

FACTORS THAT PROMOTE SMALLHOLDER FARMERS' UTILIZATION OF AGRICULTURAL INFORMATION IN KATSINA STATE

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Abstract

The study investigated the factors that promote small holder farmers utilization of agricultural Information in Katsina State. The quantitative and the descriptive survey inform of cross-sectional method was used while the diffusion of Innovation Theory was also used for the study as theoretical based. The population of the study comprised a sample of 286 smallholder farmers. The instrument for the collection of data was questionnaire. Descriptive statistics were used to analyse the data. the findings of study revealed that: farm size, labour availability, access to credit, group membership, distance to agro input market, off – farm work engagement, farm ownership type, farmers' information seeking behaviour, achievement motivation, and farmers' attitude towards improved farming activities as factors facilitating the utilisation of agricultural information. The study also find the Challenges affecting utilisation of agricultural information. These are Inadequate fund and support; Lack of awareness of available information sources, poor access to roads linking to remote areas, low level of education, Socio- economic status and old age; poor response from government authorities, resistance to change. Majority of the respondents agreed that they all experienced the identified problems among others and that some recommendations as measure that can minimise the identified challenges were offered on the basis of the entire research findings

Keywords: Agriculture, Information, Education, utilization, Smallholder Farmers

Introduction

Agriculture is one of the oldest economic activities in the world; to date it is still a major contributor to the world's economic activity. Stamoulis, (2018) opined that agriculture plays an important role in the economy of many developing countries, contributing significantly to their Gross Domestic Product (GDP), labour force, exports, and urban population. In Africa Agriculture represents a major economic activity and contributes, on average, 15% of GDP, although this varies widely across the continent, from 2.5% in South Africa to 56% in Sierra Leone and the sector employs about 65% of the workforce (World Bank, 2013; FAOSTAT, 2010) and constitutes the primary income generating activity for many. African agriculture is, therefore, believed to have the potential to contribute to eradicating poverty and hunger, by boosting agricultural investment and trade, creating jobs, and improving livelihoods (NEPAD, 2013).

Information is one of the important resources required for the improvement of agricultural production. According to Ajuwon and Odeku (2017), agricultural information are sources that come in great diversity and various forms such as print and non-print forms. Print connotes books, periodicals, bibliographies, maps, indexes and abstracts, photographs, government documents, technical reports etc. It can also be in electronic form. Non-print materials include audio visual, multimedia, microfilms, electronic books, journals, images, texts/records from the internet, web documents etc. These information sources can be found in human archives, libraries and the internet. Samuel (2021) identifies

agricultural information as the data for decision-making and a resource that has to be acquired and used in order to make informed decisions. Agricultural information consists of published or unpublished knowledge that may broadly be categorized as technical/scientific, commercial, social and cultural and legal information (Ainaet, 2015). Ozowa (2015) define agricultural information as the type of information that farmers need which include information on production technology, credit and marketing. Production technology, to him, encompasses improved varieties of inputs, modern farming implements, fertilizers, agrochemicals, weeding and harvesting. Ozowa further stated that farmers need to be provided information on sources such loans, location of the lending institutions, interest rates, and amount of credit available and modes of repayment. Provision of marketing information would enable the farmers make rational and relevant decisions.

Katsina state is agrarian and agriculture is its employer of labour, as about 5.6 million people in the state are either directly or indirectly involved in one form of agricultural activity or another. However, Agribusiness in the state is currently characterised by the preponderance of subsistence farming, high input prices, low level of technology, poor farmer organisation, decline of cash crop production, deforestation and soil degradation, lack of processing facilities, neglect of very important economic trees and difficulty of accessing loans by farmers.

Information has received a wide range of acceptance as an essential resource of this century. It has been described as a stimulating creativity, resulting in new outcomes and processes. All human societies depend very much on information for existence that is information is life. The proper identification and use of information sources are prerequisites for objective decision making (Olorunnishola; Yusufu; Kunle; & Shehu, 2016). For this reasons agricultural information became very critical and most important valuable resource required for every farmer in any society which enhance farming activities. Farmers need to be kept abreast of necessary information and be well aware of issues and development of their farming activities. Information assists farmers and prevents them from making the wrong decision; farmers cannot survive without having adequate and relevant information. Mabuku, (2015) stresses that, information is very vital in farming activities of any community and when it is poorly disseminated, farming activities as well as the community development becomes highly impeded. All human societies depend very much on information for existence that is information is life.

The Need for agricultural information is the basic necessity for the farmers as it plays a pivotal role in enlightening them, raising their level of knowledge and eventually helping in their decision-making process regarding farming activities. Effective communication in the utilization of agricultural information from research systems to the farmers' is one input in agricultural activities. Information has been identified as one of the resources required for the improvement of agricultural production. Therefore, for farmers to function very well, they need information. Constant information is needed on agronomic practices, disease and pest control, post harvest practices, credit facilities, etc.

Thus, achieving agricultural development in Katsina state in the next decades will require a focus on potentials of the information sources that provide a variety of information on agriculture related activities. These could include information on crop production and protection, livestock production, agro-forestry, pest and diseases control, fertilizer availability and application, agricultural credit facilities, market prices, improved seeds varieties, rainfall gauge and so on. Based on these notions, the current study seek to examine the Factors That Promote Smallholder Farmers' Utilization Of Agricultural Information In Katsina State.

Statement of the Problem

For several decades, efforts have been directed toward improving African economic growth and development through promotion of agricultural productivity, particularly in sub-Saharan Africa. However, in most of the northern Nigerian states including Katsina Smallholder farmers are still in agricultural systems characterized by low input and low outputs (DAFF, 2017). Low yield is the most critical factor affecting profitability and competitiveness of smallholder farmers. Furthermore, many smallholder farmers are unprepared to meet the complex demands of agricultural business. Many lack the skills and resources required to engage in commercialized agriculture. Over 80% of smallholder farmers still produce at the subsistence level.

Agriculture is one of the economic activities taking place in Katsina. About 60 percent of the state's population relies on agriculture for their livelihood and most of those engaged in agricultural practice farming (KTARDA, 2016). However, there are differences in production outcomes resulting in differences on the farmers' utilization of agricultural input. Despite the huge investment and efforts being made by both the federal and state governments yet, the smallholder farmers could not produce sufficient foods for the nation's consumption. Consequently, one is forced to ponder whether the smallholder farmers do not meet their information needs? Or the sources are not effectively utilized? Therefore, it was based on this, this study examine the factors that promotes farmers' utilization of agricultural information in Katsina state.

Objectives of Study

The main aim of this study is to examine the factors that promotes farmers' utilization of agricultural information in Katsina state. while the specific objectives are:

1. To determine the factors that promote smallholder farmers' utilization of agricultural information in Katsina state
2. To Identify the challenges associated with smallholder farmers utilizing agricultural information in Katsina state

Methodology

The research design adopted in this study was a survey using a cross-sectional design. The population of this study comprised all registered smallholder farmers in Katsina state with the target population of those belonging to the cooperative associations of farmers in Zango, Faskari and Dutsinma local government areas respectively. The total population is nine hundred and fifty-five (955) Smallholder farmers. Cohen, Manion, and Morrison, (2017) Stated that, sample Size of thirty per cent (30 %) can be held to be the minimum number of cases if researchers plan to use some form of statistical analysis on their data, Therefore, Cluster Sampling was adopted to the current study because the population is large not possible to randomly select from the entire population a sample of 286 respondents was recruited from the 955 registered smallholder farmers, Kothari, (2004) opined that, Cluster sampling is the total population divided into a number of relatively small subdivisions which are themselves clusters of still smaller units and then some of these clusters are randomly selected for inclusion in the overall sample. The main instrument used for data collection was questionnaire. The choice of a questionnaire for the study was to enable the researcher to save time as well as aid in the interpretation of the results obtained. Kothari, (2004) emphasized that, questionnaire is low cost even when the universe is large and is widely spread geographically, free from the bias of the interviewer; answers are in respondents' own words and have adequate time to give well thought out answers. The farmers'

questionnaire was translated into native language (Hausa) by a translation expert. This helped some respondents that were not able to read the English version of the questionnaire. Descriptive data analysis technique was used to analyse the data. Tables and graphs were used to display information.

Table 1: Population Distribution of the Smallholder Farmers according to their LGAs and Cooperative Associations

S/N	Agricultural Zones	LGAs	Total No. of Associations	Total No. Of Small Holder Farmers
1.	Zone I (Ajiwa)	Zango	8	321
2.	Zone II (Funtua)	Faskari	9	301
3.	Zone III (Dutsin-Ma)	Dutsinma	9	333
Grand Total		3	26	955

Source: Katsina State Agricultural and Rural Development Agency (KTARDA). (2022)

Table 2: Percentage Distribution of the Sample Size

LGA/Zones	Associations/Cooperative	Total No. of SHFs	Total Sampled
Zango/Zone I	Kawarin Kudi Cooperative Society	44	13
	Noman Gero Sana'ace Farmers Association.	39	12
	Dantati Farmers' Cooperative Society Gwanba.	44	13
	Arable Farmers' Cooperative Society Yar'daje Fulani	45	14
	Wet and Dry Season Cooperative Society Zango.	36	11
	Multi-purpose Farmers Association.	42	13
	Grazing Land Farmers' Cooperative Society.	40	12
	Arable Farmers' Cooperative Society Yar'daje	31	9
Sub Total	8	321	97
Faskari/Zone II	Ruwan Godia Farmers' Cooperative Assoc.	41	12
	Sabon Layin Farmers Association.	29	8
	Unguwar Ali Farmers Association.	31	9
	Daudawa Farmers' Cooperative Society.	41	12
	Kanon Haki Farmers Association.	34	10
	U/Madugu Women Farmers Association.	30	8
	Yankara Farmers Association.	35	11
	Mairuwa Farmers' Cooperative Society.	31	9
Sub Total	9	301	88
Dutsinma/Zone III	Karofi B Farmers Association	41	12
	Karofi Maize Association	40	12
	Kuki Bagadadi Young Farmers Association.	31	9
	Kuki Cooperative Farmers Association.	39	12
	Women Farmers Association Dutsinma.	37	11
	Kawari Farmers Association.	36	11
	Suya Beans Farmers Association.	38	12
	Rice Farmers Association of Nigeria.	35	11
Sub Total	9	333	101
Grand Total	26	955	286

Data Presentation and Analysis

Factors that Promote Smallholder Farmers' Utilization of Agricultural Information, the respondents were asked to identify the factors that influence the Smallholder Farmers' utilisation of Agricultural information.

Table 3. Factors Promotes Utilisation Smallholder Farmers' Utilization of Agricultural Information

S/N	Factors	Frequency/ Percentage (Yes)	Frequency/ Percentage (No)	Total
1.	Farm Size	186 (73.8)	66 (26.2)	252(100%)
	Off – farm work engagement	191 (75.8)	61 (24.2)	252(100%)
2	Farm ownership type	195 (77.4)	57 (22.6)	252(100%)
	Group membership	212 (84.1)	40 (15.9)	252(100%)
3	Labour availability	164 (55.2)	65.1 (88)	252(100%)
	Access to credit	217 (86.1)	35(13.9)	252(100%)
4	Information seeking behaviour	168 (66.7)	84 (33.3)	252(100%)
5	Freq. of agro-input market visit & distance	170 (67.5)	82 (32.5)	252(100%)
6	Attitude towards improved farming practices	165 (65.5)	87 (34.5)	252(100%)

Field Survey, 2023

The results in Table 3 shows that 186 (73.8%) of the respondents agreed that size of the farm of SHF is a factor that contribute to the utilisation of information resources. While about 191 (75.8%) of the respondents said off – farm work engagement promotes the utilisation of agricultural information resources. Similarly, 195 (77.4%) of the respondents indicated that Farm ownership type is a factor that contributes to the utilisation of information resources for farming activities. Thus, it is an indication from the findings that 212 (84.1%) of the respondents agreed that, Group membership is a factor that contribute to the utilisation of resources. 164 (55.2%) of the respondents said the Labour availability promotes utilisation, 217 (86.1%) who were the majority said Access to credits a factor that contributes the utilisation of information resources, while 168 (66.7%) said that the Information seeking behaviour of SHF promotes the utilisation. However, 170 (67.5%) of the respondents agreed that, the frequency of agro-input market visit & distance is a factor that contribute to the utilisation agricultural information resources. While Attitude towards improved farming practices were indicated by 165 (65.5%) respondents as a factor that leads to the utilisation

The Challenges Associated with Smallholder Farmers Utilizing Agricultural Information in Katsina State

The respondents were asked to indicate the challenges they encountered in accessing and utilising agricultural information in their farming activities and the measures to overcome the challenges. The summary of their responses is presented in Table 3 and Table 4.14 respectively.

Table 4: Challenges affecting utilisation of agricultural information

SN	List of Challenges Faced	Yes (%)	No (%)	Total
1	Inadequate funds and Support	216 (85.7)	36 (14.3)	252(100%)
2	Lack of awareness of available information sources	219 (86.9)	33 (13.1)	252(100%)
3	Poor access to roads linking to remote areas	210 (83.4)	42 (16.6)	252(100%)
4	Lack of education to seek for information	215 (85.4)	37(14.6)	252(100%)
5	Socio- economic status and old age	188 (74.6)	64 (25.4)	252(100%)
6	Poor response from government authorities	207 (82.2)	45 (17.9)	252(100%)
7	Resistance to change	160 (63.5)	88 (34.9)	252(100%)
8	Inefficient telecommunication network especially in remote areas	126 (50.2)	123 (48.9)	252(100%)

Field Survey, 2023

The results in Table 4. Show the challenges faced by smallholder farmers in the accessing and utilising agricultural information in Katsina state in their quest to improve their farming activities. Data gathered from the respondent indicated that 216 (85.7%) respondents admitted the problem of Inadequate funds and Support, 219 (86.9%) lack awareness of available information sources, 210 (83.4%) were suffered from Poor access to roads linking to remote areas and 215 (85.4%) respondents lack knowledge to seek for information from various means. Furthermore, the findings revealed that the socio-economic status and age of farmers also indicated as a challenge faced by 188 (74.6%) Smallholder farmers in accessing and utilising information and poor response from government authorities were 207 (82.2%), followed by Resistance to change 160 (63.5%) and the Inefficient telecommunication network especially in remote areas were 126 (50.2%).

Discussion

Based on the result presented it showed that the factors that lead to farmer's utilization of agricultural information Farm Size, off – farm work engagement, farm ownership type. group membership, labour availability, access to credit, information seeking behaviour, frequency of agro-input market visit & distance, Attitude towards improved farming practices. This finding is inline with Zhang, (2017); Rehman (2018); Davis (2018) and Ayele and Bosire (2021) who opined that, factors Promotes Utilisation Smallholder Farmers' Utilization of Agricultural Information in african countries are: Off – farm work engagement, farm size, farm ownership type, group membership, labour availability, Access to credit, information seeking behaviour, Frequency of agro-input market visit & distance and attitude towards improved farming practices.

The result also indicated that challenges affecting utilisation of agricultural information are Inadequate funds and Support, lack awareness of available information sources, Poor access to roads linking to remote areas lack knowledge to seek for information from various means, socio-economic status and age of farmers resistance to change and inefficient telecommunication. This corroborate with the finding of Fashola. (2018) and Daudu (2019) who revealed that, outdated information, language barrier, lack of awareness on existence of different information sources, lack of funds and poor format of information carrier, inadequacy of facilities/professional, incomplete or irrelevant information are the major challenges of accessing and utilizing agricultural information by smallholder farmers.

Conclusion

The study concluded that factors that promote the utilization of the agricultural information by smallholder farmers for agricultural activities in Katsina State, farm size, labour availability, access to credit, group membership, distance to agro input market, off – farm work engagement, Farm ownership type, farmers' information seeking behaviour, achievement motivation, and farmers' attitude towards improved farming activities, and the challenges associated by farmers in utilizing agricultural information Inadequate fund and support; lack of awareness of available information sources, Poor access to roads linking to remote areas, Low level of education, Socio- economic status and old age; Poor response from government authorities', Resistance to change.

Recommendations

Based on the research findings, reviewed literature and conclusion drawn, the following recommendations are made

Basic skills on the part of the smallholder farmers on how to utilise information resources technologies are highly required. This can be promoted through encouraging rural dwellers to have formal education through mass literacy schools, since education will give them the opportunity to obtain information through various sources. More importantly, on the other hand, training and retraining of farmers should equally be encouraged, as this will go a long way in promoting farmers' awareness and facilitate accessibility which eventually could lead to utilization and adoption, perhaps through short courses and organized workshops, seminars and meetings, etc.

Adequate funding is required to be provided by the government in form of soft loan or Subsidy to enable and encourage smallholder farmers to obtain farm information for improvement and development. the provision of good roads network linking rural communities also need to be improved

Agricultural research institutes and extension agencies have a greater role to play by repackaging information perhaps by way of summarising, interpreting and translating the research findings in native languages understood by smallholder farmers. This will go a long way in promoting access to and utilization of information by the smallholder farmers.

Katsina State Government should establish agricultural libraries equipped with relevant information resources and services in each local government area to ensure proper accessibility and utilisation of agricultural information.

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