

Article

# Attitude of Farmers Towards Agricultural Extension Services in Ondo State, Nigeria

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**Abstract:** This study assessed the attitude of farmers towards agricultural extension services in Ondo State, Nigeria. It describes the socioeconomic characteristics of farmers, ascertains their awareness of extension services, the frequency of access and constraints to accessing such services. A multi-stage sampling procedure was employed to select 100 farmers, and the data were analysed using both descriptive and inferential statistics. The results revealed that most of the respondents were male (94%), middle-aged (35-54years), married (85.0%), and educated (77%). The farmers' attitudes towards extension services were influenced by the aspiration to become agripreneurs ( $\bar{x}=2.13$ ), increase average monthly income from farming ( $\bar{x}=2.06$ ) and adopt new methods of farming ( $\bar{x}=1.93$ ). While 79% of respondents were aware of the existence of agricultural extension agents, more than half (59%) had no contact with these agents, while 50% experienced a quarterly visit. The constraints to accessing agricultural extension services were inadequate extension personnel ( $\bar{x}=2.27$ ), poor transportation networks ( $\bar{x}=2.24$ ), inaccessible roads ( $\bar{x}=2.24$ ), and insufficient extension equipment or facilities ( $\bar{x}=2.13$ ). Respondents' socioeconomic characteristics were significantly related to attitude towards agricultural extension services. The study recommends the adoption of a farmer-centric extension services model, ward-based extension clustering to improve visitation frequency and the use of mobile phone-based advisory services to bridge contact gaps.

**Keywords:** Attitude, extension services, socioeconomic, awareness, access, farmers, constraints

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## 1. Introduction

Agricultural extension services deliver information and technical support for improving agricultural practices and fostering the productivity of farmers. Ofana et al. (2016) characterises agricultural extension service as a critical tool for transforming subsistence farming into modern agriculture to enhance food security and promote agricultural sustainability. However, despite the

valuable services rendered by extension agents, many farmers are reluctant to access these services due to several reasons such as belief in their experience or traditional knowledge, ineffective delivery of extension information by agents and lack of resources to implement extension advice (Tafida et al., 2024). The attitude of farmers to extension services shapes farmers behaviour and influences the adoption of improved practices and innovations (Meijer et al., 2015). Farmers' attitudes often reflect entrenched beliefs or mediating factors such as methods of training employed, farmers' disposition to change and propensity to diversify livelihoods (Nyairo et al., 2022).

Understanding farmers' attitudes towards agricultural extension services helps the extension functionaries to evaluate their services, identify flaws and weaknesses, and implement necessary adjustments to improve service delivery (Pandey et al., 2020). Through these feedback and iterative processes, extension programmes would remain responsive to farmers' needs; extension organisations would optimize the services of extension agents and facilitate positive change in the agricultural sector (Masanja et al., 2023).

This study examines the attitudes of farmers towards agricultural extension services in Ondo State. It describes their socioeconomic characteristics, ascertains their awareness of available agricultural extension services, assesses the level of contact with extension officers and frequency of visitation, and identifies constraints in accessing extension services by the farmers.

The study hypotheses are:

H1: There is no significant relationship between respondents' socioeconomic characteristics and the attitude of farmers towards agricultural extension services.

H2: There is no significant relationship between respondents' awareness of extension services and the attitude of farmers towards agricultural extension services.

## 2. Materials and Methods

### 2.1. Study area

The study was conducted in Owo Local Government Area (LGA), Ondo State which is situated in Southwestern Nigeria. With a population of 222,262 based on the 2006 Nigeria Population Census, the LGA produces agricultural commodities such as yams, cassava, cocoa, and cotton. There are also significant commercial activities around timber and sawmilling, soya bean processing and block-making industries. The study area consists of 11 communities namely: Ehinogbe, Igboroko I, Igboroko II, Ijebu I, Ijebu II, Iloro, Ipele, Isaipen, Idasen, Iyere, and Uso/Emureile (Figure 1).

The study population comprises all farmers in Owo LGA, Ondo State, Nigeria. Respondents were selected using a multistage sampling procedure. The first stage involved purposive selection of Owo LGA because of prominent extension activities in the area. Secondly, Igboroko I, Igboroko II, Isaipen, Iyere, Idasen were purposively selected from the 11 communities in Owo LGA. The total numbers of farmers in the sampled communities were Igboroko I: 120, Igboroko II: 105, Isaipen: 122, Iyere: 104, Idase: 138. Finally, twenty percent (20%) of farmers from each of these communities were selected using simple random sampling. Thus, 118 farmers were selected for the study. However, only 100 copies of the questionnaire used were found validly filled and analysable. Thus, 100 farmers formed the sample size for this study.

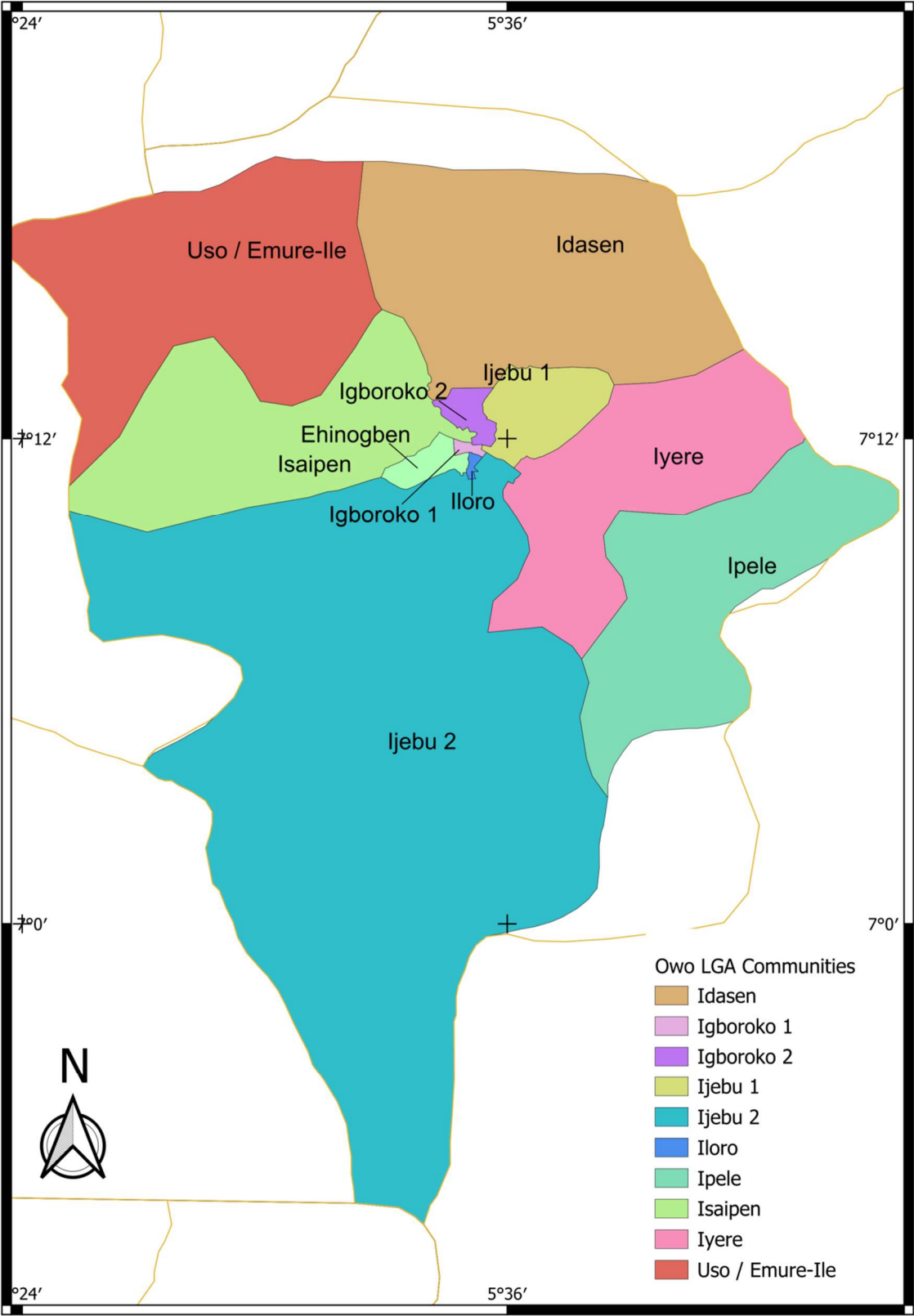


Figure 1. Map showing Owo Local Government Area, Ondo State, Nigeria

## 2.2. Measurement of Variables

Quantitative data was obtained through a survey; using semi-structured questionnaire with both open and close ended questions and analysed using frequencies, percentages and means. Socioeconomic characteristics such as age and household size were measured at interval and nominal levels. To measure farmers' awareness of extension services and contact with extension agents, respondents were asked to indicate Yes or No. To measure frequency of visitation by extension agents, a four-point Likert scale: weekly, monthly, quarterly, and yearly was used. To identify constraints in accessing agricultural extension services, respondents were asked to tick from a list of constraints which were measured using a three-point Likert-type scale: severe constraint, mild constraint and not a constraint. The mean was calculated to determine the severity of the constraints.

The attitude of farmers towards agricultural extension services was measured by presenting eighteen attitudinal statements on a 3-point scale: agree, undecided, and disagree. A score of 2, 1, 0 was assigned to positive statements, while a score of 0, 1, 2 was assigned to negative statements. Individual scores and the means were obtained. Respondents whose score fell below the mean score were categorised as having a negative attitude, while those whose scores equal to or greater than the mean were categorised as having a positive attitude.

Chi-square was used to test the relationship between respondents' socioeconomic characteristics and attitude towards agricultural extension services, while Cramer's V test was used to test the strength of the association between the two variables. Correlation analysis was used to test the relationship between awareness of extension services and respondents' attitudes towards extension services.

## 3. Results

### 3.1. Socioeconomic characteristics of respondents

Table 1 shows a preponderance of male respondents (94%) reflecting the gender disparity in agriculture in Nigeria underpinned by patriarchal belief systems and associated male's disproportionate access to resources and opportunities. Specifically, women's attitudes toward agricultural extension services are inhibited by cultural restrictions, religious norms, and male-centric institutional approach to extension services and training delivery in favour of male farmers and male-headed households (Bhusal and Kark, 2025). Qtaishat and Al-sharafat (2012) also found an overwhelming proportion of male farmers in their sample of vegetable farmers in Jordan.

The mean age distribution of the respondents reveals the dominance of the most productive age participants ( $\bar{x}$  = 40.6 years) in the sample. While older farmers tend to be comfortable with traditional extension methods proven from experience and are usually risk averse, younger farmers tend to be more exploratory, digitally literate, innovative, and positively inclined toward new or modern agricultural extension services (Brown et al., 2019). Masere and Worth (2021) confirmed a predominance of middle age group of between 35 and 50 years for a sample of small-scale farmers in Zimbabwe. Similarly, Sumo et al. (2022) reported a mean age of 44 years for farm household heads in a Liberian study.

Majority of the respondents (85%) were married, mirroring the scenario in most rural settings where early marriages are the norm. The effect of marriage on attitude towards extension services is complex, shaped by cultural context, gender roles, spousal support, resource pooling and management, and decision-making (Mulema and Dantew, 2016). Over 70% of the respondents had some form of education, which suggests a highly literate farming population. Evidently, education is crucial to improving farmers' knowledge, skills, and propensity to adopt modern agricultural practices. Hosseini et al. (2012) found that almost three-quarters of their Iranian study respondents had secondary education.

**Table 1.** Socioeconomic characteristics of respondents

| Variables                        |                         | %    | Mean ( $\bar{x}$ ) | Std. dev. |
|----------------------------------|-------------------------|------|--------------------|-----------|
| Gender                           | Male                    | 94.0 |                    |           |
|                                  | Female                  | 6.0  |                    |           |
| Age                              | 15 to 24 years          | 6.0  |                    |           |
|                                  | 25 to 34 years          | 10.0 |                    |           |
|                                  | 35 to 44 years          | 30.0 |                    |           |
|                                  | 45 to 54 years          | 25.0 |                    |           |
|                                  | 55 years and above      | 29.0 |                    |           |
|                                  |                         |      | 40.6 years         | 1.93      |
| Marital status                   | Single                  | 9.0  |                    |           |
|                                  | Married                 | 85.0 |                    |           |
|                                  | Widow                   | 6.0  |                    |           |
| Farm size<br>(hectares)          | 1-2 ha                  | 91.0 |                    |           |
|                                  | 3-4 ha                  | 6.0  |                    |           |
|                                  | 5-6 ha                  | 3.0  |                    |           |
|                                  |                         |      | 0.90               | 0.41      |
| Source of income                 | Farming                 | 77.0 |                    |           |
|                                  | Personal investment     | 23.0 |                    |           |
| Crops planted                    | Cassava and plantain    | 59.0 |                    |           |
|                                  | Cocoa and orange        | 25.0 |                    |           |
|                                  | Maize and cassava       | 12.0 |                    |           |
|                                  | Yam and cassava         | 2.0  |                    |           |
|                                  | Plantain and vegetables | 2.0  |                    |           |
| Education                        | No formal education     | 23.0 |                    |           |
|                                  | Primary                 | 22.0 |                    |           |
|                                  | Secondary               | 33.0 |                    |           |
|                                  | Tertiary                | 22.0 |                    |           |
| Primary and secondary occupation | Farming                 | 93.0 |                    |           |
|                                  | Trading                 | 7.0  |                    |           |
| Monthly income<br>(Naira)        | 10,000-20,000           | 33.0 |                    |           |
|                                  | 20,001-40,000           | 28.0 |                    |           |
|                                  | 40,001-60,000           | 39.0 |                    |           |
|                                  |                         |      | 56,470.66          | 38328.61  |

The mean farm size is ( $\bar{x}$  = 0.90 hectares), with most (91%) of the respondents managing small farmlands of about 1-2 hectares. Maake and Antwi (2022) found an average farmland of 4.6 hectares among their South African respondents, while Mwololo et al. (2019) found an average farm size of one acre among their Kenyan study respondents.

Farming is the main source of income for a high proportion (77%) of the respondents while the remainder (23%) derived income mainly from other sources. This implies that agriculture is the dominant income source in the study area. Oluwatusin and Sekumade (2016) underscored the significance of agriculture as a primary income source for respondents in rural communities of Nigeria.

More than half (59%) of the respondents planted cassava and plantains. Cassava and plantain are staple crops that provide food security and income opportunities for farmers. Immanuel et al. (2024) highlighted the importance of cassava crop in India's agri-food system.

The primary occupation of 93% of the respondents was farming, while 7% are engaged in trading as secondary occupation. Agriculture is the dominant occupation in most rural settings of Nigeria for income generation and livelihoods. Nikolić et al. (2020) found that about two-third of respondents in their Serbian study had agriculture as their primary occupation.

The mean monthly income of the respondents was ( $\bar{x} = 56,470.66$  naira). While 33% of the respondents earned 10,000-20,000 naira monthly, 28% earned 20,001-40,000 naira monthly and 39% earned between 40,001 to 60,000 naira monthly. This suggests that majority of the respondents earned ample monthly income from farming. This finding demonstrates the potential for income generation in agriculture and agribusiness, particularly for those with access to resources and markets (Adekunle et al., 2020).

### 3.2 Farmers' awareness of agricultural extension services

Table 2 showed that 79% of the respondents indicated that they were aware of extension services, suggesting a relatively high awareness of extension services availability. This reflects the considerable access to personal and informal information sharing networks among the farmers. Moreover, farmers' participation in cooperatives, other farmer-based organizations, and community activities improves their awareness of agricultural extension services. Khan et al. (2023) corroborated the high level of awareness of extension services in Afghanistan.

**Table 2.** Awareness of agricultural extension services

| Awareness                              | Options | F(n) | %     |
|----------------------------------------|---------|------|-------|
| Are you aware of extension service(s)? | No      | 21   | 21.0  |
|                                        | Yes     | 79   | 79.0  |
|                                        | Total   | 100  | 100.0 |

### 3.3 Contact with extension officers

Table 3 revealed that only 41% of the respondents reported contact with extension officers, indicating significant contact gap between farmers and extension officers. The reasons for the low contact between extension agents and farmers include low agent-to-farmer ratio, poor funding of extension services, inadequate training and motivation of extension officers, low digital literacy and distrust of extension services by farmers. Abdallah and Abdul-Rahaman (2016) found that 63% of farmers had regular access to extension services in a Ghanaian study while Tran et al. (2025) found that absenteeism by extension personnel triggered low interactions between farmers and agents in Cambodia, constituting a barrier to extension services delivery.

**Table 3.** Contact with extension officers

| Contact with extension officers                       | Options   | F(n) | %     |
|-------------------------------------------------------|-----------|------|-------|
| Do you have contact with extension services?          | No        | 59   | 59.0  |
|                                                       | Yes       | 41   | 41.0  |
|                                                       | Total     | 100  | 100.0 |
| How frequent is your contact with extension services? | Weekly    | 6    | 6.0   |
|                                                       | Monthly   | 13   | 13.0  |
|                                                       | Quarterly | 50   | 50.0  |
|                                                       | Yearly    | 31   | 31.0  |
|                                                       | Total     | 100  | 100.0 |

### 3.4 Visitation by agricultural extension agents

Table 4 showed that 55% of respondents were not visited by any extension agent. This finding corroborates infrequent interaction between agents and farmers which likely undercut the degree of information and advisory services farmers accessed from these agents. Martin (2023)

reported shoddy planning of home or farm visits by extension agents in Tanzania who hardly conduct follow-up visits

**Table 4:** Visitation by agricultural extension agents

| Items                                    | Options | F(n) | %     |
|------------------------------------------|---------|------|-------|
| Were you visited by any extension agent? | No      | 55   | 55.0  |
|                                          | Yes     | 45   | 45.0  |
|                                          | Total   | 100  | 100.0 |

### 3.5 Farmers' attitude towards agricultural extension services

Table 5 reveals, based on a mean score of 1.90, that farmers' have positive attitudes towards agricultural extension services in terms of: "I want to become an *agripreneur*" ( $\bar{x}$  = 2.13), "I want to increase average monthly income from farming" ( $\bar{x}$  = 2.06) and "new methods of farming gives better results to a farmer than old methods" ( $\bar{x}$  = 1.93). This shows that farmers consider advisory services tailored to groom them as *agripreneurs* through capacity building and skilling in business and financial management, exploiting of market opportunities and record keeping as critical to their overall career aspirations (Sithole et al., 2024). Moreover, the farmers also appear to value traditional extension services aimed at disseminating new technology for improving yields, towards raising farm income. This is expressed in the notion that new methods potentially produce better returns than old ones. Das et al. (2021) reported that the attitudes of farmers in the *Haor* areas of Bangladesh were influenced by offering training based on their problems and provision of inexpensive combine harvesters and seed sowing machines.

### 3.6 Constraints to access agricultural extension services

The constraints to accessing agricultural extension services as reported in Table 6 were inadequate extension personnel ( $\bar{x}$  = 2.27), poor transportation networks and inaccessible roads ( $\bar{x}$  = 2.24), insufficient extension equipment or facilities ( $\bar{x}$  = 2.13), and lack of practical agricultural training ( $\bar{x}$  = 2.10) in that order. In many cases, not only are the agents too few resulting in work overload, but they also lack necessary skills and resources to function, and the extension system is often uncoordinated and fragmented (Ashraf and Yousaf Hassan, 2021). Moreover, the dilapidated conditions of rural roads which make them impassable for vehicles, discourage farm visits by agents. Lee et al. (2023) reported that bad roads impeded agricultural extension services in Malawi.

Furthermore, the lack or dearth of extension equipment or facilities hinders farmers from deriving full benefits from extension services. Rahman et al. (2021) found that farmers in Bangladesh faced challenges in accessing the required agricultural equipment, which hindered their participation in extension programs. Additionally, farmers are discouraged from accessing extension services if they find the teaching modules or technology prescribed not suitable for their specific requirements, or if the communication methodology used inhibits access. Saikia et al. (2021) referenced lack of women-adapted technology, non-gender sensitive analysis of the challenges of farm women, and improper communication equipment as factors constraining access to extension services among Indian women farmers.

**Table 5.** Farmers' attitude towards agricultural extension services

| Variable         | Attitudes towards Extension Services                                        | Agree |    | Undecided |    | Disagree |    | $\bar{x}$ | Std. Dev. |
|------------------|-----------------------------------------------------------------------------|-------|----|-----------|----|----------|----|-----------|-----------|
|                  |                                                                             | F     | %  | F         | %  | F        | %  |           |           |
| Migration        | Better employment opportunities outside village                             | 43    | 43 | 27        | 27 | 30       | 30 | 1.87      | 1.13      |
|                  | Scarcity of resources                                                       | 54    | 54 | 14        | 14 | 32       | 32 | 1.78      | 0.96      |
| Aspiration       | Amenities are not enough to maintain good standard of life.                 | 55    | 55 | 10        | 10 | 35       | 35 | 1.80      | 0.67      |
|                  | More income from migrating to non-farm work                                 | 39    | 39 | 16        | 16 | 45       | 45 | 1.39      | 0.63      |
|                  | I want to increase average monthly income from farming                      | 73    | 73 | 15        | 15 | 12       | 12 | 2.06      | 0.96      |
|                  | I want to increase average monthly income from livestock                    | 57    | 57 | 28        | 28 | 15       | 15 | 1.58      | 0.76      |
|                  | I want to ensure better living standard in future through better farming    | 71    | 71 | 12        | 12 | 17       | 17 | 1.46      | 0.81      |
|                  | I want to become an agripreneur                                             | 56    | 56 | 19        | 19 | 25       | 25 | 2.13      | 0.87      |
|                  | I will surely quit farming if I get another source of income.               | 51    | 51 | 18        | 18 | 31       | 31 | 1.80      | 0.67      |
| Technological    | New methods of farming give better results to a farmer than the old methods | 54    | 54 | 25        | 25 | 21       | 21 | 1.93      | 0.72      |
|                  | Most of the modern technology for agriculture is not available in villages  | 39    | 39 | 29        | 29 | 32       | 32 | 1.67      | 0.90      |
|                  | Scope for agricultural growth should extend to agro-based activities        | 42    | 42 | 27        | 27 | 31       | 31 | 1.89      | 0.81      |
|                  | Relevant skilling & training will enhance participation in agriculture      | 43    | 43 | 30        | 30 | 27       | 27 | 1.84      | 0.80      |
| Work environment | The workload in the environment is very high                                | 37    | 37 | 13        | 13 | 50       | 50 | 1.69      | 0.61      |
|                  | I feel fairly satisfied with my present job.                                | 52    | 52 | 36        | 36 | 12       | 12 | 1.60      | 0.65      |
|                  | Farming is most suitable occupation as per my skills and interest           | 53    | 53 | 38        | 38 | 9        | 9  | 1.56      | 0.76      |
|                  | I strictly follow the safety measures during pesticides application         | 44    | 44 | 29        | 29 | 27       | 27 | 1.83      | 0.65      |
|                  | Due to farming farmers face regular health hazards                          | 56    | 56 | 19        | 19 | 25       | 25 | 1.69      | 0.59      |

Mean  $\geq 1.9$  = positive attitude



**Table 6.** Constraints to access agricultural extension services

| Constraints                                      | No constraint |    | Mild constraint |    | Severe constraint |    | $\bar{x}$ | Std. Dev. |
|--------------------------------------------------|---------------|----|-----------------|----|-------------------|----|-----------|-----------|
|                                                  | F             | %  | F               | %  | F                 | %  |           |           |
| Poor transportation networks, inaccessible roads | 28            | 28 | 31              | 31 | 41                | 41 | 2.24      | 0.647     |
| Insufficient extension equipment or facilities   | 19            | 19 | 38              | 38 | 43                | 43 | 2.13      | 0.925     |
| Inadequate extension personnel                   | 21            | 21 | 31              | 31 | 48                | 48 | 2.27      | 0.604     |
| Lack of practical agricultural training          | 33            | 33 | 24              | 24 | 43                | 43 | 2.1       | 0.739     |

### 3.7 Chi-square analysis of socioeconomic characteristics and attitude towards agricultural extension services

Table 7 showed the chi-square relationship between socioeconomic characteristics and attitude towards agricultural extension services. Gender ( $\chi^2 = 47.86$ ,  $P < 0.05$ ), age ( $\chi^2 = 191.31$ ,  $P < 0.05$ ), marital status ( $\chi^2 = 83.92$ ,  $P < 0.05$ ), farm size ( $\chi^2 = 161.39$ ,  $P < 0.05$ ), main sources of income ( $\chi^2 = 56.57$ ,  $P < 0.05$ ), crops planted ( $\chi^2 = 172.09$ ,  $P < 0.05$ ), education ( $\chi^2 = 157.48$ ,  $P < 0.05$ ), access to extension agent ( $\chi^2 = 50.16$ ,  $P < 0.05$ ), and monthly income ( $\chi^2 = 260.53$ ,  $P < 0.05$ ) are significantly related to attitude towards agricultural extension services. Overall, this indicates a significant relationship between respondents' socioeconomic characteristics and attitude towards agricultural extension services. Adeloye et al. (2022) found that socioeconomic factors like age and job experience had significant relationship with inclusive extension services.

**Table 7.** Chi-square analysis of socioeconomic characteristics and attitude towards agricultural extension services

| Socio-economic characteristics | $\chi^2$ | $p$ -value |
|--------------------------------|----------|------------|
| Gender                         | 47.86    | 0.004**    |
| Age                            | 191.31   | 0.001**    |
| Marital status                 | 83.92    | 0.002**    |
| Farmland size                  | 161.39   | 0.001**    |
| Farming source of income       | 56.57    | 0.001**    |
| Crops planted                  | 172.09   | 0.001**    |
| Education                      | 157.48   | 0.001**    |
| Access to agent                | 50.16    | 0.001**    |
| Main source of income          | 78.36    | 0.001**    |
| Monthly income                 | 260.53   | 0.001**    |

\*\* Significant at 0.05 level

### 3.8 Cramer's V result of the association between socioeconomic characteristics and attitude towards agricultural extension services

Table 8 shows the result of the Cramer's V measure of strength of association (0.325), which indicates a relatively weak association between socioeconomic characteristics and attitude towards agricultural extension services. However, Cramer's V test has the tendency to generate conservatively low correlation values even with significant results (McHugh, 2013). Therefore, there is relative confidence in the significance of the Chi-square test statistics due to the Cramer's V's tendency to under-report (Rost, 2024).

**Table 8.** Cramer's V result of the association between socioeconomic characteristics and attitude towards agricultural extension services

|            | Value | Approx. sig. | Exact sig. |
|------------|-------|--------------|------------|
| Cramer's V | 0.325 | 0.000        | 0.000      |

### 3.9 Correlation analysis of the relationship between awareness of extension services and attitude towards extension services

Table 9 shows no significant relationship between respondents' awareness of extension services and attitude towards extension services ( $r=-0.69$ ,  $p>0.05$ ). This counterintuitive result is possibly due to the overly theoretical nature of the information provided or its disconnection from the specific needs of the farmers (Das et al., 2021). Yasin et al. (2024) confirmed the absence of statistical significance between knowledge of respondents and access to extension services in Tanzania.

**Table 9.** Correlation analysis of the relationship between awareness of extension services and attitude towards extension services

| Variables                           | N   | SD   | R      | P     |
|-------------------------------------|-----|------|--------|-------|
| Awareness of extension services     | 100 | 1.58 | -0.069 | >0.05 |
| Attitude towards extension services | 100 | 6.82 |        |       |

## 4. Discussion

The findings of this study show that, although farmers are aware of the availability of extension services, their participation was low due to limited contact or interactions with extension officers. The linear top-down, government-driven extension services systems dominant in developing countries often face several challenges, including funding, staffing, skills and geographic coverage gaps (Ong'ayo et al., 2016). Moreover, they tend to be heavily structured as a one-size-fits-all approach to extension services delivery. They need to be replaced by a bottom-up, needs-based, technology-leveraged, participatory and inclusive one that incorporates multiple stakeholders such as farmers, research institutions, community members and policymakers in the planning and implementation of extension activities, co-creation of knowledge and social learning (Prajapati et al., 2025). The extension role should transform from production-led to a farmer- and market-led system that links farmers with input suppliers and markets (e.g., large-scale processors or exporters), fostering a more integrated agricultural value chain (Antwi-Agyei and Stringer, 2021).

What is also evident from this study is that farmers aspire to occupational and livelihood goals beyond seed choices, planting strategies or applications of agricultural chemicals, which are the

fulcrum of most extension programs, suggesting a disconnection between content and relevance of extension advisory services, which negatively influenced the farmers' attitudes to the extension services. This raises questions about the extent to which farmers' information priorities are incorporated into standard extension service packages, the diversity of such services, their quality attributes, and the satisfaction they deliver to farmers (Kassem et al., 2021). Thus, a high-quality agricultural extension service is described as one that meets the needs of farmers in diverse agroecological contexts through regular contact between farmers and extension officers (Kassem et al., 2021). Evidently, frequent contacts build trust, improve accountability, foster two-way communication flow and knowledge sharing, enhance the adoption of improved technologies and ultimately improve farming outcomes. Indeed, the satisfaction of farmers is crucial to influencing their attitudes, retaining their participation and guaranteeing the sustainability of the extension program (Elias et al., 2016).

The need to recalibrate the suboptimal extension systems in developed countries has led to suggestions of alternative approaches, such as private sector-led or private extension services, demand-driven methods, and participatory agricultural extension. Private extension services bridge efficiency gaps in the public extension system, improve cost recovery by charging a fee and foster competition among service providers in the extension space (Prasad et al., 2022). For instance, England transitioned over time from public to private extension practice recording improved efficiency albeit with the crowding out of small farmers from extension services due to their inability or refusal to pay (Davis et al., 2020). Uganda is piloting a privatised extension system by creating a cohort of private extension specialists drawn from the public extension pool, which may be patronised by farmers' associations who pay for their services through donor support, although the sustainability of the experiment is uncertain when donor assistance ends (Turyahikayo and Kamagara, 2016). In Tanzania, non-Government organizations (NGOs), Farmer Based organizations (FBOs) and private agribusiness firms provide private extension services which attracts negative attitudes from farmers, partly due to low awareness levels (Masanja et al., 2023). In India, studies have reported that most farmers had favourable attitudes towards private extension systems due to frustrations with the public extension system and persistent market price volatility (Kaur et al., 2014; Madhumitha et al., 2023). Similarly, Bakang et al. (2024) confirmed farmers' good perception of private extension services in Ghana due to its flexibility, responsiveness and value for money. Meanwhile, Sylla et al. (2019) reported that farmers rated extension service quality delivery under the private extension system better than under the public extension system in Burkina Faso.

Although the role of private extension services in providing customised and demand-driven support to farmers should not be understated, the adoption and propagation of such privatised extension services depend crucially on farmers' ability to pay or share the cost of extension service provision with the government. Most smallholder farmers in Africa operate at the margin and their limited financial capacities would make private extension services unaffordable. However, some form of innovative financing mechanisms or public-private arrangement that subsidises extension service costs for marginalised and low-income farmers may be explored to generate higher farm income through private extension services (Masanja et al., 2023; Bakang et al., 2024). There is also a temporal dimension or demand-driven strategy which offers a middle-ground for farmers to only seek advice from private extension service providers when warranted rather than routinely, thereby keeping access costs minimal (Nettle et al., 2021).

The interactions between extension officers and farmers and, by extension, the quality and effectiveness of agricultural extension services, could be significantly enhanced through participatory approaches that tap into farmers' knowledge, promote farmer-to-farmer extension, and implement sustainable local solutions (Somanje et al., 2021). Pluralistic extension models such as public-private extension services integrate private sector resourcefulness, efficiency and innovation with public sector mandate and reach to raise agricultural productivity and widen market access (Kumar et al., 2025). However, the implementation of these concepts requires greater

inclusivity and interface with farmer organisations and academic bodies (Kumar et al., 2025). For instance, the Netherlands adopted agricultural knowledge and innovation systems (AKIS), embedding government agencies, academic institutions, and agribusiness (Hermans et al., 2019). Similarly, the Chinese government contracted out or outsourced extension functions to private players since the early 2000s (Kumar et al., 2025). While pluralistic agricultural extension mechanism (public and non-public) holds some promise, the absence of robust coordination and synergy among the parties may lead to conflicts and breed counterproductive results (Odongo et al., 2023). Significantly, Jawoko et al. (2023) found positive perceptions of pluralistic extension models based on input delivery, extension agents' administration system, and monitoring and evaluation of smallholder farmers' practices in Uganda.

Farmer-extension agents' relationships and power relations are important in shaping farmers attitude to extension services and improving farming activities, thereby engendering the overall success of the extension program. The limited interactions between farmers and extension agents reduces the ability of the latter to broker information, build trust and foster partnerships toward strengthening farmers' capacity and spurring agricultural development in rural farming communities (Ragasa et al., 2016). This partnership should harness farmers' experience, integrate it with the agents' technical knowledge and incorporate the farmers into the planning of extension programs to meet local needs (Mungai et al., 2024). Thus, agricultural policy authorities can potentially influence the attitude of farmers towards agricultural extension services by implementing farmer-centered planning, improving extension agents' capacity to effectively communicate the benefits from change vis-à-vis the attendant risks and complexities, and incorporating a variety of extension channels and methods, including e-extension and new media (Jawoko et al., 2023).

Constraints farmers face may be alleviated through an extension 'bundle' that blends traditional advisory services with other services such as pricing, credit access, post-harvest management, technology, and market information (Yogita et al., 2025). Moreover, integrating local knowledge and practices into extension activities and use of trained locals as peer educators, promotes farmers' ownership of the process, while incorporating gender-specific approaches helps women farmers navigate barriers to information and lack of decision-making power (Pathak and Kumak, 2023).

In summary, the nurturing of a positive long-term relationship between the extension agents and the farmer, focussed on addressing farmers' needs and supporting their journeys of change is infinitely more fruitful than the specific type of service provider (public, private, charitable) or texture of the knowledge system (Nettle et al., 2021). This suggests that the agricultural innovation system should be less driven by science and top-down policy but more by local design, interactive, iterative, and adaptive, placing the farmer at the pivot of innovation.

## 5. Conclusion

The study examined attitude of farmers towards agricultural extension services in Ondo State, Nigeria. The findings show that most of the respondents were male, middle-aged, married, and educated. The farmers' attitudes towards extension services were influenced by the aspiration to become agripreneurs, raise average monthly income from farming and adopt new methods of farming. Although respondents were aware of the existence of agricultural extension agents, more than half had no contact with them, while half of the respondents experienced quarterly visits. The constraints to access agricultural extension services were inadequate extension personnel; poor transportation networks, inaccessible roads and insufficient extension equipment or facilities. Respondents' socioeconomic characteristics were significantly related to attitude towards agricultural extension services.

The study concludes that farmers had positive attitudes towards agricultural extension services that help them become agripreneurs, increasing their average income from farming and

exposing them to new methods of farming for better results. The study recommends the adoption of farmer-centric extension services model, ward-based extension clustering to improve visitation frequency and use of mobile phone-based advisory services to bridge contact gaps.

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