

**AGRI-ENTREPRENEURSHIP AND RURAL DEVELOPMENT:
OPPORTUNITIES, CHALLENGES, AND POLICY IMPLICATIONS FOR
WOMEN AND YOUTHS IN NIGERIA**

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Abstract

Agriculture contributes about 25% to Nigeria's GDP and engages nearly 70% of the rural labour force, yet rural poverty remains high at 52%, disproportionately affecting women and youths. Women provide 60% of agricultural labour but control less than 15% of productive land, while youths (15–34 years) represent 64% of the population but face 42% unemployment. These disparities perpetuate poverty, low productivity, and limited social mobility. Agri-entrepreneurship—defined as applying innovation, risk-taking, and resource management across production, processing, and marketing—has emerged as a pathway for rural transformation, food security, and inclusive growth aligned with SDG-8 (Sustainable development goals number 8 of the United Nations) which Promote inclusive and sustainable economic growth, employment and decent work for all. Federal initiatives (e.g., Anchor Borrowers, N-Power Agro) and donor programmes (e.g., IFAD-VCDP, AfDB ENABLE-Youth) have sought to integrate women and youths into agricultural enterprises. However, most ventures remain subsistence-oriented and under-capitalized, with limited evidence on effective strategies and demographic-specific challenges. This study investigated current strategies, implementation barriers, and opportunities for sustainable agri-entrepreneurship among women and youths in rural Nigeria. It is hoped that the findings and recommendations will inform policies and interventions that enhance inclusiveness and promote the transition from subsistence farming to viable agri-enterprises.

Keywords: Agri-entrepreneurship, rural development, women, youths, poverty reduction, Nigeria, SDG-8

1.0 Introduction

1.1 Background of the Study

Agriculture has historically been the mainstay of Nigeria's economy, accounting for a significant share of employment, food supply, and foreign exchange earnings. Recent estimates indicate that agriculture contributes approximately 25 percent to the country's Gross Domestic Product (GDP) while employing about 70 percent of the rural labour force (World Bank, 2024). Despite this, the sector is characterized by structural weaknesses, including low productivity, limited mechanization, poor market access, and high post-harvest losses. These challenges have left rural households vulnerable, with poverty incidence remaining high at about 52 percent.

Women and youths are particularly affected by these structural issues. Women are indispensable to agricultural development, contributing an estimated 60 percent of labour for farming, processing, and marketing activities. However, they often operate under severe constraints: less than 15 percent of them have ownership or control over productive land, and even fewer have access to credit, extension services, or improved technologies. Similarly, youths, defined by Nigeria's demographic profile as persons between 15–34 years, represent approximately 64 percent of the national population. Despite their numerical strength, they face unemployment rates of about 42 percent, pushing many into precarious forms of work or migration to urban centres.

Agri-entrepreneurship has emerged as a promising solution to these challenges. By integrating entrepreneurial principles—such as innovation, risk-taking, value addition, and business-oriented thinking—into agricultural value chains, agri-entrepreneurship provides opportunities for wealth creation, employment generation, and rural transformation. Unlike subsistence farming, agri-entrepreneurship emphasizes commercial orientation, market competitiveness, and sustainability. Globally, it is increasingly recognized as a key driver of inclusive growth and food security, particularly in developing economies. For Nigeria, it aligns directly with the goals of the Sustainable Development Agenda, especially SDG-1 (No Poverty), SDG-2 (Zero Hunger), and SDG-8 (Decent Work and Economic Growth).

1.2 Statement of the Problem

In recognition of the critical role of agriculture, successive Nigerian governments have initiated multiple programmes to boost rural entrepreneurship and empower marginalized groups. Examples include the Central Bank of Nigeria's Anchor Borrowers' Programme, the YouWin initiative targeting youth entrepreneurs, N-Power Agro aimed at engaging graduates in agricultural extension, and the Green Imperative focusing on mechanization.

International partners have complemented these efforts through interventions such as IFAD's Value Chain Development Programme (VCDP), designed to strengthen smallholder market linkages, and the AfDB's ENABLE-Youth initiative, promoting youth agribusiness incubation.

Despite these interventions, rural enterprises remain largely subsistence in orientation, lacking the productivity, resilience, and profitability required for transformation. Women and youths continue to face disproportionate challenges: limited access to capital, high transaction costs, weak infrastructure, and cultural barriers that limit their participation in decision-making. Furthermore, empirical evidence on the effectiveness of the strategies deployed remains fragmented. Few studies provide disaggregated insights into how women and youths differ in their experiences, constraints, and opportunities. This knowledge gap undermines the capacity of policymakers and practitioners to design inclusive, context-specific interventions that can unlock the full potential of agri-entrepreneurship for rural development.

1.3 Purpose of the Study

The primary purpose of this study is to investigate strategies for effective growth of women and youth-led agri-entrepreneurship ventures in rural Nigeria. By examining the opportunities and constraints across gender and age groups, the study seeks to provide evidence-based recommendations that can bridge the gap between policy intentions and on-the-ground realities.

1.4 Objectives of the Study

The study is guided by the following objectives:

1. To identify current strategies adopted by women and youths in establishing and managing agri-entrepreneurship ventures.
2. To determine the key implementation challenges hindering growth and sustainability.
3. To examine the opportunities available for sustainable expansion of women and youth-led agri-entrepreneurship in rural Nigeria.

1.5 Research Questions

The following research questions will guide the study:

- RQ1: What current strategies are adopted by women and youths in agri-entrepreneurship?
- RQ2: What challenges impede the effective implementation of these strategies?
- RQ3: What opportunities exist for sustainable growth of women and youth-led agri-enterprises in rural Nigeria?

1.6 Hypotheses

The study will test the following hypotheses:

- H01: There is no significant gender difference in the adoption of agri-entrepreneurship strategies.
- H02: There is no significant age difference in the perceived challenges faced by agri-entrepreneurs.
- H03: There is no significant age difference in the perceived opportunities available for agri-entrepreneurship.

2.0 Literature Review

Agri-entrepreneurship refers to the application of entrepreneurial principles such as innovation, risk-taking, opportunity identification, and value addition within the agricultural sector (Hisrich, Peters & Shepherd, 2020). Unlike subsistence farming, agri-entrepreneurship is commercially oriented, integrating production, processing, distribution, and marketing into viable business models. Scholars argue that agri-entrepreneurship is a critical driver of rural development because it combines agricultural productivity with business acumen, enabling farmers to diversify income streams, create jobs, and contribute to food security (Kahan, 2013; Adegbite, 2019). In sub-Saharan Africa, where agriculture employs the majority of the labour force, agri-entrepreneurship is seen as a strategy for reducing rural poverty and reversing rural-urban migration trends.

The participation of women and youths in agri-entrepreneurship is significant but constrained by structural inequalities. Women provide between 50–70 percent of agricultural labour in Nigeria (FAO, 2022), engaging in cultivation, harvesting, processing, and local marketing. Yet they often face systemic exclusion from land ownership, credit facilities, and training opportunities (Aina, 2017). This gender disparity reduces productivity and limits their capacity to grow beyond subsistence farming.

Youths, who form the largest demographic group in Nigeria, are considered the future of agricultural transformation (NBS, 2023). Their involvement in agri-entrepreneurship can address unemployment and enhance innovation through adoption of digital technologies, improved mechanization, and climate-smart agriculture. However, high unemployment rates, poor access to finance, and perceptions of agriculture as unattractive remain key barriers (Ayinde, 2021). Empirical studies highlight that youth-led ventures are more likely to adopt modern practices and diversify value chains if adequately supported by policies and financing institutions (IFAD, 2022).

Agri-entrepreneurship presents enormous opportunities for rural development in Nigeria. Rising domestic food demand due to population growth, coupled with increasing urbanization, creates expansive markets for agricultural produce (World Bank, 2024).

Value chain development, particularly in areas such as rice milling, cassava processing, poultry farming, and horticulture, provides avenues for women and youths to establish profitable enterprises. Technological innovations, including mobile platforms for extension services, e-wallet systems for input distribution, and digital marketplaces, have further lowered entry barriers. Moreover, global emphasis on sustainable agriculture and green enterprises offers opportunities for women and youth to engage in organic farming, renewable energy for processing, and climate-resilient agriculture (AfDB, 2022).

Despite these opportunities, women and youths encounter persistent challenges that undermine their potential. Access to productive resources remains a central issue—land tenure systems favour men, while collateral requirements prevent women and youths from obtaining credit (Akinboade, 2020). Infrastructure deficits, such as poor rural roads, unreliable electricity, and limited storage facilities, increase transaction costs and post-harvest losses. Cultural and social norms further restrict women’s decision-making power and participation in cooperative structures. For youths, the unattractiveness of agriculture, coupled with limited entrepreneurial training, discourages engagement. Additionally, weak institutional support and corruption in government programmes have eroded trust and reduced the impact of interventions (Okonkwo & Eze, 2021).

The Nigerian government and development partners have initiated numerous programmes to strengthen rural agri-entrepreneurship. The Anchor Borrowers’ Programme has improved access to inputs and credit for smallholder farmers, while donor-driven projects such as IFAD’s Value Chain Development Programme and AfDB’s ENABLE-Youth have sought to enhance market linkages and youth incubation. However, many interventions face challenges of sustainability, poor monitoring, and limited gender sensitivity (Olomola, 2019). Policies often adopt a “one-size-fits-all” approach without accounting for demographic differences in needs and constraints. For instance, while youths may require incubation hubs and start-up capital, women may need secure land rights, cooperative platforms, and childcare support to participate fully.

Overall, the literature underscores that while agri-entrepreneurship holds great promise for rural development, its success depends on addressing systemic barriers to women and youth participation. Research gaps remain in identifying the most effective strategies for scaling rural enterprises and in evaluating how policies can be tailored to ensure inclusiveness, sustainability, and measurable impact.

2.1 Summary of literature

Agri-entrepreneurship is the integration of entrepreneurial principles into agriculture, emphasizing innovation, value addition, and market orientation. It is recognized as a key

driver of rural development in Nigeria, offering pathways for income diversification, job creation, and food security. Women and youths are central to this process: women contribute the majority of agricultural labour yet face systemic exclusion from land, credit, and decision-making, while youths, who dominate Nigeria's population, bring innovation and digital adoption but struggle with unemployment, limited finance, and low interest in agriculture.

Opportunities in agri-entrepreneurship include growing domestic food demand, value chain expansion in crops and livestock, and technological innovations such as e-wallet systems and digital marketplaces. Global attention to sustainable agriculture further provides niches in organic and climate-smart farming. However, challenges remain—restricted access to resources, poor infrastructure, cultural barriers, and weak institutional support constrain both women and youths. Although several government and donor programmes (e.g., Anchor Borrowers, IFAD-VCDP, AfDB ENABLE-Youth) have been implemented, they often lack sustainability, inclusiveness, and demographic sensitivity. Overall, the literature emphasizes that unlocking the full potential of agri-entrepreneurship for rural development requires tailored policies and strategies that address gender and age-specific constraints while leveraging emerging opportunities.

3.0 Methodology

3.1 Research Design. This study adopted a descriptive survey research design, which is appropriate for investigating the current state of agri-entrepreneurship, the challenges faced, and the opportunities available to women and youths in rural Nigeria. The descriptive survey design enables the collection of data from a large group of respondents at one point in time, allowing for comparisons across demographics such as gender and age. This design was considered suitable because it provides quantitative insights into the strategies adopted by agri-entrepreneurs and the specific constraints encountered by different groups. Moreover, surveys allow for generalization of findings from a sample to the larger population, which is essential for policy-related recommendations.

3.2 Area of Study

The study was conducted in selected rural communities in Nigeria with high agricultural activity and significant participation of women and youths in farming and related value chains. These communities are spread across the six geopolitical zones of Nigeria to capture diverse agricultural practices and socio-economic conditions. Rural areas were chosen as the focus because they host the bulk of agricultural production, yet suffer from high poverty rates, infrastructural deficits, and limited access to markets. Additionally, women and youths in these areas are heavily engaged in farming, processing, and local marketing but face systemic challenges in scaling their ventures.

3.3 Population of the Study

The population of this study consisted of 230 respondents, including women and youth agri-entrepreneurs actively engaged in various agricultural enterprises such as crop production, livestock rearing, processing, and agro-marketing. The target group was selected because they represent the core beneficiaries of government and donor-driven agri-entrepreneurship programmes. By focusing on this population, the study aimed to generate empirical insights into the effectiveness of current interventions and the persistent challenges facing rural enterprises.

3.4 Sample Size and Sampling Technique

A sample of 160 respondents was drawn from the target population of 230 using a stratified random sampling technique. Stratification was carried out along two dimensions—gender (male/female) and age (youth/adult women)—to ensure representativeness across demographic categories. Within each stratum, respondents were randomly selected to minimize bias and enhance the reliability of findings. This method was chosen because women and youths face distinct challenges in agri-entrepreneurship, and stratification allows for meaningful comparative analysis. The sample size was considered adequate based on Krejcie and Morgan's (1970) formula for determining representative sample sizes, ensuring that findings can be generalized with statistical confidence.

3.5 Instrument for Data Collection

The primary instrument for data collection was a structured questionnaire specifically designed for this study. The questionnaire was divided into four sections:

Section A: Demographic information (gender, age, education, type of agricultural enterprise, years of experience).

Section B: Strategies currently adopted by respondents in managing agri-entrepreneurship ventures (e.g., use of improved seeds, cooperative membership, digital platforms).

Section C: Challenges faced by respondents in establishing and expanding their enterprises (e.g., access to credit, land, markets, infrastructure).

Section D: Perceptions of emerging opportunities and prospects for sustainable growth in agri-entrepreneurship.

The instrument used a mix of Likert-scale items, multiple-choice questions, and open-ended responses to capture both quantitative and qualitative data.

3.6 Procedure for Data Collection

Data collection was carried out in two phases. First, research assistants familiar with the local languages were recruited and trained to administer the questionnaire to ensure clarity and minimize misinterpretation. Second, questionnaires were distributed physically to respondents through farmer cooperatives, women's associations, and youth groups. Where literacy was limited, enumerators assisted respondents in filling out the forms. A total of 180 questionnaires were distributed to account for possible non-responses, out of which 160 were duly completed and returned, yielding a response rate of 89%.

3.7 Validation of the Instrument

The questionnaire was subjected to content and face validation. Content validation involved consultation with experts in agricultural economics, entrepreneurship, and rural development, who reviewed the items for relevance, clarity, and alignment with research objectives. Face validation ensured that the instrument was easily understood by respondents. Feedback from a pilot test conducted with 20 respondents in a rural community outside the study area was incorporated to refine ambiguous questions and improve readability.

3.8 Reliability of the Instrument

The reliability of the instrument was established using the Cronbach's Alpha coefficient to measure internal consistency. The pilot test results indicated alpha values of 0.82 for the strategies scale, 0.85 for the challenges scale, and 0.79 for the opportunities scale, all of which are above the acceptable threshold of 0.70 (Nunnally, 1978). These results confirmed that the questionnaire was reliable for measuring the constructs under investigation.

3.9 Method of Data Analysis

The data collected were analyzed using both descriptive and inferential statistics. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize demographic characteristics, strategies adopted, and challenges encountered. Inferential statistics, including t-tests and Analysis of Variance (ANOVA), were employed to test the hypotheses and examine differences across gender and age groups. The hypotheses tested included:

H01: No significant gender difference in strategy adoption.

H02: No significant age difference in perceived challenges.

H03: No significant age difference in perceived opportunities.

All analyses were conducted using the Statistical Package for Social Sciences (SPSS) version 26. Results were presented in tables and charts to facilitate interpretation and provide empirical evidence to support conclusions.

4.0 Results and Discussion

4.1 Demographic Profile of Respondents

Out of the 160 respondents, 57% were women while 43% were men. Youths (aged 15–34 years) accounted for 62%, while older farmers represented 38%. Educational attainment showed that 48% had secondary education, 33% tertiary education, and 19% had primary or no formal schooling. These findings highlight the central role of women and youths in rural agriculture, consistent with World Bank (2024), which emphasizes the feminization and youth-led nature of agri-enterprise participation in Africa.

4.2 Results by Research Questions

Research Question One (RQ1): What strategies are adopted by women and youth agri-entrepreneurs?

Table 1 presents the strategies adopted.

Strategy Adopted	Frequency (n=160)	Percentage (%)
Cooperative farming groups	96	60.0
Access to microcredit	82	51.3
Participation in Anchor Borrowers' Programme	74	46.3
Value addition (processing/packaging)	65	40.6
ICT/mobile market innovations	59	36.9

t-Test Analysis (Gender): No significant difference was found in adoption scores between women ($M = 3.24$, $SD = 0.98$) and men ($M = 3.41$, $SD = 1.02$); $t(158) = -1.12$, $p > 0.05$.

ANOVA (Education Levels): One-way ANOVA showed a significant effect of education on

adoption of strategies, $F(2,157) = 4.38$, $p < 0.05$. Post-hoc comparisons revealed that respondents with tertiary education ($M = 3.72$) adopted more ICT and value-addition strategies compared to those with only primary/no education ($M = 2.95$).

Research Question Two (RQ2): What challenges impede implementation of these strategies?

Table 2 presents the strategies adopted.

Challenge Reported	Frequency (n=160)	Percentage (%)
Limited access to credit	103	64.4
Land tenure insecurity (esp. women)	88	55.0
Poor rural infrastructure	76	47.5
Limited extension/advisory services	69	43.1
High input costs (seeds/fertilizers)	64	40.0

t-Test Analysis (Age Groups): No significant difference in perceived challenges between youths ($M = 3.67$, $SD = 0.89$) and older respondents ($M = 3.58$, $SD = 0.94$); $t(158) = 0.62$, $p > 0.05$.

ANOVA (Education Levels): ANOVA revealed no significant difference across education levels in perceived challenges, $F(2,157) = 1.84$, $p > 0.05$. This suggests that constraints such as credit and land tenure insecurity affect all respondents equally regardless of educational attainment.

Research Question Three (RQ3): What opportunities exist for sustainable growth of agri-entrepreneurship?

Table 3 presents the strategies adopted.

Opportunity Identified	Frequency (n=160)	Percentage (%)
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Rising demand for agro-processed foods	102	63.8
Government/donor initiatives	95	59.4
ICT/digital platforms	81	50.6
Climate-smart agricultural practices	72	45.0
Export market potential	60	37.5

t-Test Analysis (Age Groups): No significant difference was found between youths ($M = 3.92$, $SD = 0.81$) and older respondents ($M = 3.84$, $SD = 0.87$); $t(158) = 0.54$, $p > 0.05$.

ANOVA (Education Levels): ANOVA showed a significant difference in perception of opportunities across education levels, $F(2,157) = 5.12$, $p < 0.01$. Respondents with tertiary education ($M = 4.10$) were more likely to identify ICT/digital platforms and export opportunities than those with only primary/no education ($M = 3.45$).

4.3 Hypotheses Testing and Decisions

Hypothesis	Statement	Test Result	Decision
H01	No significant gender difference in strategy adoption	$t(158) = -1.12$, $p > 0.05$	Not Rejected
H02	No significant age difference in perceived challenges	$t(158) = 0.62$, $p > 0.05$	Not Rejected
H03	No significant age difference in perceived opportunities	$t(158) = 0.54$, $p > 0.05$	Not Rejected

H04	No significant education-level difference in strategy adoption	$F(2,157) = 4.38, p < 0.05$	Rejected
H05	No significant education-level difference in perceived opportunities	$F(2,157) = 5.12, p < 0.01$	Rejected

4.4 Overall Discussion

The analysis demonstrates that women and youths deploy diverse agri-enterprise strategies, though adoption levels vary with education. While gender and age do not significantly differentiate strategy use, perceived challenges, or opportunities, education emerges as a key factor in shaping innovation adoption and opportunity recognition.

Thus, systemic constraints—credit inaccessibility, land tenure insecurity, and poor infrastructure—cut across groups, but education enhances capacity to leverage ICT and export opportunities. Policy should therefore:

1. Strengthen rural finance systems – expand affordable credit tailored to women and youths.
2. Improve land rights and rural infrastructure – secure tenure and upgrade roads, storage, and electrification.
3. Leverage ICT and higher education – promote digital platforms and value-addition training for sustainable commercialization.

These findings support SDG-8 (decent work), SDG-5 (gender equality), and SDG-2 (zero hunger), affirming agri-entrepreneurship as a pathway for inclusive rural development in Nigeria.

5.0 Conclusion and Recommendations

5.1 Conclusion

This study investigated agri-entrepreneurship as a pathway for rural development in Nigeria, focusing on women and youths who are key stakeholders in the sector. The research highlighted that agriculture contributes approximately 25% of Nigeria's GDP and

employs over 70% of the rural labor force, yet poverty levels in rural communities remain as high as 52% (World Bank, 2024). Women provide nearly 60% of agricultural labor but control less than 15% of arable land, while youths face 42% unemployment despite comprising 64% of the population. These statistics emphasize the paradox of an agrarian society struggling with poverty and limited economic mobility.

The findings revealed that although there are numerous government and donor-driven initiatives aimed at empowering women and youths in agribusiness, challenges such as inadequate financing, weak infrastructure, poor access to markets, and systemic land tenure constraints persist. These barriers limit productivity and prevent rural enterprises from transitioning from subsistence to commercially viable ventures. At the same time, opportunities were identified in emerging value chains, digital agriculture, and regional trade through AfCFTA. Hypothesis testing showed no significant differences across gender and age groups regarding strategies, challenges, and opportunities, indicating that structural issues rather than demographic characteristics remain the primary impediments. Overall, agri-entrepreneurship holds immense potential as a vehicle for sustainable rural transformation if systemic barriers are addressed.

5.2 Recommendations

Based on the findings of this study, several actionable recommendations are advanced to enhance agri-entrepreneurship as a driver of rural development in Nigeria:

1. **Expand Rural Credit Access:** Introduce gender- and youth-friendly financial products with low interest rates, flexible collateral options, and targeted credit guarantees to reduce the financing gap.
2. **Strengthen Land Tenure Security:** Enact reforms that guarantee women and youths equitable access to land ownership, inheritance, and titling systems, which are vital for collateral and agribusiness expansion.
3. **Improve Rural Infrastructure:** Invest in feeder roads, irrigation systems, electricity, and storage facilities to reduce post-harvest losses and enhance market connectivity.
4. **Scale Up ICT-Driven Solutions:** Support digital platforms for e-extension, mobile banking, and online marketing to reduce transaction costs and attract tech-savvy youths to agribusiness.
5. **Capacity Building and Skills Development:** Institutionalize vocational and entrepreneurship training programs in value chain management, agribusiness planning, and climate-smart agriculture.

6. Strengthen Cooperatives and Producer Organizations: Encourage collective action to improve bargaining power, facilitate access to inputs, and enhance participation in higher-value markets.

7. Promote Public–Private Partnerships (PPPs): Mobilize private investment in agro-processing clusters, seed production, and mechanization services through incentive-based PPPs.

8. Mainstream Gender and Youth in Agricultural Policy: Ensure that national and state agricultural policies explicitly include women and youths as beneficiaries in all rural development programs.

6.0 Policy Implications

The outcomes of this research carry significant implications for policymakers, development partners, and practitioners committed to agricultural transformation in Nigeria:

- **National Agricultural Policy Alignment:** The findings call for greater integration of women and youth empowerment into Nigeria’s Agricultural Promotion Policy (APP), the Agricultural Transformation Agenda (ATA), and the Economic Recovery and Growth Plan (ERGP). Policies must transition from subsistence-oriented support to enabling commercial-scale agribusiness.
- **Financial Inclusion:** There is an urgent need for regulatory frameworks that compel commercial banks, development banks, and microfinance institutions to dedicate a fixed quota of agricultural loans to women and youths. This will promote inclusive financing and reduce structural exclusion.
- **Land Governance Reform:** Stronger land governance frameworks must be institutionalized to secure women’s access to arable land, mitigate conflicts, and unlock agricultural potential through increased investment.
- **ICT and Digital Agriculture Policies:** Government policies should incentivize the development and adoption of agri-tech solutions, creating an enabling environment for young innovators and startups.
- **Climate Resilience:** Policy must integrate climate-smart practices into rural entrepreneurship programs, particularly in light of Nigeria’s vulnerability to climate variability.

- **Regional Trade and AfCFTA:** Policymakers should support women and youth agripreneurs to access African Continental Free Trade Area (AfCFTA) opportunities by developing export-ready agribusiness clusters in commodities such as cassava, rice, vegetables, and livestock products.

7.0 Suggestions for Further Studies

While this study contributes to the literature on agri-entrepreneurship and rural development, it also opens avenues for further inquiry:

1. **Longitudinal Studies:** Track the long-term impacts of specific interventions (e.g., Anchor Borrowers, IFAD-VCDP) on rural agri-enterprises to understand sustainability.
2. **Regional Comparative Studies:** Investigate how ecological, cultural, and socio-economic differences influence agri-entrepreneurship across Nigeria's geopolitical zones.
3. **Mixed-Methods Approaches:** Complement quantitative surveys with qualitative case studies and ethnographic research to capture deeper gendered and youth-specific experiences.
4. **Impact of Climate Change:** Explore how shifting rainfall patterns, desertification, and flooding affect agri-entrepreneurship strategies in different regions of Nigeria.
5. **Technology Adoption Pathways:** Assess the role of mobile apps, precision agriculture, and blockchain technology in transforming rural entrepreneurship dynamics.
6. **Policy Impact Assessment:** Conduct empirical evaluations of government and donor programs to determine which initiatives most effectively empower women and youths.
7. **Youth-Women Comparative Analyses:** While this study found no significant differences, future research could examine subtle differences through more granular demographic disaggregation.

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APPENDIX

My survey instrument:

Structured Questionnaire

A. Demographic Information

Item	Question/Statement	Response Format
A1	Gender	☐ Male ☐ Female ☐ Other (specify)
A2	Age	☐ 18–25 ☐ 26–35 ☐ 36–45 ☐ 46–55 ☐ 56 and above
A3	Educational Qualification	☐ No formal education ☐ Primary ☐ Secondary ☐ Diploma ☐ Bachelor's ☐ Postgraduate
A4	Type of Agricultural Enterprise	☐ Crop farming ☐ Livestock ☐ Fisheries ☐ Agro-processing ☐ Others (specify)
A5	Years of Experience in Agri-Entrepreneurship	☐ 1–3 ☐ 4–6 ☐ 7–10 ☐ 11–15 ☐ Above 15

B. Strategies for Managing Agri-Entrepreneurship

Item	Question/Statement	Response Format
B1	I use improved seeds, fertilizers, and modern inputs in my farming/enterprise.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

B2	I am a member of a cooperative or farmers' association.	☐ Yes ☐ No
B3	I utilize digital platforms (e.g., WhatsApp, online marketplaces, mobile apps) for marketing and networking.	☐ Very Frequently ☐ Frequently ☐ Occasionally ☐ Rarely ☐ Never
B4	I adopt sustainable farming practices (organic farming, climate-smart agriculture).	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
B5	I access training, extension services, or workshops to enhance my business knowledge.	☐ Very Often ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

C. Challenges in Agri-Entrepreneurship

Item	Question/Statement	Response Format
C1	Limited access to credit facilities is a major barrier to my enterprise growth.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
C2	Access to agricultural land is a challenge in my community.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
C3	Poor infrastructure (roads, storage, electricity, irrigation) limits my enterprise expansion.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

C4	Limited market access or price instability affects my income.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
C5	Inadequate technical knowledge and skills hinder my productivity.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

D. Emerging Opportunities and Prospects

Item	Question/Statement	Response Format
D1	Government programs and policies are creating new opportunities for youth and women in agriculture.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
D2	Technological innovations (e.g., mobile apps, mechanization, e-commerce) provide significant opportunities for growth.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
D3	There are emerging export opportunities for agricultural products in my sector.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
D4	Collaboration with research institutions and extension agents can improve enterprise sustainability.	☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
D5	I am optimistic about the future of agri-	☐ Strongly Agree ☐ Agree ☐ Neutral ☐

	entrepreneurship Nigeria.	in	Disagree Disagree	☐ Strongly
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