

# The Characteristics and Constraints of Women in Agricultural Production in Dutsin-Ma, Local Government Area of Katsina State, Nigeria

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## Abstract

*This study examines the socio-economic characteristics and constraints affecting women's participation in agricultural and food production in Dutsinma Local Government Area (LGA) of Katsina State, Nigeria. Anchored on the Liberal Feminist Theory, which advocates for equal access to opportunities and the removal of structural barriers limiting women's agency, the study seeks to illuminate the roles, challenges, and socio-economic contexts of female agricultural participants. A mixed-methods approach combining quantitative and qualitative methodologies was adopted. Data were collected from a sample of 110 women selected through stratified and purposive sampling techniques. Structured questionnaires, in-depth interviews, and focus group discussions were employed to gather comprehensive data. Findings revealed that most women involved in agriculture in Dutsinma are middle-aged, have limited formal education, and rely heavily on subsistence farming for livelihood. Despite their active participation, women face multiple constraints, including limited access to land, agricultural inputs, credit facilities, extension services, and market opportunities. Socio-cultural norms and gender-based discrimination further impede their productivity and decision-making power. The study recommends that government and development agencies promote gender-inclusive agricultural policies, improve access to credit and land ownership, and expand extension services targeted at women. Additionally, community sensitization on the importance of women's roles in agriculture is vital to dismantle socio-cultural barriers. By addressing these issues, the full potential of women in agricultural development can be harnessed, contributing significantly to food security and rural economic transformation in Dutsinma LGA and beyond.*

**Keywords:** *Women in Agriculture, Socio-Economic Characteristics, Agricultural Constraints, Gender Inequality, Food Production*

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## Introduction

The agricultural and food production sectors are fundamental to global sustenance, economic development, and poverty reduction. Globally, women constitute a significant share of the agricultural workforce and are central to the functioning of agrifood systems. According to the Food and Agriculture Organization (FAO, 2023), as of 2019, 36 per cent of working women were employed in agrifood systems. This proportion is even more pronounced in regions such as sub-Saharan Africa, where it rises to 66 per cent, and Southern Asia, where it reaches 71 per

cent. Women participate at multiple points along the value chain as producers, wage workers, processors, distributors, traders, and consumers and their labour is essential to both economic production and household nutritional security. Notably, smallholder farmers are the backbone of global food systems, producing nearly one-third of the world's food (FAO, 2023), and the majority of these smallholders are women. In many developing contexts, rural women cultivate food crops, manage livestock, and oversee post-harvest activities while also fulfilling unpaid domestic responsibilities. Their dual roles place them at the heart of both food production and family well-being.

Despite their indispensable contributions, women remain systematically marginalised within agricultural systems. They face widespread barriers such as restricted access to land, credit, extension services, agricultural inputs, training, and markets (UN Women, 2022; Aguilar et al., 2023). Legal and cultural norms often favour male ownership of land and assets, while discriminatory institutional practices further entrench gender inequality. Women's limited participation in policy and decision-making spaces exacerbates their exclusion from programmes designed to support agricultural development. This paradox wherein women are crucial to food systems but are denied equal opportunity and recognition undermines the resilience, efficiency, and sustainability of global agriculture. As the FAO (2023) argues, the persistence of gender inequality in agrifood systems is not merely a human rights issue but a critical development challenge. Closing gender gaps in agriculture would significantly improve productivity, enhance food security, and contribute to poverty reduction. In economic terms, it is estimated that eliminating gender-based barriers in agrifood systems could increase global GDP by 1 per cent (approximately US\$1 trillion) and reduce the number of food-insecure people by 45 million (FAO, 2023).

### **Statement of the Problem**

Globally, women play a role in agricultural and food production, constituting nearly 43% of the agricultural labour force in developing countries (FAO, 2021). Despite this significant contribution, gender disparities in access to land, credit, education, extension services, and decision-making continue to undermine women's productivity and limit their full participation in agricultural development. These inequalities have contributed to persistent food insecurity and rural poverty, prompting calls for more inclusive agricultural systems worldwide (UN Women, 2022).

In Sub-Saharan Africa, women contribute between 60–80% of labour in food production, yet they face structural constraints rooted in patriarchal norms and institutional exclusion (UN Women, 2022). Limited access to productive resources and support services hampers their capacity to move beyond subsistence farming and participate meaningfully in value chains (Aguilar et al., 2023). These barriers are particularly pronounced in rural communities, where cultural and legal frameworks further entrench gender-based marginalisation in agriculture.

In Nigeria, women's involvement in agriculture remains largely informal and unrecognised, despite their indispensable role in ensuring household and national food security. Particularly in northern states like Katsina, socio-economic challenges such as poverty, low literacy levels, and restricted access to resources continue to hinder women's agricultural potential (Akinola & Yusuf, 2023). This study emerges in response to these multi-level challenges, therefore, seeks to

1. Assess the socio-economic characteristics of women participants in agricultural and food production.
2. Investigate the constraints associated with women's involvement in agricultural production.

### Conceptual Clarification

According to UN Women (2021), women contribute 60–80% of food production in Sub-Saharan Africa, yet they own less than 20% of agricultural land. Women's Participation in Agriculture refers to the direct and indirect involvement of women in agricultural activities including land preparation, planting, harvesting, marketing, and food processing. Despite forming a large proportion of the agricultural labour force, women often face systemic exclusion from ownership, decision-making, and benefits in the agricultural value chain (FAO, 2020; UN Women, 2021).

The World Bank (2022) notes that agriculture accounts for over 35% of employment in Nigeria, with women playing key roles, particularly in food crop production. Agriculture encompasses the cultivation of crops and rearing of animals for food, fibre, and other products. In the Nigerian context, agriculture remains the backbone of the rural economy and a key source of livelihood, especially for women (World Bank, 2022).

Mehra & Rojas (2021) argue that women's empowerment in agriculture is not just about participation, but about voice, rights, and ownership. Empowerment is the process of increasing women's ability to make strategic life choices in contexts where this ability was previously denied. In agriculture, this includes access to resources, participation in decision-making, and control over income (Mehra & Rojas, 2021).

Akinbamijo et al. (2022) highlight that institutionalised inequalities and financial exclusion remain major impediments to rural women's agricultural productivity in Nigeria. Socio-economic characteristics also refer to the demographic, social, and economic attributes that define a group of individuals, influencing their roles, opportunities, and challenges within a specific context. In the context of women in agricultural and food production, these characteristics provide a profile of who these women are and how their personal circumstances intersect with their agricultural activities. Socio-Economic Constraints refer to social and economic obstacles that limit women's effective participation in agriculture. Key constraints include poverty, illiteracy, gender norms, limited access to credit, land, and technology, and exclusion from training or policy decision-making (Akinbamijo et al., 2022; Nnadozie & Ibe, 2020). Key aspects of socio-economic characteristics include:

**Demographic Profile:** This encompasses age, marital status, and household size. For instance, studies in Nigeria indicate that women in agricultural cooperative societies often have a mean age of 45 years and are mostly married, with many having extensive farming experience, sometimes exceeding 21 years. Education levels also vary, with a significant portion having attended secondary education.

**Labour Force Participation and Role:** Globally, women constitute a substantial portion of the agricultural workforce, accounting for 36 per cent of working women in agrifood systems as of 2019, rising to 66 per cent in sub-Saharan Africa and 71 per cent in Southern Asia. In Nigeria, women produce an estimated 60-80 per cent of food and contribute 70-80 per cent of the agricultural labour force. They are pivotal as producers, workers, processors, distributors, traders, and consumers, sustaining household nutritional security. However, they are often concentrated in irregular, informal, part-time, low-skilled, and labour-intensive positions, frequently as unpaid family workers or casual labourers.

**Income and Economic Contribution:** Women contribute significantly to household well-being through income-generating activities, with an increasing percentage of households relying on their financial contributions for food security. Despite this, many women farmers report low income from their farming activities, negatively affecting their standard of living. Globally, women earn, on average, 18.4 per cent less than men in agricultural wage employment, receiving only 82 cents for every dollar earned by men.

**Education and Literacy:** While many women farmers possess basic educational qualifications, significant disparities persist. For example, a 2021 UNICEF survey in Nigeria highlighted that

only 33.3 per cent of women were literate compared to 53.9 per cent of men. Education, alongside farming experience, household size, and farm size, significantly determines women's participation in crop production.

Financial Inclusion: Access to financial institutions and bank accounts is a critical socio-economic indicator. Globally, the gender gap in bank account ownership stands at 4 per cent, widening to 6 per cent in developing economies. In Nigeria, only 18 per cent of women had bank accounts compared to 46.9 per cent of men in 2021.

### **Socio-economic Contributions and Status**

Women's labour force participation globally has consistently lagged behind men's, a trend that has persisted with a 30 per cent gender gap since 1990, with women's participation at around 50 per cent compared to men's at 80 per cent. For women aged 25-54, the participation rate in 2022 was 61.4 per cent, significantly lower than the 90.6 per cent for men in the same age group. This disparity is further exacerbated by what is termed a "motherhood penalty," where the gap widens considerably for women with at least one child under six, from 29.2 per cent to 42.6 per cent.

A substantial proportion of women's employment worldwide, nearly 60 per cent, is in the informal economy. In low-income countries, this figure is even higher, exceeding 90 per cent. Within agrifood systems, women are disproportionately found in roles such as unpaid family workers or casual labourers, often concentrated in irregular, informal, part-time, low-skilled, and labour-intensive positions. This over-representation in vulnerable employment limits their access to formal social protection, creating a cycle of vulnerability that is difficult to escape.

The economic vulnerability of women is further highlighted by poverty and food insecurity statistics. One in every 10 women currently lives in extreme poverty, representing 10.3 per cent of the global female population. Projections indicate that by 2030, an estimated 342.4 million women and girls, or 8 per cent of the world's female population, will still be living on less than \$2.15 a day, with the majority (220.9 million) residing in sub-Saharan Africa. Gender gaps in food insecurity have also widened, increasing from 1.7 per cent in 2019 to over 4 per cent in 2021, with 31.9 per cent of women experiencing moderate or severe food insecurity compared to 27.6 per cent of men. In 2023, 26.7 per cent of adult women were moderately or severely food insecure, resulting in 47.8 million more women than men experiencing such insecurity.

Access to social protection remains a significant challenge for women. Globally, coverage for women lags behind men by 8 per cent (26.5 per cent for women versus 34.3 per cent for men), largely due to gender inequalities in employment and job quality. An estimated 73.5 per cent of women in wage employment lack access to social protection mechanisms such as pensions, unemployment benefits, or maternity protection. In terms of financial inclusion and digital access, while the gender gap in bank account ownership has narrowed in recent years, it still stands at 4 per cent globally (74 per cent for women versus 78 per cent for men) and 6 per cent in developing economies. The digital divide also persists as a gendered issue, with 37 per cent of women globally not using the internet, meaning 259 million fewer women have internet access than men. This digital exclusion of women has resulted in a substantial economic loss, estimated at US\$1 trillion in global GDP.

The consistent pattern observed across these socio-economic indicators reveals that women face multiple, overlapping disadvantages: higher poverty rates, greater food insecurity, less social protection, reduced financial access, and a persistent digital divide. These are not isolated issues but rather interconnected facets of systemic marginalisation. For example, limited financial access directly constrains women's ability to invest in agricultural inputs or technology, which in turn impacts their productivity and income, thereby exacerbating poverty and food insecurity. The over-representation of women in informal and vulnerable employment further limits their access to formal social protection, creating a cycle of vulnerability that is

difficult to escape. This interconnectedness implies that addressing women's socio-economic characteristics in agriculture requires a holistic approach that recognises these interdependencies. Interventions focusing on one area, such as financial inclusion, must consider how they interact with other barriers like digital literacy, social norms, or access to formal employment to achieve comprehensive and sustainable empowerment.

### **Pervasive Constraints and Disparities**

Globally, women face significant legal and customary restrictions that limit their economic opportunities. Over 2.7 billion women are legally restricted from having the same choice of jobs as men. In 2023, more than one-third of the 190 economies assessed (69 economies) had laws constraining women's decision to work. Discriminatory social norms, attitudes, and beliefs, alongside rigid gender roles, are identified as fundamental causes of gender inequalities, influencing behaviour, opportunities, and aspirations. A critical constraint is women's limited access to productive resources. Their access to essential assets and resources such as land, inputs (including improved seeds, fertilisers, and mechanised equipment), services (such as extension and irrigation), finance, and digital technology consistently lags behind men's. For instance, women account for less than 40 per cent of owners or rights-bearers for agricultural land in 32 out of 49 countries with available data. In over 40 per cent of reporting countries, men's land ownership or secure tenure rights are twice that of women. Progress in closing gaps in women's access to irrigation and ownership of livestock has been notably slow over the past decade.

Despite decades of advocacy, women in Nigeria and across Sub-Saharan Africa continue to face significant socio-economic and structural constraints in agricultural participation. These barriers limit their productivity, income, and empowerment, despite the fact that they constitute a substantial portion of the agricultural labour force. Saito and Weidemann (1990) earlier identified key constraints facing women in agriculture, including limited access to land, technology, credit, information, and markets. These constraints are compounded by low levels of awareness and inadequate inclusion in extension services. NCEMA (1991) echoed similar concerns, noting that land fragmentation, gendered inheritance laws, and cultural norms often restrict women to cultivating low-value food crops, while men dominate the more lucrative cash crop sectors. These early insights remain relevant, as recent studies continue to confirm the gendered segmentation of agricultural labour (FAO, 2020; UN Women, 2021).

Today, formal barriers such as low education levels, lack of technical training, and discriminatory labour laws continue to hinder women's entry into high-productivity agricultural sectors. Lawanson (2008) categorised these alongside informal barriers, including religious and cultural constraints, gender-based domestic responsibilities, and patriarchal attitudes within agricultural institutions. Women are often expected to contribute substantial labour, particularly in weeding, harvesting, and processing, yet receive disproportionately lower returns compared to their male counterparts (Mehra & Rojas, 2021; Nnadozie & Ibe, 2020).

Further evidence reveals that land ownership remains a critical bottleneck. According to the World Bank (2019), less than 15% of women in Nigeria own land, largely due to customary land tenure systems that favour men. Without land titles, women are excluded from access to formal credit, further reducing their ability to invest in inputs or technology (Ogunlela & Mukhtar, 2009; Akinbamijo et al., 2022). Fabiyi et al. (2007) similarly emphasised that inadequate extension services, lack of targeted training, and limited decision-making power reduce women's agricultural productivity. Compounding these issues is the gender digital divide. Adebayo et al. (2021) observe that many rural women lack access to mobile phones and digital platforms that disseminate critical market and climate information. In an era of climate



change, women's inability to access weather forecasts, agronomic advisories, or pricing information places them at greater risk of crop failure and income loss. Culturally sanctioned patriarchal systems also reinforce stereotypes that view women as secondary economic actors, mostly confined to reproductive and subsistence roles (Daman, 2003; FAO, 2020). These stereotypes continue to influence national and regional policy frameworks, often rendering women invisible in official agricultural planning and resource allocation (ActionAid, 2020). Although Nigerian women are central to agricultural labour, they remain marginalised in terms of resource access, recognition, and policy support. These gendered constraints have not only entrenched rural poverty among women but have also hindered the broader goal of inclusive agricultural transformation. These disparities directly translate into significant productivity and wage gaps. Productivity on female-managed farms lags that of male-managed farms of the same size by 24 per cent. In wage employment within agriculture, women earn, on average, 18.4 per cent less than men, receiving only 82 cents for every dollar earned by men. This contributes to a broader global earnings gap where women make 77 cents for every dollar men make. The burden of unpaid care work and resulting "time poverty" further exacerbates these challenges. Women globally spend 2.5 times as many hours a day on unpaid care and domestic work as men. This significant unpaid work burden, combined with the "motherhood penalty" mentioned previously, severely limits their time for productive agricultural activities, market engagement, and skill development. These major constraints include:

**Limited Access to Land:** This is a pervasive issue globally, regionally, and nationally. Women account for less than 40 per cent of owners or rights-bearers for agricultural land in 32 out of 49 countries with available data. In over 40 per cent of reporting countries, men's land ownership or secure tenure rights are twice that of women. In Sub-Saharan Africa, only 15 per cent of women own land. In Nigeria, many women do not have documented land rights (only 10 per cent in many parts), and customary laws often prioritise male inheritance, leaving women dependent on male relatives for farmland. This lack of secure land tenure severely restricts their ability to invest in long-term improvements or use land as collateral for loans.

**Inadequate Access to Credit and Financial Services:** Women farmers consistently face difficulties in securing formal credit. In Africa, women receive less than 10 per cent of available agricultural credit. This is often due to a lack of collateral, restrictive banking policies, and financial illiteracy. Limited access to credit prevents them from purchasing essential inputs like improved seeds, fertilisers, or pesticides, or investing in improved technologies.

**Insufficient Access to Extension Services and Technology:** Agricultural extension services, which provide vital knowledge and modern farming techniques, frequently fail to reach women farmers. Only 5 per cent of women farmers in Africa receive agricultural training. This creates a knowledge gap, hindering their adoption of more efficient and productive farming practices. Similarly, women often have less access to improved seeds, fertilisers, and mechanised equipment, forcing reliance on manual, labour-intensive methods. The high cost and complexity of improved processing technologies are also identified constraints.

**Exploitative Market Practices and Limited Market Access:** Women farmers often struggle to access lucrative markets, leading to lower economic returns. Middlemen frequently underpay them by 30-50 per cent below market value due to their limited direct access to markets. While women dominate informal cross-border trade in Africa, they face bureaucratic hurdles, high tariffs, corruption, and a lack of awareness regarding trade policies, restricting their access to high-value markets. Poor rural infrastructure also makes transportation difficult and costly.

**Cultural and Social Norms:** Deeply ingrained gender roles and cultural norms heavily influence African agriculture, dictating a clear division of labour and often excluding women from decision-making regarding crop selection and land use. In some Nigerian communities, women are even barred from certain agricultural activities or inheriting land due to their gender. These norms perpetuate marginalisation and hinder access to resources.

**Unpaid Care Work and Time Poverty:** Women globally spend 2.5 times as many hours a day on unpaid care and domestic work as men. This significant burden, combined with domestic responsibilities, severely limits their time for productive agricultural activities, market engagement, and skill development.

**Vulnerability to Climate Change:** Climate change disproportionately affects women's livelihoods, often pushing them out of agricultural activities, their primary source of income. By 2050, climate change may push up to 158 million more women and girls into extreme poverty. Despite their adaptive capacity, persistent cultural norms and institutional barriers challenge their ability to adapt effectively.

**Weak Institutional Support and Policy Implementation:** Globally, only 19 per cent of agricultural policies are gender-responsive, and a mere 13 per cent actively promote rural women's participation. In Nigeria, despite policies like the National Gender Policy in Agriculture (NGPA) launched in 2019 to address disparities, challenges persist in translating awareness into equitable access to resources due to weak implementation, poor stakeholder coordination, and insufficient gender-responsive budgeting (only 5 per cent of agricultural budgets are explicitly allocated to gender-focused initiatives).

### **Theoretical Framework**

This study is anchored on the Liberal Feminist Theory, a framework that provides a robust lens through which to examine the roles, challenges, and socio-economic contexts of women participating in agricultural and food production. This theoretical perspective is particularly pertinent given its advocacy for equal access to opportunities and the systematic removal of structural barriers that limit women's agency.

Liberal feminism, as one of the oldest and most recognised schools of feminist thought, began to take shape in the late 1700s as women started advocating for individual liberty. It emerged distinct from more radical feminist branches, focusing on reformist approaches within the existing liberal democratic framework, rather than demanding a complete societal overhaul. Its roots lie in 19th-century first-wave feminism, which sought recognition of women as equal citizens, with a particular emphasis on women's suffrage and access to education. Early liberal feminists, such as Mary Wollstonecraft, Frances Wright, and Judith Sargent Murray, drew parallels between sex discrimination and race discrimination, advocating for women's political inclusion and equal rights under the law. John Stuart Mill, one of the first men interpreted as a liberal feminist, argued in "The Subjection of Women" that without equal rights, women could not be sufficient in marriages, society, or academia. The movement's infrastructure was designed to be adaptable as women gained political and personal autonomy, making it one of the most enduring forms of feminism.

The intellectual lineage of liberal feminism includes a diverse array of influential thinkers and activists. Historically, prominent figures include Mary Wollstonecraft, whose "A Vindication of the Rights of Woman" (1792) is considered a foundational text. Elizabeth Cady Stanton and John Stuart Mill are also central to its origins. Later, Betty Friedan, author of "The Feminine Mystique," became a significant proponent. In contemporary times, notable liberal feminists continue to advocate for equal rights, including figures like Kamala Harris and Sheryl Sandberg. These proponents consistently champion legal and political reforms to ensure women's equal participation in society.

Liberal feminism operates on several core assumptions. Firstly, it posits that gender inequality is primarily a result of reduced access for women and girls to civil rights and social resources such as education and employment. It believes that women should possess the same rights and opportunities as men, including access to education, employment, and political participation. Secondly, it rejects the notion that women are inherently inferior or less capable than men, arguing that such stereotypes and biases must be challenged and eliminated. Thirdly, liberal

feminists believe that gender equality can be achieved through legal and political reforms within the existing social system, rather than requiring a revolutionary overhaul. They advocate for laws and regulations that promote gender equality and prohibit discriminatory practices against women. This approach emphasises individual rights, equal opportunities, and the belief in society's capacity for reform.

Applying Liberal Feminist Theory to this study on women's roles in agricultural production in Dutsin-Ma is highly relevant. The theory's focus on equal access to opportunities and the removal of structural barriers directly aligns with the study's objectives: to assess the socio-economic characteristics of women participants and investigate the constraints they face. Liberal feminism helps to frame these disparities not as inherent differences, but as consequences of unequal access to resources and opportunities. This theoretical lens therefore guides the investigation into how legal, political, and social reforms can enhance women's participation and address the inequalities inherent in agricultural systems.

One of the primary strengths of liberal feminism is its pragmatic and popular approach to achieving gender equality. By working within the existing social and political structures, it seeks gradual, incremental changes through legal and policy reforms, making its goals widely acceptable and achievable within mainstream society. This approach has led to significant advancements in women's rights, such as suffrage, equal access to education, and anti-discrimination laws in the workplace. Liberal feminism's emphasis on individual rights and autonomy empowers women to make choices about their own lives and pursue economic independence. It also highlights the importance of education and economic opportunities as crucial factors in promoting gender equality and reducing vulnerability. Its focus on the public sphere employment, education, and political participation has been instrumental in challenging sex segregation in jobs and advocating for better working conditions for women.

Despite its strengths, liberal feminism faces several criticisms. One major critique is its potential overemphasis on individual rights, which can sometimes neglect the deeper structural inequalities that underpin gender-based discrimination. Critics argue that merely changing laws is insufficient to bring about true equality, as it may not address the fundamental social structures and power dynamics that perpetuate women's oppression. This perspective is often seen as too optimistic about the pace and extent of progress, potentially overlooking the persistent inequalities that remain even after legal reforms. Furthermore, liberal feminism has been criticised for a limited focus on intersectionality, potentially overlooking the unique experiences of marginalised groups of women, such as women of colour, queer women, or those with disabilities, whose challenges are compounded by multiple forms of discrimination. There is also a concern that liberal feminism can be co-opted by mainstream institutions, thereby diluting its transformative potential and leading to a depoliticisation of feminist ideals.

## Methodology

This study employed a mixed-methods approach, integrating both quantitative and qualitative methodologies to provide a comprehensive understanding of the issues surrounding women's participation in agriculture. The mixed-methods design was chosen to triangulate findings, enhance validity, and capture the complexity of women's experiences, which may not be fully explained by quantitative data alone.

Sample size is determined using Taro Yamani statistical formula as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

$n$  = Sample Size,

$N$  = Total Population of the Study  $e$  = Level of Significance (0.05)



$$n = \frac{572}{1 + 572(0.05)^2}$$

n = 106 (Approximated to 110).

A total of 110 women were selected as the study sample using a combination of stratified and purposive sampling techniques. Stratified sampling was utilised to ensure representation across key demographic and socio-economic strata such as age, marital status, education level, and geographical location (e.g., rural vs. semi-urban areas). This helped in capturing the diverse experiences of women engaged in agriculture. Purposive sampling was then used to deliberately select participants who were actively involved in agricultural production, processing, or marketing. This approach ensured the inclusion of information-rich cases that could offer deep insights into the research problem. Five (5) wards out of Eleven (11) were selected. A total of One hundred and ten (110) respondents were selected out of the selected five wards to represent the entire Local Government Area. A total of 22 respondents are selected in each ward. While six women were purposively selected for the in-depth interview sessions

**Table 1: Sampling Frame**

<b>Name of Wards</b>	<b>Frequency</b>	<b>Percentage</b>
Dutsin-Ma A Ward	22	20%
Dutsin-Ma B Ward	22	20%
Kuki A Ward	22	20%
Kuki B Ward	22	20%
Shema Ward	22	20%
<b>Total</b>	<b>110</b>	<b>100</b>

**Source: Filed Survey, 2025**

The study is carried out in the Five (5) agro-ecological wards of Dutsinma area namely: Dutsinma A, Dutsinma B, Kuki A, Kuki B, Shema wards. They are all agrarian settlements with significant level of women participation in agriculture.

Two main data collection instruments were utilised:

**Structured Questionnaires:** These were administered to all 110 respondents to collect quantitative data on variables such as land ownership, access to credit and extension services, crop types, income levels, and training opportunities. The use of structured questions allowed for the generation of statistical data suitable for descriptive and inferential analysis.

**In-Depth Interviews** A sub-sample of 6 women was engaged in semi-structured interviews to gain detailed narratives about their personal experiences, challenges, and coping strategies in the agricultural sector. These interviews enabled the researcher to explore underlying issues such as gender norms, cultural barriers, and institutional exclusion that may not emerge in survey responses.

Data from the quantitative strand were analysed using descriptive statistics such as frequencies, percentages to determine associations between key variables. The qualitative data from indepth interviews were transcribed and analysed thematically to identify recurring patterns, meanings, and contextual explanations related to women's agricultural participation. The mixed-methods approach enhanced the robustness of the findings by allowing the researcher to capture both the breadth (quantitative) and depth (qualitative) of women's agricultural experiences, leading to richer interpretations and more actionable policy recommendations. The primary data collected through structured questionnaires during fieldwork are presented and analysed using descriptive statistical methods, primarily through frequency distribution tables. Additional descriptive tools employed in the analysis include frequencies, means, and percentages.

## Analysis

Out of the 110 questionnaires distributed, a total of 96 were successfully retrieved and deemed valid for analysis, representing a response rate of approximately 87%. The data were analysed in thematic subsections; covering the socio-economic profile of the respondents, the impact of these socio-economic characteristics on women's involvement in agricultural production, and the challenges faced by women engaged in agriculture within the study area.

## Socio-Demographic Characteristics of Respondents

This section presents and analyses the socio-demographic profile of the respondents involved in the study. Key variables such as age, marital status, educational attainment, household size, farming experience, and access to agricultural resources were examined. These indicators provide critical implications into the socio-economic background of the women farmers, which in turn influences their level of participation, productivity, and the challenges they face in agricultural activities within Dutsinma Local Government Area of Katsina State. Below is a sample table presenting the distribution of respondents (n = 96) based on age, marital status, educational attainment, household size, farming experience, and access to agricultural resources.

**Table 2: Socio-Economic Characteristics of Respondents**

Variable	Frequency	Percentages
<b>Age</b>		
15-30	20	21%
31-45	22	23%
46-60	28	29%
Above 60Yrs	26	27%
<b>Total</b>	<b>96</b>	<b>100%</b>
<b>Marital Status</b>		
Single	14	15%
Married	26	27%
Divorced/Separated	20	21%
Widowed	18	19%
Unmarried Mothers	12	13%
No Response	6	6%
<b>Total</b>	<b>96</b>	<b>100%</b>
<b>Access to Agricultural Resources</b>		
Yes	38	39.6%
No	58	60.4%
<b>Total</b>	<b>96</b>	<b>100</b>
<b>Household Size</b>		
1–3 members	18	18.8%
4–6 members	44	45.8%
7–9 members	24	25.0%
10 and above	10	10.4%
<b>Total</b>	<b>96</b>	<b>100</b>

### Farming Experience

Less than 5 years	20	20.8%
5–10 years	36	37.5%
11–15 years	26	27.1%
Above 15 years	14	14.6%
<b>Total</b>	<b>96</b>	<b>100</b>

### Educational attainment

No Formal Education	26	27%
Primary Education	22	23%
Secondary Education	28	29%
Tertiary Education	20	21%
<b>Total</b>	<b>96</b>	<b>100</b>

**Source: Field Survey, 2024**

From the Table 2, it is evident that women engaged in agricultural and food production in Dutsinma LGA span a wide range of age groups. Specifically, 21% of the respondents fall within the age bracket of 15–30 years, indicating a modest level of participation by younger women in agricultural activities. The age group of 31–45 years constitutes 23% of the respondents. This demographic is typically considered economically active and productive. Women in this group are likely to combine farming with household responsibilities and small-scale trading, contributing significantly to household food security and income. The highest proportion of respondents (29%) falls within the age range of 46–60 years, closely followed by those above 60 years (27%). The substantial representation of older women in agricultural production suggests that farming is predominantly sustained by middle-aged and elderly women in the area.

The marital data indicates that only 26 (27%) of the respondents are currently married, while the remaining 67% fall under categories such as single 14 (15%), divorced 20 (21%), widowed 18 (19%), or unmarried mothers 12 (13%). The relatively high number of widowed (19%) and divorced/separated women (21%) may suggest that many women in agriculture are either primary breadwinners or have limited household support.

The data clearly show that a majority of respondents (60.4%) reported not having access to agricultural resources, while only 39.6% indicated they do have access. This result highlights a significant disparity in resource availability and suggests that more than half of the women participating in agricultural activities in Dutsinma LGA face systemic constraints in accessing essential inputs and support systems. Agricultural resources in this context include land, credit facilities, farm inputs (such as fertilisers and improved seedlings), extension services, machinery, and market access. Limited access to these resources significantly undermines women's productivity, profitability, and overall contribution to food security and household income.

The distribution of household sizes reveals that the majority of respondents (45.8%) live in households comprising 4 to 6 members, indicating that medium-sized households are most prevalent among women engaged in agricultural activities in Dutsinma LGA. This is followed by 25% of respondents living in households of 7–9 members, and 10.4% with 10 or more members, suggesting a significant number of extended or large family structures. Meanwhile, 18.8% of respondents belong to smaller households (1–3 members), which could represent widows, elderly women living alone, or women-led nuclear households.

For farming experience, the data shows that the highest proportion of women (37.5%) have between 5 and 10 years of farming experience, suggesting that many women in the area have been actively engaged in agricultural production for a moderately extended period. Additionally, 27.1% have been farming for 11–15 years, indicating a significant presence of women with long-term involvement and practical knowledge in the sector. At the lower end, 20.8% of the respondents are relatively new entrants with less than five years of experience, while only 14.6% have more than 15 years of farming experience, possibly reflecting generational shifts or barriers that limit older women's sustained participation in agriculture. Data from the educational attainment, the data indicates that a considerable proportion (27%) of women have no formal education, while 23% have attained only primary education. Together, this means that half (50%) of the women have little or no formal education, which may significantly limit their ability to access, interpret, and apply modern agricultural information or technologies. On the other hand, 29% of respondents have completed secondary education, and 21% have attained tertiary education, suggesting that nearly half of the women possess at least basic formal education, which is encouraging for capacity-building and literacy-based extension programmes.

**Table 3: Constraints Women Faced in Agricultural Production**

Variable	Frequency	%
<b>Decision-Making Authority</b>		
Husband	49	51%
Self	29	30%
Extension Workers	5	5%
Cooperative Society	6	6%
No Response	7	7%
<b>Total</b>	<b>96</b>	<b>100%</b>
<b>Source of Finance/Capital for Farm Activities</b>		
Husband	24	25%
Cooperative Society	7	7%
Agricultural Loan	6	6%
Family and Friends	49	51%
No Response	10	10%
<b>Total</b>	<b>96</b>	<b>100%</b>
<b>Extension Service</b>		
Use of Improved Seedlings	9	9%
Use of Modern Implements	7	7%
Providing Marketing Information	7	7%
All of the Above	52	54%
No Response	21	22%
<b>Total</b>	<b>96</b>	<b>100%</b>

**Source: Field Survey, 2024**

On decision making, the Table reveals that over half of the respondents (51%) identified their husbands as the primary decision-makers regarding agricultural activities. This is a strong indicator of patriarchal control in household farming decisions. Meanwhile, 30% of women

reported making decisions themselves, suggesting a growing but still limited degree of autonomy in agricultural engagement. Other actors like extension workers (5%) and cooperative societies (6%) play only a minimal role in influencing decisions. The 7% non-response rate may reflect sensitivity surrounding intra-household decision dynamics or uncertainty about how decisions are made.

On sources of finances, the data shows that a majority of women (51%) rely on informal sources of finance mainly family and friends to fund their farming activities. This is followed by 25% who depend on their husbands, suggesting that women's financial capacity is still largely dependent on male household heads or close kinship networks. Only 7% of women receive financial support through cooperative societies, and a mere 6% have access to agricultural loans, pointing to a critical gap in institutional and formal financial inclusion. The 10% who did not respond may indicate uncertainty, lack of access, or unwillingness to disclose financial details.

For extension services, majority of respondents (54%) reported benefiting from all available extension services (improved seedlings, modern implements, and marketing information). This indicates multi-dimensional support, which is essential for boosting productivity and sustainability in agriculture. A smaller proportion of respondents benefited from individual services: 9% received support in the form of improved seedlings. 7% gained access to modern farming implements. 7% obtained marketing information to enhance post-harvest value. These relatively low percentages suggest that some women may only have partial or inconsistent access to the range of extension services required to maximise farm output. The 22% who gave no response could reflect: Lack of awareness or access to extension services, limited interaction with extension agents. Or possibly, disinterest or distrust in formal extension structures.

excerpts from in-depth interviews (IDIs) with women farmers in Dutsinma LGA. Each speaks to both their socio-economic background and the constraints they face in agricultural production.

IDI 1: Aisha, 52 years, no formal education

"I inherited this half-hectare plot from my late husband and have been farming cassava and maize for over fifteen years. Because I never attended school, I rely on my neighbours and radio programmes for farming tips. I cannot read seed packets or loan applications, so I never tried accessing credit. Each season I struggle to buy fertiliser, and sometimes I plant late because I have no money."

IDI 2: Zainab, 33 years, secondary school graduate

"I live with my husband and four children. We rent farmland, and I decided to start groundnut on my own two years ago. I joined a local savings group, which gave me ₦20,000 to buy seedlings. But the group meets on market days, and I can't always attend because I'm at the market selling yams. Extension officers rarely come to our village, so I learn new methods only when I visit the LGA centre."

IDI 3: Hauwa, 47 years, primary education

"My first son is sick, so I use part of my farm income to pay for his medicines. I've farmed for ten years but have never taken a formal loan, they ask for land documents I don't hold. My husband makes most farm decisions; he chooses which crops to grow and when to sell. I wish I could attend training on post-harvest drying, but I am busy fetching water and cooking."

IDI 4: Fatima, 61 years, no formal education

"I started farming after my husband died. I live alone now and depend on my daughter's remittances to buy fertiliser. The co-operative offered me a loan once, but I feared the high interest rate. I use traditional seeds because improved ones cost too much. Without extension visits, I cannot judge whether new seeds will perform better."



IDI 5: Maryam, 29 years, tertiary diploma

“I graduated in home economics but came back to farming because there are no salaried jobs here. I experiment with intercropping and organic compost, yet I lack capital to scale up. Banks require collateral I don’t have. I use WhatsApp groups to share market prices with other women, but we still struggle to transport produce to town.”

IDI 6: Rabi, 40 years, secondary education

“My family runs a small poultry unit beside the farm. I access improved day-old chicks and feeds from an NGO’s programme, but they only visit twice a year. For crops, I depend on my husband’s contribution to buy inputs. If I had direct access to credit and regular extension support, I would increase my pepper yield and support my children’s schooling.”

Low literacy limits technical uptake: Aisha (52, no formal education) cannot read seed packets or loan forms and relies on neighbours and radio for farming advice. Fatima (61, no formal education) likewise lacks the ability to evaluate improved inputs. Maryam (29, tertiary diploma) experiments with intercropping and organic compost, and Zainab (33, secondary education) proactively joined a savings group. Yet both still face systemic hurdles (capital, time). Literacy-sensitive extension approaches (e.g. pictorial guides, voice-based messaging) and adult education are critical to bridge knowledge gaps and enable women to access credit and inputs independently.

For financial dependence and access to capital. Four of six women rely on family (Aisha, Fatima, Rabi) or local savings groups (Zainab) for seed and fertilizer purchases. Hauwa (47, primary education) and Maryam cite lack of land documents and collateral as insurmountable obstacles to bank loans. Fatima fears high interest rates on cooperative loans. Gender-responsive microfinance, collateral-free, crop-cycle-aligned credit and strengthened women’s cooperatives can reduce dependency on precarious or costly informal funding.

The interview session confirms limited extension and support Services: Zainab and Fatima both note infrequent visits by extension officers; only Rabi benefits from an NGO poultry programme, and only bi-annually. Hauwa cannot attend post-harvest training due to domestic duties; Aisha and Fatima lack the literacy to evaluate innovations even when they learn of them. There is evident intra-household power dynamics and time poverty as well as patriarchal decision-making as Hauwa’s husband makes crop and sales choices; Rabi depends on her husband for purchasing inputs. Zainab misses savings-group meetings due to market trading; Hauwa and Fatima spend significant time on care and household chores, limiting their ability to engage in training or farm innovation. Community sensitisation campaigns must engage men as allies in sharing farm decisions and domestic labour. Introducing labour-saving tools (e.g. shellers, treadle pumps) can free time for women to attend training and manage farm enterprises.

The IDIs emphasizes a heterogeneity of profiles ranging from women with no formal education and inherited plots to young, educated agripreneurs, yet all share limited access to literacy-based services, formal finance, and sustained institutional support. Across ages and education levels, women encounter intersecting barriers: educational deficits, financial exclusion, patriarchal control, time poverty, and insufficient extension outreach.

## Discussion

The age distribution reveals that a significant proportion of the women involved in agricultural production fall within the middle-aged and older adult categories. Specifically, 56% of the respondents are above 45 years of age. This suggests that older women are more actively engaged in agricultural activities than younger women, who may be less involved due to educational pursuits, migration, or lack of interest in farming. This Age trend could imply a future risk of generational decline in female agricultural labour unless younger women are

empowered and encouraged to participate. Policies and programmes focusing on youth engagement in agriculture will be critical to ensure sustainability and food security in the region. These marital demographics may affect women's access to resources such as land, credit, and labour, especially in patriarchal communities where land ownership and decision-making are typically male-dominated. Therefore, interventions aimed at improving women's agricultural productivity must address social support systems and provide targeted assistance to single, widowed, and divorced women.

The findings from the response of Agricultural resources, reflect the gendered nature of agricultural systems in Nigeria, where women, despite forming a substantial part of the rural farming population, are often marginalised in terms of resource allocation (FAO, 2023). This imbalance is rooted in cultural norms, land tenure systems, and institutional biases. The lack of access to agricultural resources can lead to lower crop yields, reduced incomes, and increased vulnerability to food insecurity. This has broader implications not only for women's economic empowerment but also for household nutrition and community resilience. According to the World Bank (2022), closing gender gaps in agriculture could significantly boost productivity and GDP in sub-Saharan Africa. The current level of exclusion in Dutsinma LGA, therefore, represents a lost opportunity for both local development and broader economic growth.

Household size can influence the availability of family labour for farming activities. Larger households (especially those with 7 or more members) may benefit from a broader internal labour pool, which is particularly important in subsistence and smallholder farming where labour is often unpaid and sourced from within the family. However, this also depends on the age and productivity of household members. Households with more than six members may experience increased pressure on food, land, and financial resources. Where access to agricultural inputs is already limited (as revealed in the earlier table), larger families may struggle to meet their basic needs, potentially reinforcing the cycle of poverty and food insecurity. For women who are the primary providers or co-providers, larger household sizes may increase the burden of care and reduce the time available for productive farming. This may affect their efficiency and output in agricultural activities, especially if they lack mechanised tools and support systems (UN Women, 2022).

The majority of respondents with 5–15 years of experience suggest a substantial base of local agricultural knowledge, which can be harnessed for community-based training or peer-learning initiatives. These women likely possess practical skills that can be scaled through formal extension services. Women with moderate experience may be more open to adopting modern farming techniques if appropriately trained. However, their productivity may still be limited by structural constraints such as access to land, credit, and extension services as previously observed in the low access to agricultural resources. The relatively lower percentage (20.8%) of women with less than five years of experience may signal challenges in attracting younger women to agriculture, possibly due to perceptions of low profitability, land access issues, or a preference for urban employment. This trend poses risks for the future sustainability of women-led farming in the region. Women at different stages of farming experience require different forms of support. Newer entrants need basic agricultural training and startup capital, while those with more experience may benefit more from mechanisation, access to markets, and value addition techniques.

The high percentage of women with no or only primary education presents a critical barrier to accessing agricultural extension materials, many of which are text-based or require literacy. This gap can reduce the effectiveness of programmes aimed at improving productivity, especially where information is not translated or delivered through appropriate local communication channels. Formal education often correlates with greater openness to innovation. Women with secondary or tertiary education are more likely to adopt new farming

technologies, improved seeds, or engage in agribusiness ventures. This implies a potential divide in technology adoption based on educational attainment. The fact that over a quarter of women have no formal education reflects broader gender-based inequalities in educational access, especially in northern Nigeria where cultural and religious factors may influence female enrolment and retention in schools (UNESCO, 2023).

In terms of decision making, the dominance of husbands in agricultural decision-making highlights the persistent gender inequality in rural agrarian settings. Women often lack control over critical decisions concerning land use, input purchase, crop choice, or marketing, which limits their agency and economic empowerment (FAO, 2023). When women are not the primary decision-makers, their ability to adopt improved agricultural technologies or diversify crop production is diminished. This has implications for productivity and household food security. The marginal roles of extension workers and cooperatives (together accounting for only 11%) suggest weak institutional support structures in Dutsinma LGA. This limits the reach of agricultural innovations, extension messages, and collective action benefits such as access to markets or credit. These figures reflect deep-rooted cultural norms in northern Nigeria, where traditional gender roles often place men as heads of households and primary decision-makers, relegating women to subordinate roles regardless of their labour contributions. The decision-making structure in agricultural activities among women in Dutsinma LGA is largely male-dominated. While a modest proportion of women exercise agency, the limited involvement of agricultural institutions in influencing decisions points to a significant gap in support services.

On finances, the heavy reliance on family and friends highlights the limited access women have to formal financial services such as loans, credit schemes, or agricultural banks. This restricts their capacity to expand production, invest in technology, or improve yield. The fact that 25% of women rely on their husbands for capital underscores the gendered nature of financial dependency, which may limit women's autonomy in decision-making and entrepreneurship. The very low uptake of agricultural loans (6%) signals structural barriers, including lack of collateral, bureaucratic procedures, high-interest rates, or limited literacy about financial systems. This finding supports existing literature that identifies access to credit as one of the key constraints for women in agriculture (FAO, 2023; World Bank, 2021). Cooperative societies are underutilised (7%), yet they are critical for building social capital, pooling resources, and improving access to subsidies or input support. This suggests the need for policies that strengthen women's participation and leadership in such organisations. The financing structure for women in agriculture in Dutsinma LGA is overwhelmingly informal and gender-dependent, with minimal institutional support. This financial marginalisation has profound implications for agricultural productivity, women's empowerment, and rural development.

For extensional services, the analysis reflects 54% who benefited from all three services are likely experiencing better productivity, efficiency, and income outcomes. This underscores the importance of integrated extension services as a key enabler of agricultural development. The low uptake of individual services and high no-response rate imply that extension services are not uniformly accessible. Women farmers may face: cultural constraints, where male-dominated structures marginalise women. Information gaps, where extension services are poorly communicated or scheduled inconveniently. Extension services often fail to address the specific needs of women, who may require training at different times or in different languages, or prefer female extension agents. While over half of the respondents benefit from comprehensive extension services, a substantial portion still lack access or awareness. The uneven distribution of support presents a challenge to agricultural equity and productivity.

## Conclusion and Recommendations

Ultimately, empowering women farmers in Dutsinma LGA is not only a matter of equity, but also a catalyst for enhancing food security, elevating household incomes, and fostering sustainable rural development. This study has illuminated the complex influence of the socio-economic characteristics and the constraints faced by women engaged in agricultural and food production in Dutsinma Local Government Area. Anchored in Liberal Feminist Theory, it has shown that factors such as age distribution, educational attainment, household composition, farming experience, and decision-making dynamics critically shape women's agency and productivity in agrifood systems. The findings reveal that half of the respondents possess little or no formal education, a majority lack secure access to land, credit and extension services, and decision-making remains predominantly patriarchal. Reliance on informal financing and under-utilisation of cooperative and formal credit mechanisms further compound these challenges. By meeting its objectives, to assess the socio-economic profiles of women farmers and to investigate the barriers to their full participation, the study emphasizes the urgency of gender-inclusive policies, land-tenure reforms, tailored financial products, and context-sensitive extension services. Community sensitisation emerges as a pivotal strategy to dismantle entrenched socio-cultural norms that restrict women's roles in agriculture. The recommendations are:

**Gender-Inclusive Agricultural Policies:** Undertake gender audits of existing agricultural policies to identify exclusionary clauses, and introduce mandatory quotas (e.g. 30 % minimum) for women's representation on local agricultural boards and in decision-making bodies

**Improved Access to Credit and Land Ownership:** Partner with rural finance institutions to design collateral-free, low-interest credit products specifically for women farmers, with repayment schedules aligned to crop cycles.

**Expansion of Tailored Extension Services:** Recruit and train more female extension officers fluent in local dialects, who can deliver hands-on demonstrations on improved agronomic techniques at times suited to women's domestic schedules.

**Community Sensitisation and Behaviour Change:** Convene regular fora with village elders, faith leaders, and youth groups to highlight the economic and nutritional benefits of women's agricultural engagement, using local case studies of successful women-led enterprises.

To enhance the benefits of extension services:

- Government and NGOs should train more extension agents, particularly women.
- More community-based outreach and demonstration plots could be used to reach under-served populations.
- ICT platforms (e.g., mobile apps, radio, WhatsApp) could help scale up access to timely information on inputs, techniques, and markets.

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