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Perception of Cassava and Maize Farmers on the Effectiveness of Agricultural Information Channels in Southwest, Nigeria

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Abstract

The study examined the perception of arable crop farmers on the effectiveness of agricultural information channels in adopting good agricultural practices in southwest Nigeria. A multi-stage sampling procedure was used to select 300 respondents for the study. Data were collected through a structured interview schedule and analysed with percentages and mean. The study revealed that most (94.2%) respondents had access to radio and agricultural extension. The results revealed that farmers ranked very high, in terms of the level of access to eight out of the ten channels listed. Radio and extension agents were rated as very effective channels. Television, telephone calls, SMS, recorded audio, WhatsApp, film shows, written materials, and Facebook were rated as effective. Low disposable income (57.7%) and Inadequate infrastructures (51.5%) were the major limitations associated with the effectiveness of agricultural information channels. Agricultural extension visits can be concluded to be the most preferred channel by the farmers. It is recommended that agricultural

development projects (ADPs) ensure that agricultural information is packaged and disseminated through channels preferred by the farmers. The government should put in more funds to support agricultural extension services.

Introduction

Agriculture plays several roles in Nigeria's economy, including feeding the country's expanding population, providing sufficient raw materials for the expanding industrial sector, creating jobs, earning foreign exchange, and creating a market for industrial sector output (Omodero, 2021). Bello (2020) asserted that more than seventy percent of the Nigerian population depends on agriculture (directly or indirectly). Agricultural information is a priceless resource that is essential to the process of new concepts being adopted for agricultural production (Muzhingi, 2022). The economic success of emerging nations depends on the expansion of agricultural production, but this is hampered by the limited uptake of yield-enhancing technologies. The diffusion of agricultural innovations is hindered by a lack of knowledge about the technique (Shikuku, 2019).

In Nigeria, there is a need to improve our agricultural practices, link farmers to the market, and access new innovative technologies (Olayemi, et. al., 2020). Without a doubt, pertinent, trustworthy, and helpful knowledge and information can increase agricultural output. Farmers indeed depend on knowledge and information for their growth (Grady, et. al., 2019). Farmers' productivity depends heavily on the spread of agricultural information because it's the only way they can learn about improvements that will increase their output (Achichi, et al., 2023).

According to Wei (2020), agricultural information plays a crucial role in enhancing agricultural productivity and connecting higher output to profitable markets, which enhances livelihoods, food security, and national economics. To increase productivity, it is critical for people working in the farm and agricultural industries to have a variety of abilities, know-how, and information (Duncan et al., 2022). To reduce food insecurity and increase agricultural output, knowledge, and information management might be extremely important. Farmers and intermediaries can obtain pertinent knowledge and information promptly if managed effectively. Unquestionably, this kind of knowledge and information dissemination reduces the risk and uncertainty farmers encounter throughout the produce production and sale process (Ndimbwa, et al., 2021).

Nigeria's biggest obstacle to agricultural output is not the lack of suggested practices necessary for rural transformation and economic progress, but rather the incapacity to reach end users with messages via accessible channels (Konkwo & Michael, 2021). Even after the concepts have been shared, some of the farmers are unable to make them a reality. However, farmers are often blamed for their poor technology adoption and their degree of adoption rather than the effectiveness of the channels they use to convey information. To become more powerful and increase profits, farmers long for pertinent developmental information about their way of life, social standing, and economic standing. It has been demonstrated that information channels can effectively communicate such developmental information (Yekinni et al., 2019).

Arable crop farmers have access to useful information about pre-cultivation activities (crop selection, planting site selection, sowing duration), cultivation, and crop harvesting activities (land preparation, sowing technique, implement use, input

sources, harvesting dates, and procedures). Lastly, post-harvest operations (marketing, storage, shipping, and processing) (Yekinni et al., 2019) through various agricultural information channels. There is a knowledge vacuum because most of the studies have concentrated on adoption-related factors rather than information channel effectiveness. Therefore, the focus of this study was to determine the perception of arable crop farmers on the effectiveness of agricultural information channels on the adoption of good agricultural practices in Southwest, Nigeria finding answers to the following questions.

i. Identify the agricultural information channels arable crop farmers have access to;
ii. determine arable crop farmers' level of access to agricultural information channels;
iii. identify limitations to the effectiveness of agricultural information channels;
iv. determine the effectiveness of agricultural information channels.

Methodology

The study was carried out in Southwest, Nigeria. The area lies between longitude 2 0 31 ' and 6 0 00 ' East and Latitude 6 0 21 ' and 8 0 37 ' N. The population of the study consisted of selected arable farmers (Cassava and Maize). The data were collected with the aid of a structured questionnaire. A multi-stage sampling procedure was used for this study. Ondo Oyo and Ogun States were purposively selected from the six southwestern states because they dominate cassava and maize production in Southwest, Nigeria. The second stage involved proportionate selection, 20% of the available local government area from each of the selected States, Akure North, Owo, Irele, and Ondo East LGAs were selected for Ondo State, Ogbomoso South, Ogbomoso North, Saki, Oyo West, Lagelu, Ibarapa East, and Ido LGAs were selected for Oyo State while Abeokuta North, Odeda, Ijebu-Ode, and Yewa North were selected for Ogun State. The third stage involved the random selection of one (1) community from each LGA selected for the three States. In the fourth stage, twenty (20) arable crop farmers were selected randomly from each community selected for each state. Three hundred (300) selected arable crop farmers represented the sample size.

The effectiveness of agricultural information channels was measured based on eight effectiveness indicators. The indicators include openness, linkage, structure, reward, capacity, proximity, synergy, and feedback. It was measured on a 3-point Likert-type scale of very effective, effective, and ineffective. Farmers were asked to indicate their perceived effectiveness of listed agricultural information channels for each indicator. Agricultural information channels to which arable crop farmers had access were measured by access (1) and no access (0), farmers' level of access to agricultural information channels was measured on a 4-point Likert-type scale of most times (4), sometimes (3), rarely (2), and never (0). The frequency distribution table, percentage, mean score, and graphical representation were used to achieve the research objectives.

Result and Discussion

Access to agricultural information channels

Table 1 reveals that the majority of the respondents had radio access (94.4%), agricultural extension agents (90%), telephone calls (88%), written materials (68.2%), television (58.3%), and Mobile SMS (56.3%). While the minority had access to facebook farm page (43.6%), film shows (33.2%), WhatsApp (33%), and recorded audio (32.6%). The findings are consistent with those of Sennuga et al., (2020) that radio and mobile phones are the most utilized source of agricultural information among farmers in Kaduna state. The results indicated that the farmers are quite knowledgeable of the different agricultural information channels on good agricultural practices.

Table 1: Access to Agricultural Information Channels

Channels	Access
Radio	94.4%
Agricultural Extension Agent	90.0%
Telephone calls	88.0%
Written Materials	68.2%
Television	58.3%
Mobile SMS	56.3%
Facebook Farm Page	43.6%
Film Show	33.2%
WhatsApp	33.0%
Recorded audio	32.6%

Source: Field survey, 2022

Farmers' Level of Access to Agricultural Information Channels

The results shown in Table 2 reveal that farmers on average ranked very high, in terms of the level of access to eight out of the ten channels listed. The eight channels and their estimated mean scores as ranked by the farmers were radio ($\bar{x}$= 3.57), Agric-extension agent ($\bar{x}$= 3.54), television ($\bar{x}$= 3.17), and written materials ($\bar{x}$= 2.96). Others were telephone calls ($\bar{x}$= 2.87), SMS ($\bar{x}$= 2.82), WhatsApp ($\bar{x}$= 2.55) and Facebook ($\bar{x}$= 2.55). The result showed that Recorded audio ($\bar{x}$= 2.23) and Film shows ($\bar{x}$= 2.40) were ranked lowest. This result aligns with previous studies on radio listenership among Nigerian farmers (Fadairo and Oyelami 2019), which stated that radio was preferred as a communication medium by all farmer types.

Table 2: Farmers' level of access to agricultural information channels

Channels	Mean±STD
Radio	3.57±0.62
T.V	3.17±0.81
Telephone calls	2.87±0.92
SMS	2.82±0.94
WhatsApp	2.55±1.05
Written	2.96±1.11
Facebook Farm page	2.55±1.31
Recorded Audio	2.23±1.59
Film show	2.40±1.71
Agric extension visit	3.54±0.67

Source: Field survey, 2022

Limitations to the Effectiveness of Agricultural Information Channels

Table 3 shows that low disposable income was the major (51.5%) limitation associated with the effectiveness of agricultural information channels. Since information is generally costly, funds at the disposal of the farmers to seek information from agricultural information may be inadequate. For instance, the price of telephone is high as well as that of mobile data. It required that farmers seeking information from such channels should be financially buoyant. About 51% of the sampled respondents were limited by inadequate infrastructure such as electricity to effectively access agricultural information channels. This could be as a result of irregular and unaffordable electricity which limits radio and television usage as well as internet access.

Low/inability to read and write (32.8%) was another factor that limited the effectiveness of agricultural information channels in the study area. This may be because agricultural information transmitted through various channels was not mostly done in the local dialect which would aid farmers' understanding. Some terms and terminologies need to be simplified in the local dialect to ease comprehension. Agricultural leaflets if not published in the simplest languages could also hinder the effectiveness of agricultural information channels. This finding is supported by other researchers who identified illiteracy levels of farmers as one of the most fundamental problems facing extension service delivery in Nigeria (Yekinni & Afolabi, 2019).

Other limitations are language barriers (26.1%), cultural barriers (16.5%), poor radio and television signals (27.4%), airing of agricultural information at odd hours (19.1%), limited internet coverage (27.1%), inadequate knowledge of information sources (13.2%), and poor knowledge sharing culture (18.5%).

Table 3: Limitation to the Effectiveness of Agricultural Information Channels

Limitations	Percentage
Inadequate infrastructures	51.1
Low disposable income	57.7
Low level of literacy/inability to read and write	32.8
Language barriers	26.1
Cultural barriers	16.5
Poor radio and television signals	27.4
Airing of agricultural information at odd hours	19.1
Limited internet coverage	27.1
Inadequate knowledge of information sources	13.2
Poor knowledge-sharing culture	18.5

Source: Field Survey, 2022

Effectiveness of Agricultural Information Channels

Results from Table 4 show that radio ($\bar{x}$= 2.56) and extension agents ($\bar{x}$= 2.78) were rated as very effective channels. Television ($\bar{x}$= 2.30), telephone calls ($\bar{x}$= 2.21), SMS ($\bar{x}$= 2.17), recorded audio ($\bar{x}$= 1.87), WhatsApp ($\bar{x}$= 2.02), film shows ($\bar{x}$= 1.86), written materials ($\bar{x}$= 1.97), and Facebook farm page ($\bar{x}$= 1.86) were rated as effective. This finding is also in consonance with that of Yekini and Afolabi (2019) that extension agents (farm visits/ home visits) were perceived as the most effective means of communication by farmers in Ogbomosho, Oyo state.

Table 4: Effectiveness of agricultural information channels

Channels	Mean
Radio	2.56
Television	2.30
Telephone calls	2.21
SMS	2.17
WhatsApp	2.02
Written materials	1.97
Recorded Audio	1.87
Facebook farm page	1.86
Film show	1.86
Agric extension visit	2.78

Source: Field survey, 2022

Conclusion and Recommendation

Many of the farmers had access to various agricultural information channels. Radio and agricultural extension visits were the most accessed channels. Low disposable income and inadequate infrastructure were the major limitations perceived by the farmers. Agricultural extension visits can be concluded to be the most preferred channel by the farmers. It is recommended that the agricultural development projects (ADPs) should ensure agricultural information is packaged and disseminated through channels preferred by the farmers. The government should put in more funds to support agricultural extension services in each state.

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