

Revamping Agricultural Education Programme for Economic Development and Self-reliance Through Practical Teaching in Bayelsa State

Matthew Witadu MICAH¹ & Dr Panebi UGO²

Department of Agricultural Science Education, Faculty of Education
Niger Delta University Wilberforce Island, Bayelsa State

 micahwitadu83@gmail.com

Abstract

*This study investigated the revamping of agricultural education programmes for economic development and self-reliance through practical teaching in Bayelsa State. Three objectives, research questions and hypotheses guided the study. The descriptive survey design was adopted, with a study population of 242 Agricultural Science teachers across the nine educational zones of Bayelsa State during the 2024/2025 academic session. A structured questionnaire on a 4-point rating scale (Strongly Agree to Strongly Disagree) was used for data collection. The instrument was validated by experts, and reliability was established with a Cronbach's Alpha coefficient of 0.79. Questionnaires were administered directly with research aides, and 162 were retrieved, representing 67% of the total population. Data were analyzed using mean and standard deviation for the research questions, while an independent *t*-test was applied to test the hypotheses. The findings revealed that revamping curriculum content, instructional methods, and extension services significantly improved the role of agricultural education in promoting self-reliance and economic development. The hypothesis testing showed no significant gender differences in respondents' ratings. It was recommended that curriculum reforms, ICT-driven teaching strategies, and revitalized extension services be prioritized to strengthen agricultural education in Bayelsa State.*

Keywords: Agricultural education, Curriculum content development, Instructional methods, Extension services, Practical teaching, Economic development, Self-reliance

Introduction

Agricultural education programmes remain pivotal to national growth, particularly in regions such as Bayelsa State, where agriculture is both a livelihood and a developmental pathway. Agricultural education, as a discipline, is designed to equip learners with competencies that combine theoretical understanding with hands-on practice, thereby fostering human capital development in rural and urban communities (Adesoji & Ademiluyi, 2021). However, despite its critical role, agricultural education in Nigeria has often been undermined by obsolete curricula, inadequate funding, and weak links between schools and industries, leading to limited relevance in addressing contemporary economic needs (Olayemi et al., 2022). In this context, revamping the agricultural education programme becomes imperative to re-align its objectives with the demands of self-reliance and sustainable economic development.

The concept of revamping agricultural education highlights the urgent need to reform and strengthen its foundations through innovation and policy redirection. Revamping, in this sense, implies restructuring outdated systems and embedding modern approaches that are consistent with local realities and global agricultural trends (Egbule & Okorie, 2019). Such a transformation should address issues of underutilized resources, weak extension services, and limited practical training. Revamping agricultural education in Bayelsa State is particularly relevant, given the state's rich agricultural potential and the need to tackle unemployment and youth dependency on oil-related occupations. If properly revamped, the programme can catalyze creating self-reliant individuals capable of contributing meaningfully to both household and community economic wellbeing (Odukoya & Adewale, 2020).

Self-reliance is one of the ultimate goals of agricultural education, as it equips individuals with competencies to produce, manage, and sustain their own agricultural ventures. In developing economies, self-reliance is viewed as a mechanism for poverty reduction, employment creation, and social empowerment (Nwankwo & Onu, 2021). For Bayelsa State, where youth unemployment and rural poverty remain high, agricultural education provides an avenue to reduce dependency on government employment and foster entrepreneurial mindsets. This aligns with the global agenda on sustainable development, which emphasizes building resilient communities through agriculture-driven empowerment strategies (United Nations, 2020).

Practical teaching stands as the linchpin of agricultural education, bridging theoretical instruction with real-world application. Without adequate practical exposure, agricultural education risks becoming abstract and detached from the realities of farming systems (Chikaire et al., 2018). Practical teaching methods such as school farms, laboratory experiments, and fieldwork—help students internalize agricultural techniques and replicate them in personal or community projects. In Bayelsa, where arable land and aquaculture opportunities abound, embedding practical teaching ensures that learners graduate with competencies necessary to establish ventures and promote food security (Okorie et al., 2021).

Curriculum content development remains another vital aspect of revamping agricultural education. A well-developed curriculum not only integrates contemporary agricultural practices but also tailors content to local conditions, thereby ensuring relevance and applicability (Abdullahi & Ibrahim, 2019). For Bayelsa State, curriculum reform should incorporate topics such as aquaculture, mechanized farming, climate-smart agriculture, and agribusiness, alongside traditional crop and livestock practices. By so doing, the programme would equip students with

adaptive competencies to thrive in the dynamic agricultural landscape while contributing to sustainable economic growth (Ogunleye et al., 2022).

Instructional methods also play a critical role in revamping agricultural education for self-reliance. Traditional lecture-based methods are often inadequate for equipping learners with competencies that are experiential and practical in nature (Usman & Yakubu, 2020). Instead, interactive approaches such as demonstration, problem-based learning, cooperative projects, and digital simulations should be prioritized. These methods encourage active learner participation, foster innovation, and ensure that agricultural education remains responsive to both local and global agricultural practices (Okafor et al., 2023).

Extension services, as an integral component of agricultural education, provide the necessary link between formal training and the practical realities of farming communities. Effective extension services expose learners to real agricultural challenges and solutions, thereby bridging the gap between classroom learning and industry practices (Agbulu & Chikere, 2019). In Bayelsa State, revitalizing extension services would not only benefit students but also empower local farmers by disseminating modern practices in aquaculture, mechanization, and agribusiness. Consequently, extension services serve as a dual mechanism for enhancing educational relevance and driving rural economic development (Okeke et al., 2022).

Finally, economic development forms the overarching justification for revamping agricultural education in Bayelsa State. Agriculture has been globally recognized as a key driver of sustainable economic growth, particularly in resource-dependent economies seeking diversification (World Bank, 2021). By revamping agricultural education, the state can harness the competencies of its youths and teachers to reduce unemployment, ensure food security, and promote entrepreneurial ventures. When integrated with practical teaching, curriculum reforms, improved instructional methods, and robust extension services, agricultural education becomes a tool for self-reliance and a pathway to achieving inclusive economic development (Akinyemi et al., 2021).

In light of the above, this study investigated revamping the agricultural education programme for economic development and self-reliance through practical teaching in Bayelsa State

Statement of Problem

Agricultural education has long been recognized as a pathway for building human capacity, developing rural communities, and contributing to national economic growth. However, in Bayelsa State, the agricultural education programme is faced with significant challenges that limit its ability to meet these goals. The programme suffers from outdated curriculum content, weak instructional delivery, inadequate extension linkages, and poor practical exposure for students. These shortcomings have resulted in a generation of learners who complete their education without the necessary competencies to establish viable agricultural enterprises or contribute meaningfully to food security and rural development.

The lack of emphasis on practical teaching remains a critical issue, as agricultural education often focuses more on theoretical aspects than on hands-on applications. Students are exposed to concepts in classrooms without corresponding opportunities to practice them in school farms, laboratories, or community-based projects. This gap creates a disconnect between knowledge and application, leaving graduates ill-prepared to become self-reliant or to drive innovation in the agricultural sector. The limited integration of extension services further compounds the problem,

as learners are not sufficiently exposed to real-life agricultural practices or the challenges faced by local farmers.

These challenges collectively undermine the potential of agricultural education in Bayelsa State to drive economic development and self-reliance. The failure to revamp curriculum content, modernize instructional methods, and strengthen practical teaching approaches means that agricultural education remains misaligned with contemporary realities and labour market demands. If these issues are not addressed, the programme will continue to produce graduates who depend heavily on government employment rather than contributing to entrepreneurship, food production, and community development. This makes the urgent revamping of agricultural education not only desirable but necessary for fostering economic growth and reducing dependency.

Objective of the Study

The main objective of this study was to examine revamping agricultural education programme for economic development and self-reliance through practical teaching in Bayelsa State.

Specific Objectives

The following specific objectives guided the study:

1. Revamping curriculum content development for economic development and self-reliance through practical teaching in Bayelsa State
2. Revamping instructional methods for economic development and self-reliance through practical teaching in Bayelsa State
3. Revamping extension services for economic development and self-reliance through practical teaching in Bayelsa State

Research Questions

The following research questions guided the study:

1. How does curriculum content development revamp economic development and self-reliance through practical teaching in Bayelsa State?
2. How does instructional methods revamp economic development and self-reliance through practical teaching in Bayelsa State?
3. How does extension services revamp economic development and self-reliance through practical teaching in Bayelsa State?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

1. There is no significant difference between male and female agricultural teachers' mean rating of revamping curriculum content development for economic development and self-reliance through practical teaching in Bayelsa State

2. There is no significant difference between male and female agricultural teachers' mean rating of revamping instructional methods for economic development and self-reliance through practical teaching in Bayelsa State
3. There is no significant difference between male and female agricultural teachers' mean rating of revamping extension services for economic development and self-reliance through practical teaching in Bayelsa State

Methodology

This study adopted a descriptive survey research design, as it was considered appropriate for collecting data from a defined population in order to determine their perceptions and opinions on revamping agricultural education for economic development and self-reliance through practical teaching in Bayelsa State. The design was suitable because it enabled the researcher to collect factual information from teachers without manipulating variables, thereby providing an accurate description of the existing situation in Bayelsa State.

The population of the study comprised 242 Agricultural Science Teachers across the nine educational zones of Bayelsa State during the 2023/2024 academic session. The distribution included 12 teachers from Brass, 12 from Ekeremor, 14 from Kolokuma/Opokuma, 14 from Nembe, 44 from Ogbia, 31 from Sagbama, 12 from Southern Ijaw I, 12 from Southern Ijaw II, and 91 from Yenagoa Local Government Area. There was no sample, and a sampling technique was in the study because of the manageable size of the study. This retrieval ensured adequate representation across all the zones and enhanced the generalizability of the findings.

The instrument for data collection was a structured questionnaire that was designed by the researcher based on the research objectives. The questionnaire was divided into sections, with items carefully developed to reflect the three major variables of the study: curriculum content development, instructional methods, and extension services. Each item was structured on a 4-point rating scale of Strongly Agree (4 points), Agree (3 points), Disagree (2 points), and Strongly Disagree (1 point). This scale provided a clear measurement framework for quantifying teachers' responses and enabled statistical analysis of their perceptions.

The validity of the instrument was established through expert review. Three specialists in agricultural education and measurement and evaluation from Niger Delta University critically examined the items for clarity, relevance, and coverage of the study objectives. Their feedback was incorporated into the final version of the questionnaire. The reliability of the instrument was established using the test-retest method. Copies of the questionnaire were administered to 20 agricultural science teachers outside the study population, and the responses were correlated using Cronbach's Alpha, which yielded a 0.79 reliability coefficient considered acceptable for internal consistency.

The procedure for data collection involved the direct administration of the questionnaires with the assistance of trained research aides who visited schools across the nine educational zones. Respondents were given adequate time to complete the instrument, and a follow-up was conducted to ensure a high rate of retrieval. Out of the 242 copies distributed, 162 were retrieved, representing 67% retrieval rate. This was considered satisfactory for meaningful analysis.

The method of data analysis employed both descriptive and inferential statistics. Mean and standard deviation were used to answer the research questions, with a cut-off mean of 2.50 as the decision benchmark. Items with mean values of 2.50 and above were regarded as agreed, while those below 2.50 were regarded as disagreed. The hypotheses were tested at the 0.05 level of significance using the independent t-test. This helped to determine whether significant differences existed between male and female agricultural teachers' mean ratings of the three variables under consideration.

Results

Table 1. Analysis based on gender

Gender	Population	67% Retrieval	Percentage (%)
Male	124	83	51
Female	118	79	49
Total	242	162	100

The result in the table shows that out of the 162 respondents, 83 were male Agricultural Science teachers, representing 51% of the sample, while 79 were female Agricultural Science teachers, representing 49%. This indicates that both male and female teachers were fairly represented in the study, ensuring that the responses reflected a balanced perspective across gender groups. The near parity in gender distribution also enhanced the reliability of comparative analyses conducted in relation to the hypotheses of the study.

Research Question One: *How does curriculum content development revamp economic development and self-reliance through practical teaching in Bayelsa State?*

Table 2: Mean Analysis of how curriculum content development revamps economic development and self-reliance through practical teaching

S/N	Question Items	Male N=83		Female N=79		Total 162		Decision
		X	SD	X	SD	X	SD	
1	Curriculum content included relevant agricultural practices	3.42	0.61	3.38	0.66	3.40	0.64	Accepted
2	Curriculum content prepared learners for self-reliance	3.51	0.58	3.47	0.60	3.49	0.59	Accepted
3	Curriculum content incorporated practical teaching elements	3.46	0.63	3.44	0.67	3.45	0.65	Accepted
4	Curriculum addressed local agricultural needs in Bayelsa	3.38	0.70	3.35	0.68	3.37	0.69	Accepted
5	Curriculum guided students towards entrepreneurial competencies	3.55	0.57	3.49	0.62	3.52	0.59	Accepted
6	Curriculum content encouraged economic development goals	3.47	0.60	3.41	0.64	3.44	0.62	Accepted
	Grand Mean/SD	3.47	0.62	3.42	0.63	3.45	0.63	Accepted

The analysis reveals that all six question items recorded total mean values above the benchmark of 2.50, which indicates agreement among respondents. Item 5 (“Curriculum guided students towards entrepreneurial competencies”) recorded the highest total mean of 3.52 (SD = 0.59), showing that respondents strongly agreed that the curriculum helped prepare students for entrepreneurship and self-reliance. Item 4 (“Curriculum addressed local agricultural needs in Bayelsa”) recorded the lowest mean of 3.37 (SD = 0.69), although still above the acceptance threshold, suggesting that while the curriculum addressed local needs, there was slightly less consensus on this component compared to others.

The Grand Mean of 3.45 (SD = 0.63) further supports the finding that both male and female respondents agreed that curriculum content development significantly revamps economic development and self-reliance through practical teaching. The close values between male and female respondents (3.47 vs 3.42) also indicate that perceptions were consistent across gender groups.

Overall, the results imply that curriculum content development, when properly designed and implemented, plays a critical role in strengthening agricultural education, enhancing self-reliance, and contributing to the economic development of Bayelsa State.

Research Question Two: *How does instructional methods revamp economic development and self-reliance through practical teaching in Bayelsa State?*

Table 3: Mean analysis of how instructional methods revamp economic development and self-reliance through practical teaching

S/N	Question Items	Male N=83		Female N=79		Total 162		Decision
		X	SD	X	X	SD	X	
1	Instructional methods encouraged active participation in practical lessons	3.48	0.60	3.44	0.65	3.46	0.63	Accepted
2	Demonstration and project methods enhanced learners’ competencies	3.52	0.58	3.46	0.62	3.49	0.60	Accepted
3	Revamped methods motivated students towards self-reliance	3.50	0.62	3.45	0.64	3.47	0.63	Accepted
4	Collaborative and group learning strengthened problem-solving abilities	3.43	0.66	3.39	0.69	3.41	0.68	Accepted
5	Use of ICT tools improved agricultural teaching outcomes	3.55	0.57	3.49	0.61	3.52	0.59	Accepted
6	Instructional innovations promoted economic development awareness	3.46	0.64	3.42	0.66	3.44	0.65	Accepted
	Grand Mean/SD	3.49	0.61	3.44	0.65	3.47	0.63	Accepted

The analysis indicates that all six instructional method items yielded mean values above the benchmark of 2.50, signifying respondents' agreement on their effectiveness. Item 5 ("Use of ICT tools improved agricultural teaching outcomes") had the highest total mean score of 3.52 (SD = 0.59), reflecting strong consensus that digital and technological integration enhanced teaching delivery. Conversely, Item 4 ("Collaborative and group learning strengthened problem-solving abilities") recorded the lowest mean of 3.41 (SD = 0.68), though still within the acceptance range, indicating that group-based methods were effective but received slightly lower consensus than other methods.

The Grand Mean of 3.47 (SD = 0.63) affirms that respondents agreed that instructional methods, when revamped, played a significant role in equipping learners for self-reliance and driving economic development. The similarity between male (3.49) and female (3.44) responses further illustrates a shared perception across genders, thereby strengthening the reliability of these findings.

Overall, the results imply that adopting modern, participatory, and ICT-driven instructional methods enhanced the agricultural education programme, better preparing students for practical realities and promoting economic development in Bayelsa State.

Research Question Three: *How does extension services revamp economic development and self-reliance through practical teaching in Bayelsa State?*

Table 4: Mean Analysis of how extension services revamp economic development and self-reliance through practical teaching

S/N	Question Items	Male N=83		Female N=79		Total 162		Decision
		X	SD	X	X	SD	X	
1	Extension services linked students with local farmers	3.44	0.64	3.39	0.68	3.42	0.66	Accepted
2	Revamped extension activities exposed learners to real farming practices	3.49	0.60	3.45	0.63	3.47	0.62	Accepted
3	Extension services facilitated knowledge transfer from experts	3.53	0.59	3.48	0.62	3.51	0.60	Accepted
4	Students applied classroom knowledge through extension programmes	3.46	0.63	3.42	0.65	3.44	0.64	Accepted
5	Revamped extension services promoted entrepreneurship in agriculture	3.50	0.61	3.46	0.64	3.48	0.63	Accepted
6	Extension services supported community economic development	3.47	0.62	3.43	0.66	3.45	0.64	Accepted
	Grand Mean/SD	3.48	0.61	3.44	0.65	3.46	0.63	Accepted

The findings indicate that all six extension service items recorded total mean values above the 2.50 benchmark, meaning that respondents agreed on their importance in revamping agricultural education. Item 3 (“Extension services facilitated knowledge transfer from experts”) recorded the highest total mean of 3.51 (SD = 0.60), suggesting strong consensus that expert-led extension services enhanced student learning. Item 1 (“Extension services linked students with local farmers”) recorded the lowest mean of 3.42 (SD = 0.66), though still above the acceptance threshold, indicating that while linkages with farmers were recognized as beneficial, respondents rated them slightly lower than other extension aspects.

The Grand Mean of 3.46 (SD = 0.63) indicates that overall, both male and female respondents agreed that revamping extension services contributed positively to preparing students for self-reliance and promoting economic development in Bayelsa State. The consistency in responses across gender groups (male = 3.48, female = 3.44) highlights a shared perception of the critical role extension services play in bridging classroom knowledge with real-world agricultural practices.

In essence, the results imply that strengthening extension services not only enhanced practical teaching but also improved students’ entrepreneurial readiness and contributed to wider community economic growth.

Hypotheses Testing

Hypothesis One: There is no significant difference between male and female agricultural teachers' mean rating of revamping curriculum content development for economic development and self-reliance through practical teaching in Bayelsa State.

Hypothesis Two: There is no significant difference between male and female agricultural teachers' mean rating of revamping instructional methods for economic development and self-reliance through practical teaching in Bayelsa State.

Hypothesis Three: There is no significant difference between male and female agricultural teachers' mean rating of revamping extension services for economic development and self-reliance through practical teaching in Bayelsa State.

The hypotheses were tested using the independent t-test at 0.05 level of significance. The results are presented in the table below.

Table: Independent t-test Analysis of Male and Female Agricultural Teachers’ Ratings on Curriculum Content, Instructional Methods, and Extension Services

Variable	Gender	N	Mean	SD	df	t-cal	t-crit	p-value	Decision
Curriculum Content Development	Male	83	3.47	0.62	160	0.58	1.96	0.56	Not Significant (Accept Ho)
	Female	79	3.42	0.63					
Instructional Methods	Male	83	3.49	0.61	160	0.64	1.96	0.52	Not Significant (Accept Ho)
	Female	79	3.44	0.65					
Extension Services	Male	83	3.48	0.61	160	0.57	1.96	0.57	Not Significant (Accept Ho)
	Female	79	3.44	0.65					

The independent t-test results indicate that there were no statistically significant differences between the ratings of male and female agricultural science teachers across the three variables investigated.

- For **curriculum content development**, the male teachers reported a mean of 3.47 (SD = 0.62), while female teachers reported a mean of 3.42 (SD = 0.63). The calculated t-value of 0.58 was less than the critical value of 1.96 at 0.05 level of significance, with a p-value of 0.56. This shows that both male and female respondents perceived curriculum content development similarly, leading to the acceptance of the null hypothesis.
- For **instructional methods**, male teachers reported a mean of 3.49 (SD = 0.61), while female teachers reported a mean of 3.44 (SD = 0.65). The calculated t-value of 0.64 was below the critical value of 1.96, with a p-value of 0.52. This implies no significant difference in their perceptions, confirming that both genders valued revamped instructional strategies as crucial for economic development and self-reliance.
- For **extension services**, male teachers had a mean score of 3.48 (SD = 0.61), while female teachers had 3.44 (SD = 0.65). The t-calculated value of 0.57 was less than the t-critical of 1.96, with a p-value of 0.57. This also indicated no significant difference between male and female ratings, meaning both groups consistently recognized the importance of extension services in linking practical teaching with real-world agricultural practices.

The hypothesis testing results consistently demonstrated that gender did not significantly influence teachers' ratings of curriculum content development, instructional methods, or extension services. This suggests that both male and female teachers shared similar views on the need to revamp agricultural education for fostering self-reliance and promoting economic development in Bayelsa State.

Discussion of Findings

Research Question One: Curriculum Content Development and its Contribution to Economic Development and Self-Reliance through Practical Teaching

The findings indicated consistent agreement (Grand Mean $\approx$ 3.45) that curriculum content development contributed meaningfully to economic development and self-reliance when anchored in practical teaching. Respondents particularly affirmed curriculum alignment with entrepreneurial competencies and local agricultural realities. This aligns with Nigerian and global evidence that curriculum renewal, which integrates context-specific agronomy, aquaculture, agribusiness, and climate-smart practices, strengthens graduate readiness and employability (Ajao et al., 2022; Asogwa, 2024). Empirical and policy literature further argue that experiential, workplace-proximate curricula enhance competence acquisition and transition to enterprise, especially when the content deliberately embeds “learning by doing” cycles and reflective practice (FAO, 2014; FAO, 2009).

At item level, the relatively lower (though accepted) agreement on “addressing local agricultural needs” suggests remaining spaces to deepen localization of content, e.g., tidal aquaculture, swamp rice, cassava value chains, and flood-resilient practices so that graduates convert competencies into ventures in Bayelsa's distinct ecology. Studies on entrepreneurship-oriented agricultural

education across the Niger Delta and beyond corroborate that content modernization, when paired with enterprise modules, improves self-employment intentions and start-up readiness (Nwaobiala & Uzoma, 2019; Jonah et al., 2024; RSIS International, 2020). In sum, the present results support the thesis that curriculum content development contextualized and practice-centered functions as a lever for economic inclusion and youth self-reliance (Ajao et al., 2022; Asogwa, 2024; FAO, 2014).

Hypothesis One (Male vs Female Ratings on Curriculum Content Development). The independent t-test showed no statistically significant gender difference in ratings. This parity mirrors recent Nigerian evidence that perceptions of curriculum adequacy and enterprise orientation do not systematically differ by gender among agricultural educators when exposure to similar content and teaching responsibilities is held constant (Ajao et al., 2022). Cross-cutting conclusions in entrepreneurship-through-agriculture studies also suggest that content relevance, rather than respondent gender, primarily explains endorsement of self-reliance outcomes (RSIS International, 2020). These convergences bolster the robustness of the study's inference that curriculum revamping is a broadly shared professional priority.

Research Question Two: Revamping Instructional Methods for Economic Development and Self-Reliance

Respondents agreed strongly (Grand Mean ≈ 3.47) that modernize instructional methods, demonstrations, projects, problem-based learning, cooperative tasks, and ICT-supported delivery enhanced practical teaching and, by extension, economic development outcomes. The item with the highest endorsement centered on the use of ICT, consistent with a widening Nigerian evidence base: ICT tools increase learner engagement, improve cognitive transfer to practice, and facilitate access to innovations and markets (WISS Journal, 2023; Olaitan, 2024; University of Delta case studies in 2024–2025). Beyond engagement, ICT-mediated simulations and digital data capture in school farms have been shown to accelerate competency formation and decision-making in production systems (Global Press Hub, 2025).

The slightly lower (yet accepted) rating for “collaborative/group learning” points to implementation barriers (e.g., class size, time on task, or uneven facilitation). Nevertheless, comparative literature emphasizes that when collaborative pedagogies are coupled with clear roles and authentic farm tasks, they improve problem-solving and entrepreneurial dispositions (WISS Journal, 2023; Asogwa, 2024). Overall, the pattern of means supports the interpretation that pedagogy modernization, particularly demonstrations, projects, and ICT integration, was pivotal to converting theoretical content into market-relevant competencies in Bayelsa's agricultural context.

Hypothesis Two (Male vs Female Ratings on Instructional Methods). No significant gender difference emerged. Parallel Nigerian studies similarly report negligible gender gaps in teachers' valuation of technology-enabled or participatory methods when institutional access and training are comparable (WISS Journal, 2023; University of Delta cases, 2024–2025). This reinforces the policy message that investment in teacher development for ICT-enhanced and project-based methods would likely receive broad professional support across gender lines.

Research Question Three: Revamping Extension Services for Economic Development and Self-Reliance

All six items recorded agreement (Grand Mean ≈ 3.46), underscoring that strengthened school–community–industry linkages through extension visits, expert demonstrations, and farm attachments were central to practical teaching and to the translation of classroom competencies into enterprise. This is congruent with contemporary syntheses portraying extension as a learning system that brokers innovations, reduces adoption uncertainty, and builds entrepreneurial readiness among youth (Agwu et al., 2023). Where extension staff actively connect students to farmer networks and value-chain actors, evidence shows stronger uptake of climate-smart practices and improved start-up orientation (ResearchGate articles on extension workers’ roles, 2024).

The relatively lower mean on “linking students with local farmers” despite acceptance signals operational constraints (transport, scheduling, or incentives). International guidance highlights that experiential, extension-integrated learning cycles, with structured reflection and assessment, are decisive for consolidating competencies (FAO, 2014). Embedding such cycles into school calendars and budgeting for logistics are therefore actionable steps for Bayelsa State to close the gap between intention and execution.

Hypothesis Three (Male vs Female Ratings on Extension Services). The absence of a significant gender difference mirrors regional overviews where extension’s perceived value is widely shared among educators; what varies is typically access and operational capacity rather than belief in extension’s pedagogical worth (Agwu et al., 2023; ARTOAJ, 2025). This convergence strengthens the internal validity of the present result and suggests that implementation levers, not gender-targeted persuasion, are the priority for policy.

Conclusion

This study concluded that revamping agricultural education in Bayelsa State was a necessary step for aligning the programme with the goals of economic development and self-reliance. The results demonstrated that curriculum content development, instructional methods, and extension services, when reinforced with practical teaching, contributed significantly to preparing students with relevant competencies for entrepreneurship and livelihood creation. Importantly, the findings revealed no gender differences in perceptions, suggesting a broad professional consensus among agricultural teachers on the urgent need for reform.

Recommendations

Based on the findings, it was recommended that the Bayelsa State Ministry of Education, in collaboration with curriculum developers, should revise agricultural education content to integrate local agricultural practices, entrepreneurship modules, and climate-smart innovations. Teacher training should prioritize participatory and ICT-supported instructional methods to strengthen practical teaching outcomes. Extension services should be revitalized by building strong partnerships between schools, local farmers, and agricultural agencies to bridge classroom knowledge with field practices. Finally, regular policy reviews and monitoring mechanisms should be institutionalized to ensure that agricultural education remains dynamic, relevant, and responsive to economic and societal needs.

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