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ASSESSMENT OF INFORMATION SHARING AMONG CASSAVA FARMERS IN GWER-EAST LOCAL GOVERNMENT AREA, BENUE STATE, NIGERIA

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Abstract

The study assessed information sharing among cassava farmers in Gwer-East Local Government Area of Benue State, Nigeria. A multistage sampling procedure was used to select 102 cassava farmers from four communities. Primary data were collected through a structured questionnaire and analyzed using descriptive statistics and logit regression. The findings revealed that majority (65.7%) of the respondents were males and within the economically active age range of 26–50 years (92.2%), with a mean age of 41 years. The majority (73.5%) were farmers by occupation, had moderate annual incomes averaging ₦2,941,470, and small-to-medium farm sizes averaging 7 hectares. Radio (12.8%) and fellow farmers (10.7%) were identified as the major sources of agricultural information. Verbal discussion (20.8%), phone calls/SMS (19.0%), and demonstrations (19.5%) were the predominant means of information sharing. The regression analysis ($Chi^2 = 61.32$; $p < 0.01$; $R^2 = 0.5765$) indicated that education level ($p = 0.074$) and proximity to information sources positively influenced information sharing. Major challenges reported included poor mobile network coverage, inadequate training, and outdated or irrelevant information. The study concluded that information sharing among cassava farmers was moderately effective but constrained by infrastructural and institutional limitations. It recommended strengthening cooperative societies, enhancing extension services, and improving ICT infrastructure to facilitate better access and exchange of agricultural information among cassava farmers in the study area.

Keywords: Assessment, Farmers, Information, sharing , Cassava.

1.0 Introduction

Information plays a fundamental role in agricultural development, influencing decision-making, productivity, and sustainability. In modern agriculture, access to timely and accurate information determines the effectiveness of farming activities, as it enables farmers to adopt best practices, optimize resource use, and respond effectively to market dynamics (Aker, 2011). The dissemination and sharing of agricultural information are crucial for improving farm output and achieving food security. Among cassava farmers, the ability to share information on improved farming techniques, pest control measures, climate conditions, and market opportunities is essential for enhanced productivity and economic well-being (Aker, 2011).Cassava (*Manihot esculenta*) is one of Nigeria's most important staple crops, serving as a primary source of carbohydrates for millions of people. Nigeria is the world's largest producer of cassava, contributing significantly to food security and economic development (FAO, 2020).

Technological advancements have revolutionized the way farmers access and share information. The adoption of digital agricultural platforms, mobile-based extension services, and social media networks has expanded the scope of information dissemination, enabling cassava farmers to receive real-time updates on weather patterns, input availability, and market trends (Davis and Addom, 2021). These technologies complement traditional knowledge-sharing mechanisms, fostering a more integrated and responsive agricultural information system. However, the effectiveness of these tools depends on farmers' access to digital resources, literacy levels, and their willingness to embrace modern communication technologies.

Despite increasing efforts by government agencies, non-governmental

organizations (NGOs), and research institutions to provide agricultural information through extension services, mass media, and digital platforms, many cassava farmers still rely on informal and often unreliable sources (Adebayo and Olagunju, 2022). This situation results in low adoption of improved cassava farming practices, persistence of traditional farming methods, and increased vulnerability to climate change effects (Ajayi *et al.,* 2020). Previous studies on agricultural information dissemination among Nigerian farmers have focused largely on the availability of agricultural information rather than understanding the behavioral patterns and dynamics of information sharing among farmers (Musa *et al.,* 2022). Research that has explored information-sharing mechanisms among farmers often lacks empirical analysis of the barriers, sources, and motivations influencing their willingness to share agricultural knowledge (Egbetokun et al., 2020).

2.0 Objectives of the Study

The broad objective of the study was to assess of Information Sharing among Cassava Farmers in Gwer-East Local Government Area, Benue State, Nigeria. Specifically, the study sought to:

i. describe the socio-economic characteristics of cassava farmers in Gwer-East Local Government Area;

ii. identify major sources of agricultural information available to cassava farmers in the study area.

iii. determine factors that influence information-sharing among cassava farmers in

the study area.

iv. identify the challenges faced by cassava farmers in accessing and sharing agricultural information.

3.0 Methodology

The study was carried out in Gwer-East Local Government Area (LGA), located in Benue State, within the North-Central geopolitical zone of Nigeria, with its administrative headquarters situated in the town of Aliade. Gwer-East LGA shares boundaries with Gwer-West, Gboko, Konshisha, and Otukpo LGAs, and comprises several towns and communities including Ikpayongo, Mbakera, Mbalom, Mbagen, Mbakinegh, and Mbakaange (Benue State Government, 2023). According to projections based on the 2006 census, the estimated population of the LGA is approximately 250,000 [National Bureau of Statistics (NBS), 2022].

The study population comprises all cassava farmers in Gwer-East Local Government Area. A multistage sampling procedure was employed. Firstly, four wards were purposively selected based on the concentration of cassava farming activities. From the selected wards one farming community each was selected. Yonov, Ngyohov, Njiriv, and Ikpane. The selection is from the four communities, 10% of the respondents were randomly selected from the communities based on the high prevalence of cassava farming in these areas compared to other wards in the LGA. A random selection of 10% of the cassava farmers in each of the four (4) communities were carried out to determine the sample size for the study. The sampling plan is presented in Table 1.

Table 1: Sample Size Selection Plan

Council wards	Sampling frame	Sample size (10%)
Yonov	243	24
Ngyohov	257	26
Nijiriv	251	25
Ikpane	269	27
Total	**1,020**	**102**

4.0 Results and Discussion

4.1 Socio-economic Characteristics of the Respondents

Table 2 shows that majority (65.7%) of the respondents were male, while 34.3% were female. This implies that men were more involved in cassava production in the study area compared to women. This trend may be attributed to the fact that farming activities, especially melon cultivation, require more physical strength, which males are generally perceived to possess. This finding agrees with the submission of Chikezie (2012), who observed that males tend to dominate farming activities because they are more energetic and readily available for physically demanding agricultural work.

The age distribution of respondents showed that a large proportion (92.2%) were within the age range of 26–50 years, while 3.9% each were either below 25 years or above 51 years, with a mean age of 41 years. This suggests that most of the respondents were in their middle and economically active age bracket, which is favorable for effective farm work and adoption of improved farm practices. The finding is consistent with Adeogun et al. (2010), who emphasized that middle-aged farmers are more likely to adopt new technologies due to their flexibility and openness to innovation.

Regarding marital status, 59.8% of the respondents were single, 24.5% divorced, 11.8% married, 26.0% separated, and 2.0% widowed. This implies that a majority of respondents were single, which may influence their availability for farm work since they may have fewer household responsibilities. This result contradicts the findings of Adebayo (2013), who noted that married farmers tend to have larger family labor sources and are often more engaged in farming activities.

The educational status of respondents indicates that 50.0% had less than nine years of formal education, 48.0% had between 10–12 years, while only 2.0% had more than 13 years of schooling, with a mean educational level of 9 years. This suggests that most of the farmers in the area had basic education, which could enhance their ability to understand and apply improved agricultural practices. This supports the view of Opara (2008), who asserted that education plays a crucial role in enhancing farmers' awareness and adoption of innovations.

The household size of respondents reveals that 62.7% had between 1–5 persons, 33.3% had 6–10 persons, while 3.9% had more than 11 persons, with a mean household size of 6 persons. This indicates that most farmers had relatively small households, which may limit the availability of family labor for farm activities. This finding aligns with Nwaru (2004), who observed that household size is an important determinant of labor availability for agricultural production.

Concerning annual income, the result shows that 53.9% of respondents earned between ₦500,001–₦2,000,000, 17.6% earned less than ₦500,000, while 20.6% earned above ₦6,500,001, with an average annual income of ₦2,941,470. This implies that most of the farmers had moderate income levels, suggesting that melon farming is a relatively

profitable venture in the area. This finding supports Agwu *et al.* (2008), who posited that income level influences farmers' ability to access improved farm inputs and technologies.

Findings on occupation indicate that 73.5% of the respondents were farmers, 24.5% traders, and 2.0% artisans. This implies that farming was the major occupation among respondents, reinforcing the fact that agriculture remains the primary livelihood source in the study area. This result is consistent with the observation of Olayemi (2012), who noted that rural dwellers in Nigeria depend mainly on farming for sustenance.

Regarding extension contact, the result shows that 61.8% of the respondents had no contact with extension agents, while 38.2% had contact. This implies that the majority of farmers lack access to agricultural extension services, which could limit their exposure to improved farming practices. This agrees with the findings of Ekong (2003), who emphasized that limited extension contact often constrains the dissemination of agricultural innovations among rural farmers.

The analysis of farm size indicates that 34.3% of respondents operated between 2.0–3.0 hectares, 21.6% between 6.0–7.0 hectares, 20.6% had more than 16 hectares, while only 5.9% operated on 1.0 hectare or less, with a mean farm size of 7 hectares. This suggests that most respondents were medium-scale farmers, which could enhance their capacity to adopt improved practices. This finding supports the assertion of Nnadi and Akwiwu (2008), who reported that farm size has a positive influence on the level of technology adoption.

In terms of farming experience, the result reveals that 52.0% of respondents had between 11–20 years of experience, 36.3% had 10 years or less, 9.8% had 21–30 years, and 2.0%

had more than 31 years, with an average of 12 years. This indicates that the majority of the farmers were fairly experienced in melon production, which enhances their knowledge and decision-making in agricultural activities. The finding aligns with Ezeh (2013), who observed that farming experience contributes significantly to farmers' ability to manage risks and adopt improved technologies.

Table 2: Socio-economic Characteristic of Respondents (n=102)

Socio-economic characteristics	Frequency	Percentage (%)	Mean
Sex of respondents			
Female	35	34.3	
Male	67	65.7	
Age (years)			
≤25	4	3.9	
26-50	94	92.2	41
> 51	4	3.9	
Marital status			
Divorced	25	24.5	
Single	61	59.8	
Married	12	11.8	
Separated	26	26.00	
Widow	2	2.0	
Level of education			
≤ 9	51	50.00	
10-12	49	48.0	9
> 13	2	2.0	
Household size (persons)			
≤5	64	62.7	
6-10	34	33.3	
>11	4	3.9	6
Annual income (Naira)			
≤ 500,000	18	17.6	
500,001-2,000,000	55	53.9	
2,000,001-3,500,000	4	3.9	
3,500,001-5,000,000	4	3.9	
>6,500,001	21	20.6	2,941,470
Occupation			
Farming	75	73.5	
Trading	25	24.5	
Artisans	2	2.0	

Extension contact			
No contact	63	61.8	
Contact	39	38.2	
Farm size (Hectares)			
≤ 1.0	6	5.9	
2.0-3.0	35	34.3	7
4.0-5.0	14	13.7	
6.0-7.0	22	21.6	
8.0-9.0	4	3.9	
> 16	21	20.6	
Farming experience			
≤ 10	37	36.3	
11-20	53	52.0	12
21-30	10	9.8	
>31	2	2.0	

4.2 Major Sources of Agricultural Information Available to Cassava Farmers

Table 3 presents the major sources of agricultural information available to cassava farmers in the study area. Findings revealed that radio (12.8%) was the most common source of agricultural information. This indicates that radio remains a dominant and reliable medium for disseminating agricultural messages in rural areas due to its accessibility, affordability, and use of local languages. This finding agrees with Omenesa (2011) and Ekumankama (2000), who observed t]hat radio is the most preferred source of agricultural information among farmers in Nigeria.

Television (10.7%) and fellow cassava farmers (10.7%) were also significant sources of information. The use of television provides visual learning opportunities, while interaction among farmers enhances practical knowledge sharing. This finding aligns with Agwu *et al*. (2008), who emphasized that farmer-to-farmer communication strengthens technology adoption and innovation.

Friends and family (11.4%) and community or village leaders (10.1%) also played key roles as sources of agricultural information. This implies that informal networks and traditional leadership structures remain important for disseminating farming knowledge. Aina (2007) similarly noted that social ties and trust-based communication are vital in spreading agricultural information in rural settings.

Farmers' cooperatives or groups (9.4%) and mobile phones (9.1%) were also identified as important sources. Cooperatives help members share information collectively, while mobile phones through calls and SMS improve communication between farmers and information providers. This supports Njelekela and Sanga (2015), who stated that mobile technology facilitates quick access to agricultural updates.

However, extension officers (5.0%), social media (4.3%), and training workshops (4.3%) were less common. This suggests limited contact with formal extension services and low digital literacy among farmers. The finding is consistent with Zaria and Omenesa (2012), who reported that poor access to extension agents and ICT infrastructure limits farmers' exposure to modern information sources.

Table 3: Major Sources of Agricultural Information Available to Cassava Farmers(n=102)

Source of Information	Frequency	Percentage
Radio	90	12.8
Television	75	10.7
Agricultural extension officers	35	5.0
Fellow cassava farmers	75	10.7
Community/village leaders	71	10.1
Friends and family	80	11.4
Mobile phones (calls/SMS)	64	9.1
Social media platforms (e.g., WhatsApp, Facebook)	30	4.3
Newspapers and magazines	37	5.3
Farmers' cooperatives or groups	66	9.4
Religious gatherings	51	7.2
Training workshops/seminars	30	4.3

Multiple responses recorded

4.3 Factors Influencing Agricultural Information-Sharing Among Cassava Farmers

Table 4 presents the factors influencing agricultural information sharing among cassava farmers in the study area. The model recorded a Chi-square value of 61.32 with a probability level of 0.000, indicating that the explanatory variables collectively had a statistically significant influence on agricultural information sharing at a 1% level of significance. The R^2 value of 0.5765 further shows that about 57.6% of the variation in farmers' information-sharing behavior was explained by the socio-economic factors included in the model, suggesting a reasonably good model fit.

Among the variables, the level of education of farmers was positively related to information sharing with a coefficient of 2.052742 and a p-value of 0.074, which is significant at the 10% level. This implies that higher educational attainment enhances farmers' ability to acquire, interpret, and share agricultural information. This finding agrees with Opara (2008), who reported that education improves farmers' understanding of agricultural innovations and promotes effective information exchange.

The proximity of the information source also showed a positive relationship (Coeff. = 1.36426, p = 0.226), indicating that farmers who live closer to information sources such as radio stations, extension offices, or cooperatives are more likely to share agricultural information. The finding supports the view of Agwu et al. (2008), who emphasized that accessibility to information centers enhances communication and collaboration among farmers.

Access to mobile phones or devices also had a positive coefficient (1.505411) though not significant (p = 0.524). This suggests that ownership of mobile devices encourages

farmers to share agricultural information through calls, SMS, and social media platforms. This result aligns with Njelekela and Sanga (2015), who observed that mobile technology promotes quick and convenient agricultural information exchange among rural farmers.

Conversely, the level of trust between farmers had a negative coefficient (-3.450612) with a p-value of 0.183, indicating that mistrust among farmers can hinder the free flow of information. Trust is a crucial factor in determining whether individuals are willing to share or rely on information from others. This result agrees with Aina (2007), who noted that the effectiveness of information exchange within farming communities depends largely on mutual trust and social cohesion.

Belonging to cooperative or farmer groups also showed a negative relationship (-1.408638, p = 0.195), suggesting that group membership alone may not guarantee information sharing unless the groups are active and well-coordinated. Similarly, the availability of extension services had a positive but insignificant effect (Coeff. = 0.8917369, p = 0.443), indicating that the presence of extension officers may improve farmers' interaction, though the impact in this study area appears limited.

Other variables such as age (0.4073322), gender roles (-0.3722511), language barriers (-0.2333222), cost of accessing information (-2.039957), and willingness of others to share information (0.0342327) were not significant but contributed in varying degrees to the model. The negative effect of cost suggests that high communication expenses like airtime or internet data may discourage farmers from sharing information frequently.

Table 4: Factors Influencing Agricultural Information-Sharing Among Cassava Farmers (n=102)

Socio-economic characteristics	Coeff.	Std. Err.	Z	P>
Level of trust between farmers	-3.450612	2.588784	-1.33	0.183
Proximity of the information source	1.36426	1.127941	1.21	0.226
Level of education	2.052742	1.14924	1.79	0.074**
Access to mobile phones or devices	1.505411	2.359748	0.64	0.524
Availability of extension services	.8917369	1.161635	0.77	0.443
Belonging to cooperative/farmer groups	-1.408638	1.087485	-1.30	0.195
Age of the farmer	.4073322	.7230313	0.56	0.573
Gender roles in the community	-.3722511	.593195	-0.63	0.530
Language barriers	-.2333222	1.441963	-0.16	0.871
Cost of accessing information (airtime/data)	-2.039957	1.883903	-1.08	0.279
Willingness of others to share information	.0342327	.9143429	0.04	0.970
Constant	6.104227	3.8441	1.59	0.112

***Log Likelihood = -22.523875; Chi^2 = 61.32; Prob. > chi^2 = 0.000;* R^2 = 0.5765**

**** Sig at 10%**

4.4 Challenges Faced by Cassava Farmers in Accessing and Sharing Agricultural Information

Table 5 highlights the major challenges encountered by cassava farmers in accessing and sharing agricultural information in the study area. Findings revealed that several socio-economic and infrastructural constraints limit the effective flow of agricultural information among farmers.

The most prominent challenges identified include poor mobile network coverage (Mean = 2.45), outdated or irrelevant information (Mean = 2.60), and lack of structured training sessions or platforms (Mean = 2.59). These findings suggest that communication infrastructure and the relevance of agricultural content significantly affect information dissemination. This finding supports Njelekela and Sanga (2015), who emphasized that weak ICT infrastructure and lack of localized content limit the effectiveness of agricultural communication in rural areas.

Other notable challenges include lack of technical skills to understand new information (Mean = 2.35) and distance to information centers (Mean = 1.88). These results indicate that many farmers struggle with the technical complexity of modern information sources and face accessibility issues due to poor rural infrastructure. This aligns with the findings of Aina (2007), who noted that inadequate ICT literacy and long distances to extension offices are major barriers to farmers' participation in agricultural information systems.

Cultural beliefs that limit information sharing (Mean = 1.82) and inadequate numbers of extension officers (Mean = 1.69) were also identified as important constraints. This finding agrees with Omenesa (2011), who observed that inadequate extension personnel is a major obstacle to effective agricultural information dissemination in Nigeria.

Other less severe but still relevant challenges include low literacy levels among farmers (Mean = 1.23), language barriers (Mean = 1.33), inadequate funding to access information (Mean = 1.19), and lack of awareness of available agricultural information sources (Mean = 1.16). These factors, though relatively low in mean values, cumulatively hinder farmers' ability to locate, interpret, and utilize agricultural information effectively. The result is consistent with Agwu *et al.* (2008), who reported that illiteracy and lack of awareness often reduce farmers' participation in agricultural extension activities.

Table 5: Challenges Faced by Cassava Farmers in Accessing and Sharing Agricultural Information (n-102)

Challenges	Mean	Std. Deviation
Lack of awareness of available agricultural information sources	1.1569	.41614
Information not easily accessible	1.1961	.39899
Low literacy level among farmers	1.2353	.54820
Language barrier	1.3333	.67974
Inadequate funding to access information	1.1961	.66062
Inadequate number of extension officers	1.6863	.54465
Distance to information centres	1.8824	.64936
Cultural beliefs limit information sharing	1.8235	.61999
Poor mobile network coverage	2.4510	.91875
Lack of technical skills to understand new information	2.3529	1.43263
Outdated or irrelevant information	2.5980	1.40902
Lack of structured training sessions or platforms	2.5882	1.40968

5.0 Conclusion and Recommendations

Based on the findings of the study, it was concluded that the socio-economic characteristics of cassava farmers in the study area played a significant role in their access to and sharing of agricultural information. The majority of the farmers were middle-aged and married, with basic education and moderate household sizes. This demographic structure indicates an active farming population capable of adopting new agricultural ideas when properly informed. The study also revealed that farmers faced multiple challenges in accessing and sharing agricultural information.

The logistic regression analysis also established that socio-economic characteristics such as education level had a significant effect on farmers' information sharing. The result indicated that farmers with higher education levels were more likely to seek,

understand, and disseminate agricultural information. Although other variables such as proximity to information centers, access to mobile phones, and availability of extension services had positive but insignificant effects, they remain important supportive factors for information dissemination. The high Chi-square value (61.32) and R^2 (0.5765) demonstrated that the socio-economic variables collectively contributed to a large proportion of the variation in farmers' information sharing behavior. Therefore, the null hypothesis which stated that socio-economic characteristics have no significant effect on farmers' information sharing was rejected. The study concludes that education remains a key determinant of effective agricultural information exchange among cassava farmers, while infrastructural barriers and low digital literacy continue to hinder the process. It was therefore recommended that Government agencies, NGOs, and agricultural extension units should organize regular workshops and literacy programs aimed at improving farmers' educational and digital skills to enhance their ability to access and share agricultural information effectively.

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