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Transition to Market-Oriented Cowpea Production: Determinants and Constraints for Small-Scale Farmers in Abaji Area Council of the Federal Capital Territory, Nigeria

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Abstract

Objective: Amid increasing consumer demand and expanding market opportunities for cowpea in Nigeria, small-scale farmers are gradually shifting from subsistence-oriented production to market-oriented farming. This study examined the extent of market participation among small-scale cowpea farmers and identified the socio-economic and institutional factors influencing their commercialisation, as well as the specific constraints limiting effective market engagement.

Method: The study employed multistage sampling to select 150 farmers. Data analysis was conducted using the Household Commercialisation Index (HCI) to measure the degree of market integration and a two-limit Tobit regression model to determine the variables affecting the farmers' commercialisation levels.

Result: The results revealed that 55.33% of respondents attained a high level of commercialisation, with HCI values ranging from 80 to 100. Tobit estimates showed that cooperative membership and farm income ($p < 0.01$) positively influenced market participation, while extension contact and livestock ownership ($p < 0.05$) had significant adverse effects. Furthermore, the study identified major constraints, including inadequate access to credit, high input and transportation costs, pest infestations, and climate-related challenges.

Conclusion: The study concludes that market participation among small-scale cowpea farmers in Abaji remains moderate, constrained by financial, infrastructure, and institutional barriers. It

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recommends that policies and programs focus on improving access to credit, strengthening market-oriented extension services, and promoting cooperative marketing and value addition to enhance smallholder commercialisation and income generation.

Keywords: Cowpea, market participation, commercialisation index, small-scale farmers, Tobit model, Abaji Area Council

Introduction

Cowpea (*Vigna unguiculata*) is an essential food in Nigeria, particularly in the northern and central regions, where it provides a significant source of plant-based protein for millions of households. It is widely used in preparing traditional dishes such as *akara* (bean cakes), *moin-moin* (steamed bean pudding), and *ewa agoyin* (stewed beans), which are consumed across all socio-economic classes (Omoigui, Kamara, & Batieno, 2023). Cowpea is a vital legume due to its high nutritional value, drought resistance, and adaptability to diverse agro-ecological conditions (Boukar, Belko, Chamarthi, Togola, & Fatokun, 2022). Beyond its dietary importance, cowpea cultivation contributes significantly to soil fertility through biological nitrogen fixation, making it a key component of sustainable farming systems (Boukar et al., 2022).

In many developing countries, cowpea serves as both a food-security and an income-generating crop. It provides an affordable source of protein, with an average protein content of approximately 23%, helping to fill the nutritional gap caused by limited access to animal protein among low-income households. Its short growing cycle, ability to thrive in marginal soils, and compatibility with intercropping systems make it an indispensable crop for smallholder farmers seeking livelihood resilience amid changing climatic conditions. Despite its agronomic and economic importance, small-scale cowpea farmers in Nigeria, particularly those in Abaji Area Council of the Federal Capital Territory (FCT), face numerous production and market-related constraints. Most operate on small plots of land, typically less than two hectares, and rely on traditional methods that limit productivity and profitability (Ogunniyi, Omotoso, Salman, & Olagunju, 2023). Limited access to improved seeds, fertilisers, irrigation facilities, and mechanisation further exacerbates these challenges. National estimates indicate that the average cowpea yield in Nigeria ranges from 0.8 to 1.2 metric tons per hectare, well below the potential yield of 2.5–3.0 metric tons achievable under improved agronomic practices (Boukar et al., 2022). This persistent yield gap reflects deep-seated structural inefficiencies in the cowpea value chain and underscores the need for targeted interventions to boost productivity and market competitiveness among smallholder farmers.

Market participation is central to agricultural commercialisation, serving as a pathway for farmers to transition from subsistence-oriented production to market-driven enterprises. Agricultural commercialisation not only enhances household income but also stimulates rural economic development, generates employment, and improves food security through increased market integration (Pingali, 2018). However, smallholder cowpea farmers in Abaji face multiple barriers that hinder their effective participation in output markets. Inadequate market infrastructure, such as poor road networks, limited storage facilities, and a lack of processing centres, contributes to post-harvest losses and reduced marketable surplus (Adeyonu, Okoye, & Ajayi, 2023). Moreover, fluctuating prices, limited bargaining power, and the exploitative practices of middlemen often compel farmers to sell their produce immediately after harvest at unremunerative prices (Olwande

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& Mathenge, 2021). Institutional and financial constraints further compound the situation. Access to affordable credit, effective extension services, and timely market information are critical for enhancing productivity and marketing decisions. However, many cowpea farmers in Abaji lack access to formal credit and extension services, thereby limiting their capacity to invest in productivity-enhancing inputs and to make informed marketing decisions (Ojo, Mohammed, & Ajayi, 2023). Weak farmer cooperatives and limited market coordination also limit their ability to realise economies of scale and collective bargaining (NBS, 2023). Strengthening institutional linkages, therefore, remains vital for improving market orientation and resilience among smallholders.

Recent policy initiatives, such as the National Agricultural Technology and Innovation Policy (NATIP) and the Anchor Borrowers' Programme (ABP), have attempted to address these constraints by facilitating access to improved seeds, fertilisers, and financing mechanisms (Federal Ministry of Agriculture and Rural Development [FMARD], 2023). However, the impact of these programs on small-scale cowpea producers remains limited due to implementation bottlenecks, low awareness, and inadequate coverage in rural communities. This calls for localised empirical evidence to inform the design of more context-specific interventions to improve market participation and commercialisation outcomes.

Several empirical studies across sub-Saharan Africa have explored the determinants of smallholder market participation, offering valuable comparative insights. For instance, Agwu and Ibeabuchi (2011) reported that income, farming experience, and access to credit significantly influenced market participation among rice farmers in Nigeria. Similarly, Addisu, Fekadu, Jema, and Tesfaye (2022) found that education, extension services, and proximity to markets were key determinants of market participation among Ethiopian smallholders. Martey, Al-Hassan, and Kuwornu (2012) also identified credit access and membership in farmer-based organisations as critical factors for maize commercialisation in Ghana. These findings collectively highlight the significance of both socioeconomic and institutional factors in shaping farmers' market behaviour. These lessons are particularly relevant to cowpea farmers in the Abaji Area Council of the Federal Capital Territory.

Overall, Nigeria's agricultural sector remains characterised by low productivity, weak market linkages, and inadequate institutional support, which impede the transition of small-scale farmers into commercial agriculture (NBS, 2023). Given this context, it is imperative to empirically assess the extent and determinants of market participation among small-scale cowpea farmers in Abaji Area Council. Specifically, this study aims to analyse the determinants of market participation (measured by the commercialisation index) and to examine the constraints that affect these farmers in engaging in market-oriented cowpea production. The findings are expected to provide evidence-based insights that will inform policies and programs aimed at strengthening smallholder commercialisation, rural income generation, and food system transformation in Nigeria.

The Theory of Planned Behaviour

The Theory of Planned Behaviour, first proposed by Ajzen in 1991, contends that beliefs, subjective standards, and perceived behavioural control all influence an individual's behaviour. Applied to cowpea farming, this theory explains farmers' willingness to participate in markets. For

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instance, a farmer's positive attitude toward market participation (e.g., perceiving sales as a means to improve income), combined with social expectations (e.g., pressure from peers or cooperatives to market produce), and perceived control (e.g., access to transportation or credit), will influence the degree of participation. In Abaji, behavioural factors such as risk aversion, cultural preferences, and trust in buyers often determine the extent of market engagement. According to Ajzen, three determinants explain behavioural intention:

i. The subjective norm, or what other people think about the behaviour;
ii. The attitude, or how one feels about the behaviour; and
iii. The perceived behavioural control, or how self-efficacious one feels about the behaviour.

Together, these factors explain behavioural intention, which in turn predicts actual behaviour. For cowpea farmers, attitudes, social norms, and perceived control influence their readiness to engage in markets.

Rational Choice Theory

According to rational choice theory, people base their decisions on logical calculations that maximise their gain (Scott, 2000). Small-scale farmers weigh the advantages and disadvantages of market participation before deciding whether to sell. For cowpea producers, considerations such as transport costs, price levels, distance to market, and post-harvest losses shape their marketing decisions. A rational farmer will participate in the market only if the expected returns exceed the costs of production and marketing. This theory is especially relevant in Abaji where infrastructural constraints increase transaction costs and reduce incentives for market participation.

When combined, these theories provide a comprehensive framework for examining the market involvement of Abaji cowpea producers. While rational choice theory focuses on economic decision-making, the theory of planned behaviour emphasises psychological and social factors.

Materials and Methods

Study Area: One of the six area councils in Nigeria's Federal Capital Territory (FCT), the Abaji Area Council served as the study site. The geographic coordinates of Abaji are 8°30'N, 6°45'E, and it shares borders with Niger State to the west and Nassarawa State to the south (NMA, 2023). The area council covers approximately 1,100 square kilometres and has an estimated population of 150,000, predominantly rural dwellers engaged in agricultural activities. Abaji's tropical savanna climate features distinct wet (April-October) and dry (November-March) seasons, with annual rainfall ranging between 1,200mm and 1,500mm, making it particularly suitable for cowpea cultivation (Nigeria Meteorological Agency, 2023).

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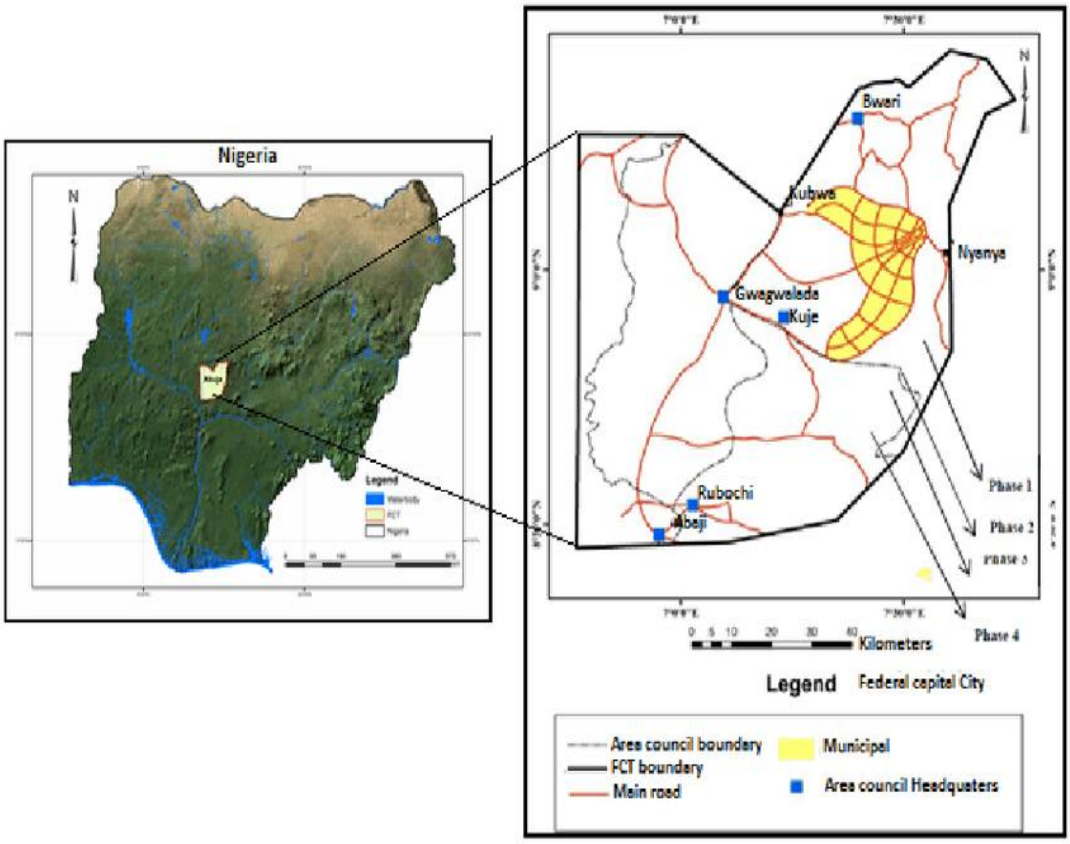

Figure 1: Map of Nigeria showing the Study Area

Sampling Technique: Abaji Area Council comprises six agricultural extension blocks. In the first stage, three (3) high-cowpea-producing blocks were purposively selected based on three key criteria: annual cowpea production volume (accounting for at least 40% of Abaji's total output), the presence of active farmer cooperatives, and accessibility during the survey periods. The selected blocks include Abaji Central, Rimba-Ebagi, and Nuku-Yaba. The second stage, from each of the selected agricultural blocks, two (2) representative communities were randomly chosen using the ADP's computerised farmer database.

The third stage involved a comprehensive sampling frame derived from multiple verified sources to ensure accurate representation of small-scale cowpea farmers cultivating 5 (five) hectares or less. Cowpea farmers' lists were obtained from FCT-ADP extension records and Abaji Farmer Cooperative Union registers, with additional community-based validation by local leaders to enhance data reliability. Using stratified random sampling, researchers selected 25 farmers from each of the six communities (two communities per block), for a total of 150 respondents.

Model specification: Descriptive and inferential statistics were employed in this study. The household commercialisation index and two-limit Tobit model were employed in this study.

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Household Commercialisation (HC): To measure the extent of market participation, the Household Commercialisation (HC) was computed following the methodology of Otitoju, Ogunlade and Ibrahim (2025):

$$\text{House Commercialisation (HC)} = \frac{Total\ Volume\ of\ Cowpea\ Sold\ (kg)}{Total\ Volume\ of\ Cowpea\ Produced\ or\ Harvested(kg)} \times 100 \quad (1)$$

This index ranges from 0 (pure subsistence) to 100 (fully commercialised), allowing classification of farmers into three categories: low commercialisation (0-30%), medium (31-70%), and high (71-100%) based on established thresholds.

Tobit Model: The Tobit model was used to estimate factors influencing market participation as specified:

$$Y^* = \beta_0 + \beta_i X_i + \varepsilon_i \quad (2)$$

Where $=Y^*$ is a continuous latent variable,
X_i is a matrix of explanatory variables,
β is a vector coefficient to be estimated,
ε_i is a vector of normally distributed error terms with variance σ^2,
If we denote the observed dependent variable as Y, then

$$Y = 0\ if\ Y^* \leq= 0 \quad (3)$$

$$Y = Y^* if\ 0 < Y^* < \infty \quad (4)$$

The observed dependent variable Y is censored between 0 and 1, corresponding to the HCI values. The Tobit model is appropriate because many households may report zero or low levels of market participation, whereas others may fall at the upper limit. If observations at the limits are unavailable, the model is said to be truncated.

Results

Table 1: Summary of Variable Definitions nd Expected Hypothesis

Explanatory Variables	Parameter	Variable	Expected sign (a priori expectation)
Age (years)	β_1	X_1	-
Sex (Dummy 1 = male, 0 = female)	β_2	X_2	+
Membership of farmers' cooperative societies (1 if yes, 0 otherwise)	β_3	X_3	-
Education level (years of schooling)	β_4	X_4	+
Farm income (naira)	β_5	X_5	+
Farming experience (Years)	β_6	X_6	-
Farm size (hectares)	β_7	X_7	+
Access to credit (Dummy, 1 if yes, 0 otherwise)	β_8	X_8	+
Extension contacts (Dummy, 1 if yes, 0 otherwise)	β_9	X_9	+

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Explanatory Variables	Parameter	Variable	Expected sign (a priori expectation)
Access to storage facility (Dummy, 1 if yes, 0 otherwise)	β_{10}	X_{10}	-
Distance to market (km)	β_{11}	X_{11}	-
Contract farming (Dummy, 1 = Yes, 0 = No)	β_{12}	X_{12}	-
Livestock ownership (Dummy, 1 = Yes, 0 = No)	β_{13}	X_{13}	+
Land ownership (Inheritance, Rent, Buy or lease)	β_{14}	X_{14}	+
Labour	β_{15}	X_{15}	+
Training in Cowpea farming (1 if yes, 0 otherwise)	β_{16}	X_{16}	-

Table 1 provides the theoretical framework for the study, defining 16 explanatory variables, ranging from demographics (Age, Sex) to institutional factors (Extension, Credit), and their expected impact on market participation.

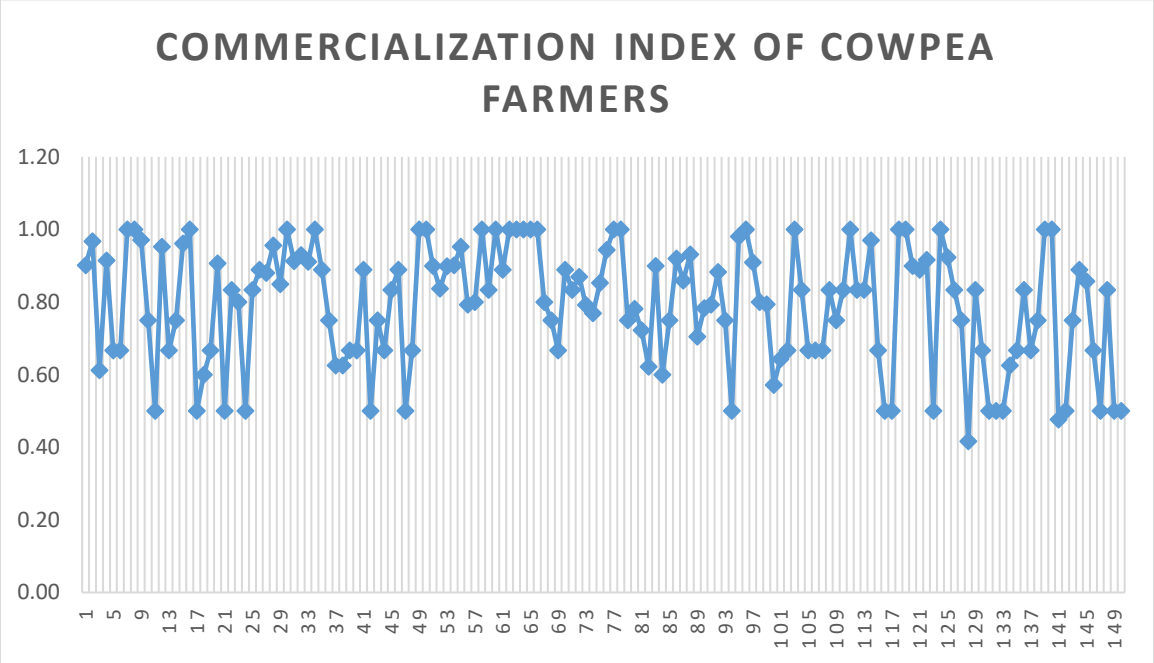

Figure 2: Level of Market Orientation (Commercialisation) among Small-Scale Cowpea Farmers

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Table 2: Level of Commercialisation among Small-Scale Cowpea Farmers

Levels	Commercialisation Index	Frequency	Percentage
Medium	40 – 79	67	44.67
High	80 – 100	83	55.33
	Total	**150**	**100**

Mean = 79.3

Minimum = 42

Maximum = 100

Source: Computed from field data, 2025.

Table 2 shows the distribution of the household commercialisation index (HCI), which highlights a decisive shift among small-scale cowpea producers in the Abaji Area Council toward a market-driven economy. With a mean commercialisation index of 79.3, the data reveal that farmers in this region sell nearly 80% of their total output, retaining only a small portion for home use. The range of values—ranging from 42 to 100—is particularly significant because it shows that every farmer surveyed has moved beyond subsistence-level production.

A closer look at the tiers of engagement shows that 44.67% of respondents fall into the moderate category, with indices between 40 and 79. While these farmers are active participants in the market, they still maintain a notable balance between sales and household consumption. In contrast, the majority of the sample (55.33%) has achieved high commercialisation levels of 80-100. This group represents a segment of the farming population that has almost entirely transitioned to commercial production, prioritising market sales over subsistence needs. The total absence of any farmers scoring below 40% underscores a modernised agricultural landscape in the study area where cowpea is treated primarily as a cash crop rather than a survival staple.

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Table 3: Factors Influencing Market Participation by the Respondents in Abaji Area Council of the Federal Capital Territory, Nigeria

Explanatory Variable	Coefficient	Standard Error	t-value	P>|t|
Age of the farmer (Years) (X_1)	0.062	0.162	0.38	0.703
Sex (Dummy, 1 if male, 0 otherwise) (X_2)	-3.48	3.04	-1.15	0.254
Membership of cooperative and social organisations (Dummy, 1 if yes, 0 otherwise) (X_3)	6.28	2.82	2.23**	0.028
Education level (years of schooling) (X_4)	0.147	0.240	0.59	0.556
Farm income (naira) (X_5)	4.57	2.17	2.11**	0.037
Farming experience (Years) (X_6)	0.262	0.238	1.10	0.272
Farm Size (hectares) (X_7)	2.30	1.52	1.51	0.134
Access to credit (Dummy, 1 if yes, 0 otherwise) (X_8)	-1.97	4.73	-0.42	0.677
Extension contacts (Dummy, 1 if yes, 0 otherwise) (X_9)	-15.75	5.07	-3.11**	0.002
Access to storage facility (Dummy, 1 if yes, 0 otherwise) (X_{10})	-4.68	5.87	-0.80	0.427
Distance to market (km) (X_{11})	-0.781	1.82	-0.43	0.669
Contract farming (Dummy, 1 = Yes, 0 = No) (X_{12})	-4.72	4.90	-0.96	0.337
Livestock ownership (Dummy, 1 = Yes, 0 = No) (X13)	-6.43	3.003	-2.14**	0.034
Constant	80.68	9.28	8.69	0.000
Variance (Standard deviation of error):	*274.14*	35.99		
Diagnostic statistics:				
Number of Observation = 150				
Likelihood Ratio Chi-square (13) =33.36				
Prob > Chi-square = 0.0000				
Pseudo R-square = 0.0291				
Log likelihood = -557.5				

Censoring: (limits: lower =0, and upper =100).
Significance: ns = not significant, $p < 0.05$ **, $p < 0.01$, $p < 0.001$
Source: Computed from field data, 2025

The analysis, as shown in Table 3, reveals the factors influencing the market participation among small-scale cowpea farmers in Abaji Area Council. The results from the two-limit Tobit model indicate that, among 13 explanatory variables, four—cooperative membership, farm income, extension contact, and livestock ownership—are statistically significant in determining the degree of market participation among cowpea farmers in the Abaji Area Council. The model shows a high level of statistical significance overall, as indicated by a Likelihood Ratio Chi-square of 33.36 and a probability value of 0.0000, confirming that these variables effectively explain the shifts in commercialisation behaviour.

Institutional and financial factors emerge as the primary positive drivers of market engagement in the study area. Membership in cooperatives and social organisations shows a positive and significant association ($\beta = 6.28$, $p < 0.05$), suggesting that farmers who belong to these groups

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are more likely to participate in crop commercialisation. This trend is further supported by the positive relationship between farm income (coefficient: 4.57, p = 0.037), which is significant at the 1% level. Higher farm revenues are likely to empower producers to move beyond subsistence by providing the capital needed to produce a marketable surplus.

Conversely, the analysis reveals significant negative influences that act as barriers to full market integration. Extension contact was found to have a negative but significant effect on market participation (coefficient: -15.75, p = 0.002), suggesting that current advisory services are more focused on agronomic production than on the market-oriented skills required for effective commercialisation. Similarly, livestock ownership showed a negative and significant relationship (coefficient: -6.43, p = 0.034), suggesting that the presence of animals may divert household labour and resources away from cowpea marketing or that the crop is utilised internally as feed. Factors such as the farmer's age, sex, education level, and farm size did not show significant effects, highlighting that institutional support and financial liquidity are more critical to market participation in this region than individual demographic characteristics.

Table 4: Constraints Militating Against Market Participation of Small-Scale Cowpea Farmers in the Study Area

Constraints	Strongly Agreed	Agreed	Disagreed	Strongly Disagreed	Mean
Lack of adequate access to credit	135 (90.0)	9 (6.00)	6 (4.0)	0 (0.00)	3.86
Inadequate access to the cowpea extension service	18 (12.0)	118 (78.7)	14 (9.3)	0 (0.0)	2.97
Inadequate access to the market	54 (36.0)	66 (44.0)	29 (19.3)	1 (0.7)	3.15
High transportation cost	121 (80.7)	26 (17.3)	3 (2.0)	0 (0.0)	3.79
Low and unstable price	68 (45.3)	78 (52.0)	4 (2.7)	0 (0.0)	3.43
Exploitative pricing by the middleman	67 (44.6)	70 (46.7)	13 (8.7)	0 (0.0)	3.36
Long distance to market	75(50.0)	62 (41.3)	12 (8.0)	1 (0.7)	3.41
Climate-related problem	117 (78.0)	21 (14.0)	12 (8.0)	0 (0.0)	3.67
Pest infestation of cowpea	104 (69.3)	43 (28.7)	3 (2.0)	0 (0.0)	3.70
Inadequate access to improved cowpea varieties	26 (17.3)	119 (79.3)	5 (3.3)	0 (0.0)	3.14

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Constraints	Strongly Agreed	Agreed	Disagreed	Strongly Disagreed	Mean
High cost of inputs	128 (85.3)	22 (14.7)	0 (0.0)	0 (0.0)	3.85
Inadequate access to market information	31 (20.7)	102 (68.0)	17 (11.3)	0 (0.0)	3.07

Source: Computed from field data, 2025.

Table 4 presents the analysis of constraints, which shows that while farmers in the Abaji Area Council are highly market-oriented, their full economic potential is constrained by significant financial and structural barriers. Inadequate access to credit emerged as the most severe constraint, with a mean score of 3.86, as 90.0% of respondents strongly agreed that a lack of financing limits their marketing activities. This financial strain is compounded by the high cost of inputs, with a mean of 3.85 and 85.3% of farmers strongly agreeing that the prices of seeds, fertilisers, and pesticides are prohibitively high. Furthermore, high transportation costs (mean = 3.79) represent a critical physical barrier, with 80.7% of respondents noting that the expense of moving produce to market centres is a severe deterrent.

Beyond financial hurdles, biological and environmental pressures significantly impact the volume and quality of marketable surplus. Pest infestations are a severe constraint, with a mean of 3.70, as 69.3% of farmers strongly agreed that attacks on cowpea crops reduce their market participation. Climate-related problems also pose a serious threat (mean = 3.67), with 78.0% of respondents indicating that weather variability and unfavourable events profoundly affect their ability to maintain consistent market engagement. These ecological risks directly undermine production stability, making it difficult for smallholders to provide reliable supplies to local and regional markets.

Market-specific challenges and institutional gaps further complicate the landscape for small-scale producers. Low and unstable prices (mean = 3.43) and long distances to markets (mean = 3.41) are key deterrents, while exploitative pricing by middlemen (mean = 3.36) suggests that many farmers face weak bargaining positions. Additionally, institutional support remains insufficient, as evidenced by serious constraints in access to extension services (mean = 2.97), limited availability of improved varieties (mean = 3.14), and a lack of timely market information (mean = 3.07). Collectively, these results underscore an urgent need for holistic interventions that address financial, infrastructural, and information challenges to enhance the commercialisation of cowpea in the region.

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Discussion

The high mean commercialisation index of 79.3 indicates that small-scale cowpea farmers in the Abaji Area Council have achieved a significant level of market integration. This level of engagement represents a notable shift away from the traditional subsistence-heavy agricultural systems typically found in sub-Saharan Africa. These findings are inconsistent with those of Assefa et al. (2025), who reported much lower commercialisation levels in other regional contexts. This transition toward a market-oriented system is likely fuelled by the increasing profitability of cowpea relative to other leguminous crops and by rising regional demand.

The Two-limit Tobit model results indicate that cooperative membership ($\beta = 6.28$, $p < 0.05$) is a critical driver of market participation. This alignment with the work of Otitoju et al. (2025) confirms that farmer organisations play a vital role in reducing transaction costs and enhancing collective bargaining power. Additionally, farm income (coefficient: 4.57, $p = 0.009$) shows a positive and significant influence on participation. This is consistent with the findings of Birhanu et al. (2022) and Timothy and Adeoti (2021), suggesting that higher farm proceeds empower producers to reinvest in market-oriented activities.

However, certain variables highlight persistent structural gaps within the agricultural landscape. The negative impact of extension contact (-15.754) suggests that current advisory services in the study area may prioritise agronomic yields over essential market linkages. This gap was previously documented by Oboh and Ekpebu (2011), who noted that irrelevant extension advice can hinder market-driven production. Furthermore, the negative relationship between livestock ownership (-6.43) and market participation supports the conclusions of Adejobi et al. (2015), suggesting that mixed farming systems often experience labour and resource competition between crop and animal husbandry.

The primary barriers hindering further commercialisation—specifically the lack of credit (3.86) and high input costs (3.85)—corroborate Kyari's (2018) research, which identified limited financing as a major obstacle to cowpea marketing. The significance of high transportation costs (3.79) and pest infestations (3.70) also aligns with findings by Kampanje-Phiri et al. (2025) and Inoni et al. (2025), respectively. These results emphasise that while farmers show a strong willingness to engage in the market, financial and infrastructural "bottlenecks" continue to obstruct full economic integration. Finally, the severity of climate-related problems (3.67) echoes the concerns of Otitoju and Enete (2014) about the stability of food crop production amid climate variability.

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Conclusion

The study concludes that market participation among small-scale cowpea farmers in Abaji Area Council is moderate but constrained by multifaceted challenges. Farmers possess the willingness and, in many cases, the potential to engage in greater commercialisation, but are hindered by inadequate access to capital, production risks, infrastructure bottlenecks, a lack of effective extension services, and unfavourable market conditions.

The following recommendations are therefore presented:

i. Extension programmes should be redesigned to focus not only on production techniques but also on improving farmers' access to markets, price information, and value addition opportunities.
ii. Government policy should be introduced to enforce minimum price policies for cowpea to protect farmers from market volatility and ensure fair returns and profitable income. With guaranteed fair prices, smallholder farmers would be more willing to channel larger portions of their harvest into the market.
iii. Financial institutions and government programs should prioritise the development of accessible and affordable credit facilities tailored for small-scale farmers. Strengthening financial inclusion and affordable credit schemes to meet the specific needs of small-scale cowpea farmers, with flexible collateral and repayment terms, can enable farmers to purchase inputs, invest in productivity-enhancing technologies, and reduce reliance on informal lending.
iv. Training extension agents on agribusiness and market linkages will help farmers make more informed and profitable marketing decisions.
v. Policies and programs that enhance farmers' access to affordable credit facilities can enable them to expand production, adopt improved technologies, and increase marketable surplus. Encouraging income diversification through value addition and cooperative marketing will also strengthen their market participation.

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