Frequency*	*Percentage (%)*
1	Employing adequate extension workers and training them to deliver their responsibilities effectively should be undertaken by the government	218	85.49
2	Multiple sources of information to be provided by the government, along with constructing good roads	222	87.06
3	Adequate funds to be provided by the government for extension and rural information services	219	85.88
4	Repackaging information using social media platforms	210	82.35
5	Prompt response from the government on problems faced by the farmers	191	74.90
6	Organising workshops on ICT and strengthening Internet connectivity	222	87.06
7	Encouraging knowledge-sharing culture	167	65.49

Source: Field Data (2019).

The results from Table 3 shows that 87.06% of SHFs were of the view that the government should provide multiple sources of information, construct good roads, organise workshops on ICT, and strengthen Internet connectivity. Other measures include the government providing adequate funds for extension and rural information services (85.88%), and employing as well as training adequate extension workers so that they can deliver their responsibilities more effectively with (85.49%). In addition, the results revealed that farmers were more interested in the measure to repackage information using social media platforms (82.35%) than wanting a prompt response from the government on problems they faced (74.90%). About 65.4% of the respondents also believed that the farmers should share knowledge.

Null Hypothesis of the Study

$H0_1$: There is no significant statistical relationship between the information-seeking patterns and factors affecting the information-seeking patterns of smallholder farmers.

Table 4: Correlation between Information-Seeking Patterns and Factors Affecting the Information-Seeking Patterns of Smallholder Farmers

		Inf.-Seeking Patterns	*Factors Affecting the Inf.-Seeking Patterns*
Inf.-Seeking Patterns	Pearson Correlation	1	0.720**
	Sig. (2-tailed)		0.000
	N	255	255
Factors Affecting ISP	Pearson Correlation	0.720**	1
	Sig. (2-tailed)	0.000	
	N	255	255

** Correlation is significant at the 0.01 level (2-tailed).

Table 4 represents the Pearson's Product Moment Correlation (PPMC) of the first hypothesis of the study; it reveals a very strong correlation between the information-seeking patterns and factors affecting the information-seeking patterns of farmers. The Null Hypothesis 1 ($H0_1$) is rejected ($p < 0.05$, i.e. Sig = 0.000), because there is sufficient evidence of significant correlation ($r(253) = 0.720$, $n = 255$, $p = 0.000$, i.e. less than 0.05). That is, there is a significant relationship between the information-seeking patterns and factors affecting the information-seeking of farmers in Katsina state. The problems are directly impacting the information-seeking patterns of smallholder farmers.

$H0_2$ There is no significant statistical relationship between factors affecting information-seeking patterns and the measures taken to address the problems.

Table 5: Correlation between Information-Seeking and Measures to Address the Problems

		Inf.-Seeking Patterns	*Measures to Address the Problems*
Inf.-Seeking Patterns	Pearson Correlation	1	0.780**
	Sig. (2-tailed)		0.000
	N	255	255
Measures to Address the Problems	Pearson Correlation	0.780**	1
	Sig. (2-tailed)	0.000	
	N	255	255

** Correlation is significant at the 0.01 level (2-tailed).

Table 5 represents the Pearson's Product Moment Correlation (PPMC) of the second hypothesis of the study; it reveals a strong correlation between the information-seeking patterns and the measures to address the challenges, about 50% in the variation of the level, while the remaining percentage of the variation is influenced by other challenges faced by farmers in Katsina state. Therefore, Null Hypothesis 2 ($H0_2$) is rejected ($p < 0.05$, i.e. Sig = 0.000), because there is sufficient evidence of significant correlation ($r(253) = 0.780$, $n = 255$, $p = 0.000$, i.e. less than 0.05). Therefore, statistically, there is a relationship between factors affecting information-seeking patterns and the measures taken to address the problems.

Discussion

The study discovered that farmers follow various patterns to access information for their farming activities; they also face serious challenges, which include inadequate extension workers, lack of awareness of available information sources, inadequate funds, lack of knowledge to seek information, and socio-economic status of farmers. This corresponds with the findings of Tologbonse et al. (2008), which revealed that language barrier, lack of awareness on the existence of different information sources, lack of funds, and poor format of information carriers were major challenges faced by information-seeking smallholder farmers. Adetimehin et al. (2018) were of the same opinion, that is, smallholder farmers were facing infrastructure shortage (power), lack of money to buy mobile phones, radio and service fees, incompatible formats where the information is packed, inadequate knowledge and skills on how and where to access the required information, and distance of the information source. Mahendra (2012) conducted a study that revealed that the challenges faced by information-seeking smallholder farmers included low-level formal education and skills. Similarly, the findings of Brhanel et al. (2017) revealed that farmers lacked the money to buy ICT apparatus and pay service fees; poor information packaging and low-level skills in using modern ICT tools for searching for agricultural information were some other challenges faced by the farmers.

Conclusion and Recommendations

The study suggested ways to curtail the problems faced by farmers when seeking information. If the suggestions are taken into consideration, it would increase the production capacity of smallholder farmers. It is recommended that the government should employ more extension workers, establish rural information centres, organise training and workshops to the extension workers and farmers frequently, provide more sources of information, respond promptly, and repackage agricultural information in a simple and clear manner. Consequently, the paper recommends that agricultural extension workers should be fully funded, with provision for mobility, smartphones, incentives, and the necessary support to enhance agriculture and farming in the study area. Furthermore, the Katsina State Government should establish agricultural libraries equipped with relevant information resources and services in each local government areas to monitor information dissemination.

References

Adetimehin, O. D., Okunlola, J. O., & Owolabi, K. E. (2018). Utilization of agricultural information and knowledge for improved production by rice farmers in Ondo State, Nigeria. *Journal of Rural Social Sciences*, *33*(1), 76-100.

Awazi, N. P., & Tchamba, M. N. (2018). Determinants of small-scale farmers' adaptation decision to climate variability and change in the north-west region of Cameroon. *African Journal of Agricultural Research*, *13*(12), 534-543.

Brhane, G., Mammo, Y., & Negusse, G. (2017). Sources of information and information seeking behaviour of smallholder farmers of Tanqa Abergelle Wereda, Central Zone of Tigray, Ethiopia. *Journal of Agricultural Extension and Rural Development*, 47-52.

Byamugisha, H. M., Ikoja-Odongo, R., Nasinyama, G. W., & Lwasa, S. (2008). Information seeking and use among urban farmers in Kampala District, Uganda. *Agricultural Information and IT Proceedings of IAALD AFITA.* 24-27 August 2008, Tokyo University, Japan.

Case, D. O. (2007). *Looking for information: A survey of research on information seeking, needs and behaviour* (2nd ed.). Amsterdam: Elsevier.

Dyck, B., & Silvestre, S. (2019). A novel NGO approach to facilitate the adoption of sustainable snnovations in low-income countries: Lessons from small-scale farmers in Nicaragua. *Organization Studies*, *40*(3), 443-461.

Ingwersen, P., & Jarvelin, K. (2005). *The turn: Integration of information seeking and retrieval in context.* Dordrecht: Springer.

Kingrey, K. P. (2002). Concepts of information seeking and their presence in the practical library literature. *Library Philosophy and Practice, 4*(2). Retrieved August 17, 2018, from www.Widaho.Edu/2mbolin/Lppv402.Htm

Kirsten, J. F., & Zyl, J. V. (1998). Definining small-scale farmers in the South African context. *Agrekom*, *37*(4), 551-562.

Kuhlthau, C. C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science*, *42,* 361-371.

Lwoga, E. T., Stilwell, C., & Ngulube, P. (2011). Access and use of agricultural information and knowledge in Tanzania. *Library Review, 60*(5), 383-395.

Mahendra, S. D. (2012) *Small farmers in India: Challenges and opportunities.* Indira Gandhi Institute of Development Research, Mumbai, General Arun Kumar Vaidya Marg Goregaon (E), Mumbai, India.

Mbagwu, C. F., Benson, V., & Onuoha, O. (2018). Challenges of meeting information needs of rural farmers through internet-based services: Experiences from developing countries in Africa. Retrieved from http://library.ifla.org/2195/1/166-mbagwu-en.pdf on August 27th, 2019

Mugwisi, T. (2013). *The information needs and challenges of agricultural researchers and extension workers in Zimbabwe* (Thesis submitted in fulfilment of the requirements for the award of the Degree of Doctor of Philosophy). Library and Information Science in the Department of Information Studies at the University of Zululand, South Africa.

Naveed, M. A., & Anwar, M. A. (2013). Agricultural information needs of Pakistani farmers. *Malaysian Journal of Library & Information Science, 18*(3), 13-23.

Nnenna, O. (2011). Rural farmers' problems accessing agricultural information: A case study of Nsukka local government area of Enugu State, Nigeria*. Library Philosophy and Practice (e-journal).*

Odini, S. (2014). Conducted a study on access to and use of agricultural information by small scale women farmers in support of efforts to attain food security in Vihiga County, Kenya. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS), 5*(2), 80-86.

Qiao, Y., Martin, F., Cook, S., He, X., Halberg, N., Scott, S., & Pan, X. (2018). Certified organic agricuture as an alternative livelihood strategy for small-scale farmers in China: A case study in Wanzai County, Jiangxi Province. *Ecological Economics*, *145*(2018), 301-307.

Tologbonse, D. F. O., & Obadiah, M. (2008). Policy issues in meeting rice farmers agricultural information needs in Niger State. *Journal of Agricultural Extension, 12*(2).

Wilson, T. D. (2005). Evolution in information behavior modelling: Wilson's model. In *Theories of Information Behavior: Published for the American Society for Information Science and Technology by Information Today* (pp. 31-36).