

FACTORS INFLUENCING WATERMELON FARMERS' ACCESS TO AGRICULTURAL EXTENSION SERVICES IN IBARAPA NORTH LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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Abstract

This research was carried out to examine the various factors that are influential on the access of watermelon farmers' in Ibarapa North local Government area of Oyo State to agricultural extension services. 120 watermelon farmers were chosen using a two-stage sampling technique. To gather primary data, a structured interview guide was employed. The data was interpreted using descriptive statistics including Weighted Mean Score (WMS), mean, percentage, and frequency count. According to the results, the mean age of the respondents was 45 years old, with household of eight people, and the majority of farmers farmed an average of 10 hectares of land. The study's result also revealed that radio, bulletin, television, extension agent, are the sources of information on agricultural extension services by watermelon farmers. Furthermore, access to market (WMS=1.78), farming experience (WMS=1.82), marital status (WMS=1.80), access to land (WMS=1.77) were among the influential factors affecting watermelon farmer's access to agricultural extension services. Also, fertilizer application (WMS=1.88), poultry production (WMS=1.83), pest control (WMS=1.82), and mixed farming (WMS=1.79) were the agricultural extension services participated by watermelon farmers. The result further revealed that incompatibility of extension message (WMS=1.11), Improper ratio of extension agents to clientele (WMS=1.02) and lack of access to modern technology (WMS=0.83) among others were the noticeable obstacles watermelon farmers encountered when attempting to obtain agricultural extension services. Age ($P = 0.000$), household size ($P = 0.04$), farm size ($P = 0.023$), income ($P = -0.108$), and years in cooperative society ($P = 0.007$) were all statistically significant factors influencing watermelon farmers' access to agricultural extension services, according to the results of the hypothesis using PPMC. In order to assist watermelon farmers in acquiring the fundamental skills and competencies necessary to appropriately seek and successfully receive agricultural information from extension agents, the study suggests that adult literacy education programs be made mandatory.

Keywords: *Agricultural Extension Services, Extension Agents, Clientele.*

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Introduction

A very helpful service that helps rural residents improve their standard of living is agricultural extension. In the 1980s, public sector extension came under heavy fire for

being irrelevant, ineffectual, and unproductive. Extension is the intentional transfer of skills and the systematic exchange of knowledge among rural players so that they can become continuously relevant to a

commercial economy (Ozor et al., 2004). According to Kgosiemang *et al.* (2012), the agricultural extension system is the culmination of extension organisation activity and serves as a conduit for specialised agents to deliver innovations in education and problem-solving to the right audience. In agricultural development, agricultural extension and consulting services are crucial because they can improve the well-being of farmers and other people residing in rural areas.

According to reports, providing efficient agricultural extension services is a major priority in Ethiopia, since agricultural activities account for 85% of employment, 50% of GDP, and 50% of exports (Oladele, 2004). This is because it was discovered that one of the most crucial and successful ways to reach farming households in rural areas was through agriculture extension programs (Adekunle, 2013). Farmers should play a complementary and competitive role in extension services for rural agricultural development programs. The performance of the agricultural sector depends on the continuous efficient administration of agricultural extension services, and the management of agricultural extension services has been identified as a primary challenge in the provision of extension services (Oredipe, 2015). Watermelon is fruit plant belonging to the Cucurbitaceae family that originated as a vine in southern Africa. Commercial cultivation of the crop is usually found in areas with extended, frost-free warm seasons (Majid, 2011). Watermelon production often requires a lot of effort, especially during harvest and postharvest handling (Baameur, 2009). According to reports, there are a number of reasons why watermelon production needs to be improved, one of which is that it can thrive even in areas that are flooded (Robinson, 2000). This demonstrates the employment opportunities that watermelon farming will present to Nigeria's hordes of unemployed youth. Furthermore, watermelon

has a very high market demand because it can be used as both a fruit and a vegetable. Many people eat watermelon as a fruit, as a way to add sweetness, or as a fun side dish for regular meals. Watermelon is frequently chopped into bite-sized squares or balls, or it is frequently just sliced and eaten. It is also used in the kinds of recipes that are made with its fruits. The entire watermelon, including the rind, is edible. Watermelon is often stir-fried, stewed, and pickled in regions such as China (Wehner, 1999). Extension service access encourages the use of advanced agricultural technologies by reducing supply side constraints caused by inefficient information markets Ogunfiditimi, (2005). Thus, this study offers responses to the following research questions:

- i. What socioeconomic characteristics do watermelon farmers in Oyo State's Ibarapa North Local Government Area possess?
- ii. What are the sources of information on agricultural extension services in the research area?
- iii. What are the factors affecting the study area's watermelon farmers' access to agricultural extension services?
- iv. To what extent do watermelon farmers in the study area have access to agricultural extension services?
- v. How difficult is it for watermelon farmers in the research area to obtain agricultural extension services?

Objectives of the study

The primary objective of this study is to examine the factors influencing watermelon farmers' access to agricultural extension services in Ibarapa North Local Government Area of Oyo State.

The specific objectives are to:

- i. describe the socioeconomic traits of farmers who grow watermelons,
- ii. determine the informational sources for agricultural extension services,
- iii. look into the elements that affect watermelon farmers' ability to obtain agricultural extension services,
- iv. assess how easily watermelon farmers may receive agricultural extension services,
- v. determine the obstacles watermelon farmers encounter while trying to obtain agricultural extension services.

Hypothesis of the study

The hypothesis of this study was stated in null form.

H₀₁: There is no significant relationship between selected socio-economic characteristics and factors influencing watermelon farmers' access to agricultural extension services.

Methodology

The focus region for this research is Ibarapa North Local Government Area of Oyo State, Nigeria.

It was established in 1996 from Oyo State's former Ifelaju Local Government area. Its headquarters are in Ayete, and it is divided into 10 political wards. With a population of 101,092 (National Population Census, 2006) and an area of 1,218 km², it is home to the Yoruba sub-ethnic group known as the Ibarapa. The primary occupation in the region is agriculture, and the main agricultural products include food and cash crops such as water melon, cocoa, yam, cassava, and mango. Two stage sampling technique was used for this study. The stages were;

Stage 1: In the three major towns in the study area (that is, Ayete, Tapa and Igangan), there are four major associations namely Iwajowa I Fruit and Vegetable Producer Association and Orisun Fruit and Vegetable Association of Nigeria. Thus, all (100%) of the association groups were purposively selected.

Stage 2: The total registered number of members in Iwajowa I fruit and vegetable association located in Ayete is 52, the Iwajowa II fruit and vegetable association located in Tapa has 78 members, meanwhile Ifelodun and Orisun Fruit and Vegetable Association located in Igangan have 83 and 26 members respectively. Based on the total number of association, aside from tapa (Iwajowa II fruit and vegetable association), 50% of each of the total number in each group was randomly selected while 39 members were selected from Iwajowa II Fruit and Vegetable Association to give a total of 120 water melon farmers for this study.

Results and discussion

Socioeconomic traits of watermelon farmers in the research region

Table 1 displays the socioeconomic traits of watermelon farmers in the research region. In terms of respondents' ages, the results showed that 38.33% of them were between 41 and 50 years old, 31.67% were between 31 and 40 years old, 11.67% were under 30 years old, and 18.33% were above 50. The responders' average age was 45 years old. This suggested that the majority of the watermelon farmers in the research region were still in the active stage of their lives.

According to the respondents' gender distribution, 33.33% of respondents were female and 66.67% of respondents were male. This suggests that males dominated the production of watermelon in the area. Regarding respondents' marital status, in the study area, 66.67% of respondents were married, 13.33% were divorced, and 20% were single. The majority of watermelon farmers in the research area were married, according to these results, which support greater responsibility that requires a larger financial commitment. According to the household size results, 45.83% of the respondents had five to ten people living in their home, 23.33% had five or fewer, 15.83% had eleven to fifteen,

and 15.00% had more than fifteen. Eight people lived in the average household. This suggests that the average household size of watermelon farmers in the research area was eight people. Regarding years spent in school, 39.17% of respondents said they had attended for 6–10 years, 36–67% said they had attended for 11–15 years, 32.50% said they had attended for more than 10 years, and 28.33% said they had attended for 1–5 years. Eleven years was the average number of school years. This suggests that while the majority of watermelon farmers in the research area completed secondary school, they can still be considered somewhat literate. 40.00% of respondents had a watermelon production farm that was between 1 and 5 hectares, 25.00% had a farm that was between 6 and 10 hectares, 22.50% had a farm that was between 11 and 15 hectares, and 12.50% had a farm that was more than 15 hectares. Ten hectares was the average farm size. According to the results, small-scale farming accounts for the majority

of farmers. With regard to yearly income, the findings showed that 32.50% of respondents earned between ₦500,001 and ₦1,000,000, 41.67% earned less than or equal to ₦500,000, and 25.83% earned more than ₦1,000,000 annually. However, the mean annual income was found to be ₦550,000. The findings indicate that the research area's respondents can still be categorised as low-income earners. 67.50% of respondents had more than ten years of farming experience, 3.33% had one to five years, and 29.17% had six to ten years, according to the results of years of agricultural experience. Twelve years was found to be the average amount of time spent farming. This implies that farming is a prevalent industry in the study area. 55.83% of the respondents were members of a cooperative society, while 44.17% were not, according to the results on cooperative society membership. The findings indicate that most watermelon farmers belong to cooperative societies.

Table 1: Distribution of the respondents based on socio economic traits

Variables	Frequency	Percentage	Mean
Age			
≤30	14	11.67	45
31-40	38	31.67	
41-50	46	38.33	
>50	22	18.33	
Sex			
Male	80	66.67	
Female	40	33.33	
Marital Status			
Single	24	20.00	
Married	80	66.67	
Divorced	16	13.33	
Household Size			
≤5	28	23.33	8 Members
5-10	55	45.83	
11-15	19	15.83	
>15	18	15.00	
Years Spent In School			
1-5	34	28.33	11years
6-10	47	39.17	
>10	39	32.50	

Years Of Farming Experience			
1-5	4	3.33	12years
6-10	35	29.17	
>10	81	67.50	
Farm Size (HA)			
1-5	48	40.00	10Ha
6-10	30	25.00	
11-15	27	22.50	
>15	15	12.50	
Annual Income			
≤N500,000	50	41.67	N550,000
N500,001-N1,000,000	39	32.50	
>N1,000,000	31	25.83	
Membership of Cooperative Society			
Yes	67	55.83	
No	53	44.17	
TOTAL	120	100.00	

Source: Field Survey, 2024

Sources of Information on Agricultural Extension Services by Watermelon Farmers

The result in Table 2 shows how watermelon farmers source for information on agricultural extension services. The study revealed that majority of the respondents 100.00% get information through radio, 62.00 % had access to television as source of information, 69.00% had access to extension agent as source of information, the result implies that majority of

the watermelon farmers got information on agricultural extension service through different means of information. The result further agrees with Fidelugwuowo (2021) who reported multiple avenues of agricultural specific information among farmers in rural areas of South East Nigeria, with information flow through friends, radio, television and co-workers (fellow farmers) being majorly the source of agricultural specific information used by farmers.

Table 2: Distribution of the Respondents According to Sources of information on Agricultural Extension service by watermelon farmers

S/N	Variables (Sources)	Yes	
		F	%
1	Radio	120	100.00
2	Bulletin	30	25.00
3	Television	74	61.67
4	Extension Agent	83	69.17
5	Post office/ letter	56	46.67
6	Friends	41	34.17
7	Exhibition	57	47.50
8	Farmers Group	43	35.83

Source: Field Survey, 2024

WMS – Weighted Mean Score

Factors Influencing Watermelon Farmer's Access to Agricultural Extension Services

Table 3 revealed the factors influencing watermelon farmer's access to agricultural extension services in the study area, farming experience was ranked 1st with WMS = 1.82 as the factor influencing watermelon farmer's access to agricultural extension services, marital status was ranked 2nd with WMS = 1.80, access to market was ranked 3rd with WMS = 1.78, access to land was ranked 4th with WMS = 1.77, contact with extension service and farm size was ranked 5th with WMS = 1.76 respectively, membership of cooperative was ranked 6th with WMS = 1.71,

Age of farmers was ranked 7th with WMS = 1.68, household was ranked 8th with WMS = 1.67, level of education was ranked 9th with WMS = 1.63, while access to credit was ranked least with WMS = 1.53. This result implies that all the aforementioned factors influenced the access of watermelon farmers to agricultural extension services. This result aligns with Silong and Gadanaki (2020) who concluded that household size has positive influence on the probability of access to credit. This is just as educational level of respondents also has significant influence on their access to extension service delivery.

Table 3: Distribution of the Respondents According to Factors Influencing Watermelon Farmer's Access to Agricultural Extension Services

Variables	Major Factor	Minor Factor	Not a Factor	WMS	Rank
Farming experience	106(88.24)	6(5.04)	8(6.72)	1.82	1 st
Marital status	104(86.55)	8(6.72)	8(6.72)	1.80	2 nd
Access to market	103(85.71)	8(6.72)	9(7.56)	1.78	3 rd
Access to land	99(82.35)	15(12.61)	6(5.04)	1.77	4 th
Farm size	103(85.71)	6(5.04)	11(9.24)	1.76	5 th
Contact with Extension services	100(83.19)	12(10.08)	8(6.72)	1.76	5 th
Membership of cooperative	97(80.67)	11(9.24)	12(10.08)	1.71	6 th
Age of farmers	93(77.31)	16(13.45)	11(9.24)	1.68	7 th
Household size	92(76.47)	17(14.29)	11(9.24)	1.67	8 th
Level of education	92(76.47)	12(10.08)	16(13.45)	1.63	9 th
Access to credit	82(68.07)	20(16.81)	18(15.13)	1.53	10 th

Source: Field Survey, 2024

WMS – Weighted Mean Score

Level of accessibility of watermelon farmers to Agricultural Extension services

The findings from Table 4 revealed the level of accessibility of watermelon farmers to agricultural extension service. The variables were measured using highly accessible, moderately accessible and not accessible, and the weighted mean score was calculated and

ranked accordingly. fertilizer application was ranked 1st with WMS = 1.88, poultry production ranked 2nd with WMS = 1.83, pest control was ranked 3rd with WMS = 1.82, mixed farming with WMS = 1.79 was ranked 4th, sole cropping with WMS = 1.73 was ranked 5th, animal husbandry with WMS = 1.66 was ranked 6th. The result implies that all

the above variables were accessible by watermelon farmers as agricultural extension services in the study area.

Table 4: Distribution of the respondent according to level of accessibility of watermelon farmer to Agricultural Extension Services

Variables	Highly accessible	Moderately accessible	Not accessible	WMS	Rank
Fertilizer application	109(90.83)	8(6.67)	3(2.50)	1.88	1 st
Poultry production	108(96.00)	4(3.33)	8(6.67)	1.83	2 nd
Pest control	106(88.33)	6(5.00)	8(6.67)	1.82	3 rd
Mixed farming	100(83.33)	15(12.50)	5(4.17)	1.79	4 th
Sole cropping	100(83.33)	7(5.83)	13(10.83)	1.73	5 th
Animal husbandry	95(79.17)	9(7.50)	16(13.33)	1.66	6 th
Mixed cropping	83(69.17)	23(19.17)	14(11.67)	1.58	7 th

Source: Field Survey, 2024

WMS – Weighted Mean Score

Challenges Faced by Watermelon Farmers in Accessing Agricultural Extension Services

The difficulties watermelon farmers encounter in obtaining agricultural extension services were demonstrated by the results in Table 5. After listing the variables and grading them on a three-point scale of major factor, minor factor and not a factor, the weighted mean score was determined and ranked accordingly. Incompatibility of extension messages was ranked 1st with WMS = 1.11, improper ratio of extension agents to clientele, was ranked 2nd with WMS = 1.02, lack of access to modern technology was ranked 3rd with WMS = 0.83, language barrier was ranked 4th with WMS = 0.81, poor government funding of extension was ranked 5th with WMS = 0.79, poor rural road network was ranked 6th with WMS = 0.78, attitudinal problem of clientele was ranked 7th with WMS = 0.77, poor medium of communication was ranked 8th with WMS = 0.73, gender issues was ranked 9th with WMS

= 0.59 while cultural difference was ranked least 10th with WMS = 0.42 as the challenges faced by watermelon farmers in accessing agricultural extension service. The result implies that all the aforementioned variable is very significant as it affects watermelon farmers in accessing agricultural extension services. The findings of this study are very comparable to those of Ominikari et al. (2017), who investigated how participants in Bayelsa state evaluated the advantages of National Agricultural programs. Their findings showed that, in spite of the National Fadama Development Program's achievements, the beneficiaries also faced issues like a lack of program staff when needed, lack of funding, irregular training, poor communication channel, the delivery agency's tardiness, lack of regular meetings to ensure effective participation, lack of farm lands, inadequate infrastructure, the distance between training centres and beneficiaries, irregular farm input supplies, and poor roads.

Table 5: Distribution of Respondent According to the Challenges Faced by Watermelon Farmers in Accessing Agricultural Extension Services

Variables	Major Factor	Minor Factor	Not a Factor	WMS	Rank
Incompatibility of extension message	41(34.17)	51(42.50)	28(23.33)	1.11	1 st
Improper ratio of extension agent to clientele	30(25.00)	62(51.67)	28(23.33)	1.02	2 nd
Lack of access to modern technology	26(21.67)	48(40.00)	46(38.33)	0.83	3 rd
Language barrier	31(25.83)	35(29.17)	54(45.00)	0.81	4 th
Poor government funding of extension service	18(15.00)	59(49.17)	43(35.83)	0.79	5 th
Poor rural road network	21(17.50)	51(42.50)	48(40.00)	0.78	6 th
Attitudinal problem of clientele	20(16.67)	52(43.33)	48(40.00)	0.77	7 th
Poor medium of communication	23(19.17)	42(35.00)	55(45.83)	0.73	8 th
Gender issues	20(16.67)	31(25.83)	69(57.50)	0.59	9 th
Cultural difference	12(10.00)	26(21.67)	82(68.33)	0.42	10 th

Source: Field Survey, 2024

Test of Hypothesis

No significant relationship was found between the selected socio economic characteristics and the factors influencing the access of watermelon farmers to agricultural extension services.

Pearson Product Moment Correlation (PPMC) was used to analyse the relationship that exists among a few chosen socioeconomic variables and the factors affecting watermelon farmers'

access to agricultural extension services, as indicated in Table 6. The results are displayed in Table 6. The results showed that the characteristics impacting watermelon farmers' access to agricultural extension services were statistically significant and included age ($p = 0.000$), household size ($p = 0.04$), farm size ($p = 0.023$), income ($p = -0.108$), and years in cooperative society ($p = 0.007$). Consequently, the null hypothesis is disproved.

Table 6: Correlation analysis of socio economic characteristics against factors influencing watermelon farmer's access to Agricultural Extension services.

Variable	r-value	p-value	Decision
Age	1.000	0.000	S
Household size	-0.185	0.044	S
Farming experience	0.162	0.079	NS
Farm size	0.209	0.023	S
Income	0.249	-0.108	S
Years in cooperative society	0.244	0.007	S

Source: Field Survey, 2024

S – Significant

NS – Not Significant

Conclusion and recommendations

According to findings of this study, majority of respondents are married men with an average household size of eight people and an average of twelve years of watermelon production experience.

The results also showed that watermelon farmers get information about agricultural extension services from radio, extension agents, television, and bulletins.

Additionally, characteristics affecting watermelon farmers' access to agricultural extension services included farm size, marital status, farming experience, market accessibility, and land contact with extension services.

Finally, watermelon farmers encountered several obstacles while trying to access agricultural extension services, including inadequate government funding, incompatibility of the extension message, an unsuitable agent-to-client ratio, language barrier, poor rural road network, etc.

Based on these discoveries, the following recommendations were put forth:

- The government ought to support and promote watermelon farmers by providing them with preferential treatment when it comes to incentives and necessary farm inputs.
- An adult literacy education program is required to help watermelon farmers acquire the core knowledge and

abilities needed to ask extension agents for and receive agricultural information.

- To give them complete access to agricultural activities, the government should offer credit facilities through several watermelon farmers' organisations.
- The government, policymakers, and other NGOs should assist farmers by providing funds to increase their output and economic level, as there is inadequate funding for the delivery of extension services.

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