



GENDER-RESPONSIVE AGRICULTURAL EXTENSION POLICIES AND RURAL WOMEN'S EMPOWERMENT IN AKWA IBOM STATE, NIGERIA

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Abstract

This study examined gender-responsive agricultural extension policies and rural women's empowerment in Akwa Ibom State, Nigeria. Despite global and national commitments to inclusive agricultural development, empirical evidence on the operationalisation and effectiveness of gender-focused extension policies at the sub-national level remains limited. This study addresses that gap by assessing the awareness and implementation status of key policies, evaluating women's empowerment using selected indicators from the Women's Empowerment in Agriculture Index (WEAI), and analysing the relationship between policy dimensions and empowerment outcomes. A multi-stage sampling technique was used to select 240 rural women and 30 extension agents across six agricultural zones. Data were collected using structured questionnaires and analysed with descriptive statistics and multiple linear regression. Findings reveal moderate to low levels of awareness and weak implementation of gender-responsive policies, constrained by inadequate funding, limited training, and socio-cultural barriers. Empowerment scores varied, with the highest mean recorded in production decision-making (0.74) and the lowest in group membership (0.43). Regression analysis showed that access to training, participation in decision-making, resource support, policy awareness, and perceived fairness significantly influenced empowerment ($R^2 = 0.482$, $p < 0.001$). The study concludes that while gender-responsive extension policies hold transformative potential, their impact is hindered by institutional and contextual challenges. It recommends strengthening policy communication, institutionalising gender capacity-building, increasing funding, promoting women's participation in groups, and integrating gender-disaggregated monitoring tools. These interventions are essential to realise the empowerment goals embedded in agricultural extension policies.

Keywords: Gender-responsive policies, Agricultural extension, Women's empowerment, WEAI, Rural development, Nigeria.

Introduction

Agricultural extension services play a pivotal role in facilitating the dissemination of knowledge, technologies, and practices critical to sustainable agricultural development, particularly among

rural populations. Globally, the transformation of agricultural systems has increasingly recognised the importance of integrating gender-responsive approaches within extension frameworks to promote inclusivity and equity (Abhijeet et al., 2023; Farnworth and Colverson, 2016). Gender-responsive agricultural extension policies are designed to tailor services, resources, and capacity-building opportunities to the distinct needs of women farmers, who, despite their substantial contributions to food production, often face disproportionate barriers in accessing extension services, credit, inputs, and markets (Ragasa et al., 2013; Bryan et al., 2024). Integrating gender responsiveness into agricultural extension not only addresses systemic inequalities but also enhances the effectiveness, reach, and sustainability of development efforts. Empirical evidence shows that policies and programmes which recognise and tackle gender-specific constraints can improve agricultural productivity, foster resilience, and empower rural women (Cook, Satizábal, and Curnow 2021; Maulu et al., 2021; Eriksen et al., 2021). A gender-transformative extension model, in particular, fosters women's agency by challenging socio-cultural norms and creating enabling environments for their active participation in decision-making and leadership roles within agricultural value chains (Farnworth and Colverson, 2016).

Empowerment in agriculture includes dimensions such as access to productive resources, participation in leadership, control over income, and decision-making autonomy, core components of the Women's Empowerment in Agriculture Index (WEAI) (Mataka, Kaitibie, and Ratna, 2023). Agricultural extension services aligned with these indicators significantly influence empowerment outcomes. However, the operationalisation of gender-responsive agricultural extension policies remains inconsistent in many contexts, constrained by limited political will, weak institutional capacity, and ineffective monitoring mechanisms (Antwi-Agyei and Stringer, 2021; Caaisho, 2024). Increasingly, scholars advocate a more human-centred approach to extension, one that foregrounds social and cultural dimensions, particularly gender dynamics, to make agricultural development more inclusive and impactful (Cook et al., 2021). Despite the growing emphasis on gender-responsive agricultural extension, there remains a lack of empirical studies assessing the level of awareness, implementation status, and empowerment outcomes of such policies, particularly at the sub-national level in Nigeria. Understanding these dynamics is critical for designing inclusive and effective agricultural development policies that can catalyse rural transformation and social equity (Ongachi and Belinder, 2025; Mapiye et al., 2021).

In Akwa Ibom State, where women represent a significant portion of the agricultural labour force, persistent gender disparities in access to extension services have been documented. Udo, Udoms, and Atakpa (2024) observed that, although rural women are actively engaged in farming, structural barriers, such as gender-biased extension systems, low representation in cooperatives, and limited capacity-building opportunities, continue to hinder their productivity and empowerment. Jimmy and Olsson (2023) similarly noted that rural women in the state often lack decision-making power in both household and agricultural matters, despite their crucial roles in food production and community well-being. These findings reveal a gap between policy intent and practical outcomes. The inadequacy of gender-responsive extension policy implementation in Akwa Ibom reflects broader institutional and policy inertia. While both national and state agricultural policies emphasise gender mainstreaming, their actual deployment at the grassroots level remains limited. As noted by Akaninyene, Rachael, and Ngozi (2022), although women are active in agriculture in Akwa Ibom, the extension services provided are rarely tailored to their specific roles or needs, thereby falling short of achieving transformative empowerment. This raises significant concerns regarding the efficacy of current extension models in addressing the lived realities of rural women.

Furthermore, the absence of localised research that links the awareness and implementation of gender-responsive extension policies to measurable empowerment outcomes has resulted in a knowledge and policy gap. While some studies have focused on gendered access to extension services (Ragasa et al., 2013) or the broader role of women in agriculture (Udo et al., 2024), few have examined how policy implementation affects women's empowerment outcomes. There is thus an urgent need for empirical research to assess the extent to which these policies are known, implemented, and capable of transforming rural women's lives in Akwa Ibom State. Failure to address these issues may perpetuate gender-based marginalisation, lower agricultural productivity, and hinder the attainment of equitable rural development. In light of these challenges, the present study seeks to address this critical gap by examining gender-responsive agricultural extension policies and rural women's empowerment in Akwa Ibom State, Nigeria. Specifically, the study aims:

- i. To examine the awareness and implementation status of gender-responsive agricultural extension policies in Akwa Ibom State;
- ii. To measure the level of rural women's empowerment in agriculture using selected WEAI indicators;
- iii. To analyse the relationship between gender-responsive extension policies and women's empowerment outcomes in Akwa Ibom State.

Methodology

This study was conducted in Akwa Ibom State, situated in the South-South geopolitical zone of Nigeria. The state is bordered by Cross River State to the east, Abia State to the north, Rivers State to the west, and the Atlantic Ocean to the south. Covering a land area of approximately 7,081 square kilometres, the state is predominantly rural, with a large proportion of the population engaged in agricultural activities. This context makes it an appropriate setting for investigating gender-responsive agricultural extension policies and rural women's empowerment. The study population comprised rural women farmers and agricultural extension agents operating within the six agricultural zones under the Akwa Ibom Agricultural Development Programme (AKADEP). A total of 270 respondents participated in the study, comprising 240 rural women and 30 extension agents. The sample size was selected to ensure adequate representation across the zones and to capture perspectives from both beneficiaries and implementers of agricultural extension policies. A multi-stage sampling procedure was employed. In the first stage, all six agricultural zones (Abak, Etinan, Eket, Ikot Ekpene, Oron, and Uyo) were purposively selected to ensure comprehensive geographical coverage. In the second stage, four communities were randomly selected from each zone. In the third stage, ten women farmers were randomly selected from each community, resulting in a total of 240 rural women respondents. Additionally, five extension agents were purposively selected from each zone based on their active involvement in gender-responsive programmes, yielding 30 extension officers.

Data were collected using a well-structured questionnaire designed to elicit relevant information from both groups of respondents. The questionnaire covered areas such as the level of awareness and implementation status of gender-responsive extension policies, dimensions of women's empowerment based on selected indicators from the Women's Empowerment in Agriculture Index (WEAI), and perceptions of policy outcomes. The questionnaire instrument was subjected to face and content validity by experts in agricultural extension and rural sociology to ensure its appropriateness and alignment with the study objectives. A pre-test was conducted among 20 respondents outside the selected zones to enhance clarity and reliability.

The internal consistency of scale items was evaluated using Cronbach's alpha, with coefficients above 0.70 considered acceptable. The data collected were analysed using the Statistical Package for the Social Sciences (SPSS), version 26. Descriptive statistics, such as frequencies, percentages, means, and standard deviations, were used to summarise levels of policy awareness and implementation, as well as the status of women's empowerment. Inferential statistics, particularly multiple linear regression analysis, were employed to examine the relationship between components of gender-responsive extension policies and women's empowerment outcomes.

The regression model used is expressed as:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$$

Where:

Y = Women's Empowerment Score (5DE)

X₁ = Access to extension training

X₂ = Involvement in decision-making processes

X₃ = Resource allocation support

X₄ = Awareness of gender policies

X₅ = Perceived fairness of extension service delivery

β₀ = Constant term

β₁ to β₅ = Regression coefficients

ε = Error term

Results and Discussion

Implementation Status of Gender-Responsive Agricultural Extension Policies: The findings of this study reveal a moderate to low level of awareness and implementation of gender-responsive agricultural extension policies among rural women and extension agents in Akwa Ibom State. As presented in Table 1, the Women in Agriculture (WIA) programme recorded the highest awareness levels, 66.3% among rural women and 85.2% among extension agents. In contrast, other policies such as the Gender in Agricultural Extension Framework (GAEF) had considerably lower awareness rates (34.6% and 68.4%, respectively). This uneven pattern of awareness may be attributed to weak communication strategies and inadequate institutional mainstreaming of gender-responsive policies. These findings are consistent with the observations of Diaz and Najjar (2019), who emphasised that gender-focused extension is often inadequately institutionalised, despite the existence of formal policies. Similarly, the limited awareness of the National Gender Policy in Agriculture (NGPA) and the Agricultural Gender Mainstreaming Strategy among rural women supports Farnworth and Colverson's (2016) view that gender-transformative extension efforts frequently suffer from poor dissemination and limited grassroots reach. Perceptions of the actual implementation of key gender-responsive extension components, as shown in Table 2, further illustrate these challenges. Gender-sensitive training delivery recorded a mean score of 2.94, which is interpreted as moderately implemented. However, other essential components such as female participation in extension planning (\bar{x} = 2.51), disaggregated data collection by sex and age (\bar{x} = 2.45), and gender-specific monitoring and evaluation mechanisms (\bar{x} = 2.38) were rated as low. This pattern highlights systemic shortcomings in the practical operationalisation of gender policies, suggesting that many interventions remain rhetorical rather than actionable.

These findings resonate with Morgan et al. (2024), who noted that gender-responsive monitoring and evaluation frameworks are often poorly implemented in both health and extension systems, thereby undermining the impact of gender-sensitive interventions. Similarly,

the low implementation score for disaggregated data collection reinforces the concern raised by Bryan et al. (2024), who argued that the absence of gender-disaggregated data hampers the design and monitoring of equitable agricultural programmes. Constraints to effective implementation, as identified by extension agents and summarised in Table 3, further illuminate the structural and institutional barriers confronting gender-responsive extension delivery. Inadequate funding for gender-targeted programmes ranked highest (76.7%), followed by lack of gender-specific training for staff (63.3%) and cultural resistance to the inclusion of women (60.0%). These findings are consistent with Abenga et al. (2022), who reported that limited training and prevailing cultural norms continue to impede effective communication between extension agents and female farmers in Nigeria.

The persistence of cultural resistance also aligns with the findings of Odurukwe, Matthews-Njoku, and Ejiogu-Okereke (2006) in Imo State, who observed that socio-cultural barriers significantly limit rural women's participation in agricultural programmes, even when initiatives like WIA are in place. Furthermore, the results support Cook et al.'s (2021) argument that, without a human-centred and inclusive approach, agricultural extension systems often reproduce existing gender disparities. The limited representation of women in extension staffing, cited by 46.7% of respondents, mirrors Lingam, Bhushan, and Kumar's (2024) assertion that female representation in the delivery system is essential for the success of gender-responsive interventions. Kosec and Wantchekon (2020) also underscored the role of effective communication and awareness creation in improving rural governance outcomes. This insight helps explain why low awareness of policies among rural women remains a persistent challenge, despite the existence of various programmes.

Table 1: Awareness of Gender-Responsive Agricultural Extension Policies among Respondents (n = 270)

Policy/Program	Rural Women Aware (%)	Extension Agents Aware (%)
National Gender Policy in Agriculture (NGPA)	42.5	76.7
Agricultural Gender Mainstreaming Strategy	39.2	71.3
State Agricultural Transformation Agenda (SATA)	51.7	80.0
Gender in Agricultural Extension Framework (GAEF)	34.6	68.4
Women in Agriculture (WIA) Program	66.3	85.2

Note: Percentages are based on respondents who answered "Yes" to being aware of the specified policy/program.

Source: Survey 2024

Table 2: Perceived Implementation of Gender-Responsive Agricultural Extension Components (n = 270)

Policy Component	Mean Score (1–5)	Standard Deviation (SD)	Interpretation
Gender-sensitive training delivery	2.94	0.87	Moderately Implemented
Female farmer participation in extension planning	2.51	1.02	Low Implementation
Provision of inputs targeted at women	3.32	0.76	Fairly Implemented
Disaggregated data collection (by sex and age)	2.45	1.09	Low Implementation
Monitoring and evaluation of gender inclusion strategies	2.38	0.93	Low Implementation

Note: Scale: 1 = Not Implemented, 5 = Fully Implemented.

Source: Survey 2024

Table 3: Constraints to Effective Implementation of Gender-Responsive Policies (Extension Agents, n = 30)

Constraint	Frequency (%)	Rank
Inadequate funding for gender-targeted programs	76.7	1
Lack of gender-specific training for staff	63.3	2
Cultural resistance to women's inclusion	60.0	3
Poor monitoring and evaluation mechanisms	53.3	4
Limited female staff in extension service	46.7	5

Note: Multiple responses allowed. Percentages reflect frequency of mentions.

Source: Survey 2024

Level of Rural Women's Empowerment in Agriculture (WEAI Indicators)

The findings presented in Table 4 reveal varying levels of empowerment among rural women across five indicators of the Women's Empowerment in Agriculture Index (WEAI). The highest mean score was recorded in decision-making regarding agricultural production ($\bar{x} = 0.74$), followed by time allocation ($\bar{x} = 0.68$), and access to and control over productive resources ($\bar{x} = 0.62$). The lowest mean scores were observed in control over the use of income ($\bar{x} = 0.59$) and group membership ($\bar{x} = 0.43$). These results highlight the uneven distribution of empowerment across key agricultural domains.

Notably, the low score in group membership suggests that rural women have limited participation in cooperatives and women's groups, critical platforms for collective action, access to information, and resource mobilisation. This aligns with the findings of Ik-Ugwoezuonu and Obodoechi (2023), who observed that cooperative societies remain underutilised for promoting socio-economic inclusion among rural women in Nigeria, largely due to limited institutional support and awareness. As shown in Table 5, 59.2% of the surveyed women were classified as empowered, having achieved at least 80% adequacy across the five empowerment domains. Conversely, 40.8% of respondents remained not empowered. Although the empowerment rate is moderately high, it also indicates that a significant proportion of rural women still lack sufficient control and agency in agricultural contexts. This result corroborates the findings of Ashagidigbi et al. (2022), who reported similar empowerment disparities among Nigerian women, linking them to broader socio-cultural and institutional constraints. It also reflects the conclusions of Malapit et al. (2017), who emphasised that empowerment is multidimensional and often impeded by entrenched gender norms and limited access to enabling resources.

Disaggregated analysis by agricultural zones, presented in Table 6, reveals noticeable variations in empowerment outcomes. The Uyo zone recorded the highest mean 5DE score ($\bar{x} = 0.75$) and the highest empowerment rate (66.0%), while Oron zone reported the lowest mean score ($\bar{x} = 0.67$) and the lowest empowerment rate (52.5%). These disparities may be attributed to differences in the effectiveness of gender-responsive policy implementation, availability of infrastructure, and support services across the zones. For instance, Ataide, Nwogbo, and Mende (2024) noted that community-based organisations and public service delivery vary significantly across rural areas in Akwa Ibom State, influencing development outcomes. Similarly, Ahmed, Chase, and Wagnild. (2022) argued that inequitable access to frontline services, such as agricultural extension, has a direct impact on rural women's empowerment and overall wellbeing. These findings also align with Bonis-Profumo, Stacey, and Brimblecombe (2021), who observed that in Timor-Leste, empowerment was highest in domains related to production

decisions and time use but weakest in group membership and control over income. This consistency suggests a recurring pattern where women may exhibit relative autonomy in household-level domains but face structural and social barriers in areas that require collective engagement or financial authority. The low score in control over income, for example, mirrors findings by Gupta et al. (2019), who reported that in India, cultural norms often restrict women's financial decision-making power, even when they play active roles in farm production.

The moderately high overall empowerment rate observed in this study could be partly attributed to the partial implementation of gender-responsive extension policies that promote inclusivity in access to training, input support, and decision-making forums. This is supported by Dione et al. (2024), who emphasised that targeted policy measures aligned with WEAI indicators are essential for achieving meaningful improvements in women's empowerment. However, the persistence of disempowerment in specific domains and zones may also reflect inconsistencies in policy delivery and challenges in extension communication effectiveness. As noted by Abenga et al. (2022), systemic communication gaps and logistical constraints often limit extension agents' ability to effectively engage female farmers. The results suggest that while strides have been made in empowering rural women through policy interventions in Akwa Ibom State, substantial gaps remain, particularly in fostering institutional inclusion through cooperatives and economic autonomy via income control. These observations support Diaz and Najjar's (2019) argument that gender-responsive extension policies are most effective when supported by culturally sensitive implementation strategies and sustained community engagement. Furthermore, variations across agricultural zones may be influenced by differential support from local governance structures and development actors, which, as Sarker et al. (2024) noted in the Bangladeshi context, are instrumental in translating empowerment strategies into tangible grassroots outcomes. In summary, the findings reflect both progress and persisting limitations in gender-focused agricultural extension. They underscore the need for strengthened institutional frameworks, better policy communication, and deeper engagement with underperforming regions and empowerment domains to ensure that rural women benefit equitably and fully from gender-responsive agricultural extension policies.

Table 4: Descriptive Statistics of Selected WEAI Indicator Scores among Rural Women (n = 240)

WEAI Indicator	Mean Score	Standard Deviation (SD)	Minimum	Maximum
Decision-making in agricultural production	0.74	0.21	0.20	1.00
Access to and control over productive resources	0.62	0.26	0.10	1.00
Control over use of income	0.59	0.28	0.15	1.00
Group membership (e.g., cooperatives, women's groups)	0.43	0.30	0.00	1.00
Time allocation (productive and leisure balance)	0.68	0.23	0.20	1.00

Note: Indicator scores range from 0 to 1, where higher values indicate greater empowerment in the respective domain.

Source: Survey 2024

Table 5: Empowerment Status of Rural Women Based on 5DE Score (n = 240)

Empowerment Status	Frequency	Percentage (%)
Empowered ($\geq 80\%$ adequacy)	142	59.2
Not Empowered ($< 80\%$)	98	40.8

Note: Empowerment is defined using the 5DE (Five Domains of Empowerment) component of WEAI with $\geq 80\%$ adequacy threshold.

Source: Survey 2024

Table 6: Distribution of Mean 5DE Scores and Empowerment Levels by Agricultural Zone (n = 240)

AKADEP Agricultural Zone	Sample Size (n)	Mean 5DE Score	Standard Deviation (SD)	% Empowered ($\geq 80\%$ Adequacy)
Abak	40	0.73	0.12	60.0
Etinan	40	0.71	0.14	57.5
Eket	40	0.68	0.15	55.0
Ikot Ekpene	40	0.70	0.13	58.0
Oron	40	0.67	0.16	52.5
Uyo	40	0.75	0.11	66.0

Note: The 5DE score reflects the average adequacy across five WEAI indicators. Empowerment status calculated per zone.

Source: Survey 2024

Relationship Between Gender-Responsive Extension Policies and Women's Empowerment

The multiple linear regression analysis presented in Table 7 reveals that dimensions of gender-responsive agricultural extension policies significantly influence rural women's empowerment outcomes in Akwa Ibom State, as measured by the Women's Empowerment Score (5DE). The model explains approximately 48.2% of the variance in women's empowerment, indicating strong explanatory power of the selected policy components. Among the predictors, access to extension training emerged as the most influential factor ($\beta = 0.298$, $p < 0.001$), followed by involvement in decision-making processes ($\beta = 0.241$, $p < 0.001$), resource allocation support ($\beta = 0.217$, $p = 0.001$), awareness of gender policies ($\beta = 0.183$, $p = 0.001$), and perceived fairness in service delivery ($\beta = 0.149$, $p = 0.010$). These findings suggest that when rural women have access to training, participate in decision-making, are aware of relevant policies, and perceive services as fair and equitable, their empowerment levels significantly improve.

These results are consistent with the findings of Malapit et al. (2019), who emphasised that empowerment in agriculture is strongly linked to access to productive resources, relevant information, and inclusion in institutional processes. Similarly, Crookston et al. (2021) reported that women's empowerment in Burkina Faso improved substantially when women were actively engaged in decision-making and had access to agricultural knowledge, patterns mirrored in the current study.

The positive influence of resource allocation support corroborates the findings of Ashagidigbi et al. (2022), who noted that access to resources plays a crucial role in shaping household food security and women's empowerment outcomes in Nigeria. Furthermore, the significance of awareness of gender policies aligns with Dione et al. (2024), who argued that when women are well-informed about institutional frameworks and policy provisions, they are more empowered to assert their rights and entitlements. The role of perceived fairness in extension service delivery also resonates with Lwamba et al. (2022), who highlighted the importance of equitable systems in advancing women's empowerment, particularly in fragile and rural contexts. When extension agents are seen as fair, respectful, and inclusive, women are more likely to engage with programmes and benefit from them. Moreover, the prominent influence of training access and inclusion in decision-making supports the argument of Gupta et al. (2019), who stressed the need for locally relevant and context-sensitive strategies to enhance women's empowerment. The effectiveness of these components in Akwa Ibom suggests that

certain aspects of gender-responsive policy are being implemented with a degree of success. However, variability in the standardised coefficients may reflect differences in delivery, shaped by local socio-cultural norms or institutional inconsistencies. Interestingly, although perceived fairness had the lowest beta coefficient among the predictors, its statistical significance suggests that relational and procedural aspects of service delivery, such as how fairly women are treated, can have meaningful impacts on empowerment. This observation aligns with Schaaf et al. (2020), who posited that perceptions of equity among service users significantly influence trust and engagement, particularly among marginalised groups.

Overall, the empirical evidence from this study reinforces international frameworks such as the pro-WEAI and supports the conclusion of Widiastuti et al. (2024) that strategic and context-specific solutions, focusing on access, equity, and participation, are essential for dismantling structural barriers to women's empowerment. The observed relationships underscore that gender-responsive extension policies, when well designed and effectively implemented across key dimensions, can serve as transformative tools for advancing the empowerment of rural women in agriculture. Thus, the findings affirm that policy interventions should prioritise inclusivity, equitable resource distribution, continuous awareness creation, and meaningful engagement to generate sustained empowerment outcomes among rural women.

Table 7: Multiple Linear Regression Showing the Influence of Gender-Responsive Extension Policy Dimensions on Women's Empowerment Outcomes (n = 240)

Independent Variables	Unstandardized Coefficients (B)	Standard Error (SE)	Standardized Coefficients (β)	t-value	p-value
Constant (Intercept)	0.412	0.083	—	4.96	0.000***
Access to extension training	0.136	0.027	0.298	5.04	0.000***
Involvement in decision-making processes	0.112	0.031	0.241	3.61	0.000***
Resource allocation support	0.097	0.029	0.217	3.34	0.001**
Awareness of gender policies	0.084	0.026	0.183	3.23	0.001**
Perceived fairness of extension service delivery	0.065	0.025	0.149	2.60	0.010*

Model Summary: $R^2 = 0.482$; Adjusted $R^2 = 0.471$; $F(5, 234) = 42.67$; $p < 0.001$

Note:

- Dependent Variable: Women's Empowerment Score (5DE)
- *Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
- All predictors entered simultaneously (Enter method)

Source: SPSS Version 25 Computer Printout

Conclusion and Recommendations

This study examined gender-responsive agricultural extension policies and rural women's empowerment in Akwa Ibom State. The findings indicate that awareness and implementation of key gender policies, such as the Women in Agriculture (WIA) programme, the National Gender Policy in Agriculture (NGPA), and the Gender in Agricultural Extension Framework (GAEF), remain moderate to low among both rural women and extension agents. Critical components of these policies, including gender-specific planning, gender-disaggregated data collection, and gender-sensitive monitoring and evaluation, were found to be weakly implemented. This suggests a significant disconnect between policy formulation and practical delivery at the grassroots level. Although some progress has been achieved, particularly in training delivery and provision of agricultural inputs, systemic challenges persist. These include inadequate funding, limited staff training on gender-specific approaches, and cultural resistance to women's inclusion.

The Women's Empowerment in Agriculture Index (WEAI) scores revealed that while a majority of women are empowered, considerable gaps remain in specific domains such as group membership and control over income. These gaps highlight enduring structural and socio-cultural barriers.

Disparities in empowerment levels across agricultural zones further underscore the uneven implementation of gender-responsive policies and their variable impact on women's empowerment outcomes. Overall, the study concludes that while gender-responsive extension policies have strong potential to enhance rural women's empowerment, their effectiveness is constrained by institutional weaknesses, cultural norms, and inconsistent execution at the community level. To address these challenges and fully realise the empowerment objectives embedded in gender-responsive agricultural extension policies, the following recommendations are made:

- i. **Strengthen Policy Awareness and Communication Strategies:** The study revealed that rural women's awareness of key gender-responsive agricultural policies is low. It is therefore recommended that the Ministry of Agriculture, in collaboration with development partners, design and implement targeted communication strategies. These should utilise local languages and culturally appropriate platforms such as community-based radio programmes, local drama troupes, and women-centred outreach sessions. Engagement with women leaders and farmer groups should be prioritised to improve policy visibility and public understanding.
- ii. **Institutionalise Gender-Specific Capacity Building:** A major constraint identified in this study was the limited training of extension staff on gender-sensitive approaches. Agricultural extension services should institutionalise regular capacity-building workshops and refresher courses that focus on gender equity, participatory planning, and monitoring. Strategic partnerships with universities and non-governmental organisations (NGOs) specialising in gender and rural development can support the delivery of technical training to both male and female extension workers.
- iii. **Increase Funding for Gender-Targeted Extension Programmes:** Inadequate funding was highlighted as a key barrier to policy implementation. Governments at both the state and local levels should increase budgetary allocations for gender-responsive agricultural extension. In addition, development partners should consider dedicated grants or co-funding arrangements to support initiatives such as WIA, targeted input distribution, and training for rural women. The introduction of gender-sensitive budgeting frameworks within extension departments would ensure consistent and sustainable financial support.
- iv. **Promote Rural Women's Access to Cooperatives and Group Platforms:** Low scores in group membership point to limited participation by women in cooperatives and associations. Deliberate efforts are needed to mobilise and support women's involvement in agricultural cooperatives, self-help groups, and farmer associations. The Ministry of Women Affairs, alongside NGOs, should facilitate the formation of inclusive groups, build their capacity, and connect them to extension services, markets, and credit schemes. Peer mentorship and experiential learning within these platforms can further enhance women's agency.
- v. **Integrate Gender-Disaggregated Data and Monitoring Tools into Extension Services:** The study found weak implementation of gender-specific monitoring and evaluation systems. To close this gap, extension departments should adopt gender-disaggregated data collection tools as part of routine operations. Digital technologies such as mobile data platforms and interactive dashboards can be used to track women's participation. In addition, training extension personnel on gender-responsive monitoring and evaluation frameworks will

support evidence-based decision-making and enhance accountability in delivering equitable services.

These interventions are essential for translating gender-responsive agricultural extension policies into meaningful empowerment outcomes. By addressing institutional gaps, enhancing awareness, and prioritising inclusivity, Akwa Ibom State can strengthen the effectiveness of its agricultural extension services and promote sustainable empowerment of rural women.

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