



## **Appraising the Intersection of Agriculture, Climate Change and Gender Inequality in Nigeria**

**Ndukwu, George Odoch, Ph.D**

Institute of Development Synergy, Abuja

Email address: developmentcommunicationnig@gmail.com

Tel: 08060219952

**Inyang, Mayen-Julia Paul, Ph.D**

Federal College of Agriculture, Isiagu Ebonyi State

Email Address: mudotai@yahoo.com

Tel: 07032122786

**and**

**Chiekezie, Patricia Nwamaka, Ph.D**

Federal College Of Agriculture, Isiagu Ebonyi State

Email Address: chiekeziepatricia1@gmail.com

Tel: 07030610050

**Corresponding author: mudotai@yahoo.com**

### **Abstract**

Evidence of agriculture being highly gendered in Nigeria. shows vulnerabilities to environmental variability that persists in agricultural productivity in Nigeria. These reflect persistent inequality and negative outcomes for girls and women. Closing gender equality gaps has been seen to contribute to women's empowerment, with access and ability to make strategic life choices, particularly in situations where this ability had been denied to them in terms of agricultural productivity and climate vulnerability. This paper established a nexus between gender dimensions of agriculture, environment and climate change and specifically examine their intersection through gender inequality in Nigeria. Also, it points at the understanding of how gender mediates opportunities to increase agricultural productivity and livelihoods for women and their households and their adaptability to environmental vulnerabilities. The paper adopted the theoretical framework of Intersectionality and Gender Relations Framework. It relied on qualitative desk review as secondary data were synthesized and content analyzed. Findings revealed that effects of climate change on human society and our ability to mitigate and adapt to them are mediated by social factors inclusive of gender.

Disparities in the effect of climate change on women and men exist because of the social position of women in the family and the community and because climate change impacts the factors most essential to women's means of subsistence which are food, water and energy supply. The paper concluded that as gender inequality hinders a woman's chances and access to decision making in agricultural productivity, inequities in access to and control of land assets likewise have severe consequences for women's climate change adaptability in providing food, care, health, and sanitation services to themselves, their husbands, and their children. The paper recommended full and equal participation of women (and men) in decision-making, planning and implementation of gender-responsive climate change action in agricultural productivity.

**Keywords:** Agriculture, Climate Change, Environment, Gender Dimensions, Gender, Inequity, Intersectionality, SDG-5.

## Introduction

Women who make up a large percentage of the agricultural labour force in Sub-Saharan Africa are disadvantaged in productive asset ownership and have limited control over productive inputs such as land, water, and improved technologies (Kilic, Palacios-Lopez & Goldstein, 2015). Women who participate as farmers, workers, and entrepreneurs are confronted with more difficulties than men (Bello, Baiyegunhi, Danso-Abbeam & Ogundesi, 2021). Cultural norms and social bias likewise deny women equal access to education, training, extension contacts, and information, which in turn, worsen their plights and that of their households. This inequality has been a subject of discourse within the agricultural research community stemming from the perception that more needs to be done to address these gender gaps (Olaitan, 2023). Globally, there is empirical evidence that women have a decisive role in ensuring food security and preserving local agro-biodiversity (Abiala & Ojo, 2019; World Bank, 2022).

Women constitute about half of smallholder/subsistence farmers in Nigeria, but are only 15% landholders and 1% land owners (Olaitan, 2023). Among female smallholder farmers, gender relations shape how agricultural products are produced and how foods are acquired and consumed, which impacts food security and nutrition. Several women agricultural laborers do not own the land nor the tools and equipment they work with. Women receive only 5% of all agricultural extension services and work 20 hours more than men per week. This elevates the feminization of poverty (FAO, IFAD, UNICEF, WFP, WHO, 2020).

Nigerian women and girls' susceptibility to environmental changes is associated with the sensitivity and fragility of our natural environment, and its high dependence on environment-based livelihoods. Women are directly and negatively affected by poor agricultural productivity due to diverse environmental changes. Gender inequality further worsens effects of climate change (UNDP, 2015; Amusan, Akokuwebe & Odularu, 2021). Accordingly, gender dimensions' analysis in agriculture and the environment requires special attention when conducting activities to mitigate climate change vulnerabilities and risks faced by women and girl farmers to ensure adaptability of subsistence and small holding agriculture in Nigeria. The

Maputo Protocol on the Rights of Women in Africa sets out parameters for the right to sustainable development, calling for realistic participation of women in development planning; guaranteed land and property rights; and access to credit, training, skills development and extension services to promote economic rights and combat poverty (Food and Agricultural Organization, *et. al.*, 2020). Consequently, this study aims to explore knowledge gaps and establish the gender dimensions of agriculture, environment and climate change specifically examining their intersection with gender inequality (SDG-5) in Nigeria.

## **Conceptual Review**

### *Sex and Gender*

Gender is understood as the roles, behaviors and opportunities a society considers appropriate for girls and boys, and women and men (sex) the social constructs of what it means to be a man or a woman in a given society. Gender roles may be shaped by ideological, religious, ethnic, economic, and cultural factors which are key determinant of the distribution of responsibilities and resources between men and women. Nigeria society is marked by gender differences, but these vary widely by culture and can change dramatically within or between cultures, over time. Understanding the importance of the differential roles, resources, and responsibilities of women and men of different ages, ethnicity, and social class is apt in ascertaining the nexus of gender with agriculture and environment (Van Eerdewijk & Danielsen, 2015; Danielsen & Newton, 2018).

### *Gender Dimensions*

Gender dimensions (relations) are referred to as the gender perspective which involves power inclusive decision-making. Gender relations encompasses gender roles and the ability of women and men to negotiate these roles, determining how power is expressed in gendered ways, and across social groups as women are too often marginalized in their families and their communities, suffering from a lack of access to agricultural credit, land, extension services, decision-making power and rights to work (Verhart, van Den Wijngaart, Dhamankar, & Danielsen, 2016).

### *Gender Analysis*

Gender analysis focuses on the different roles and responsibilities of women and men and how these affect society, culture, the economy and politics. For example, important differences exist between women and men in their quality of life, in the amount, kind and recognition of work they do in agricultural production, and in their vulnerability to environmental variability (Ajani, 2019). Explicitly, while gender analysis focuses on the relations between men and women, such analyses disproportionately find that women have less access to, and control of, resources than men.

*Gender, Climate Change and Food Security*

Climate change threatens to reverse the progress made so far in the fight against hunger and malnutrition. The assessment report of the Intergovernmental Panel on Climate change (IPCC), climate change augments and intensifies risks to food security for the most vulnerable countries and populations in sub-Saharan Africa. Extraordinary response to climate change and environmental variabilities are requisite forthwith. The women populations at greatest risk are those dependent on agriculture and natural resources and disproportionately affects given their vulnerability and restricted access to resources. Gender and social differences discriminate women's access to adaptation options, and even on information such as weather and climate data. In some cases, to cope with risks and changes, the only option can be to migrate, nationally or internationally, with a range of implications (World Bank, 2022)

More importantly, gender equality is a fundamental human right. Men and women have different coping and adaptive capacities that translate into gender-differentiated climate change vulnerabilities. Gender-based inequalities are mainly responsible for this difference in adaptive capacities to respond to the effects of climate change. Sociocultural barriers also inhibit women from effectively responding to climatic risk. Accordingly, it is thus crucial that the response to climatic stresses on the agriculture sector be not limited by gender-based constraints. Empowerment of women and girls is critical for agricultural development and food security (UNDP, 2015; BasDefossez & Pagnon, 2021).

*United Nations Social Development Goal 5 - Gender Equality*

United Nations Social Development Goal 5 - promoting gender equality and the empowerment of women and girls, is commonly accepted as a framework for measuring development progress is the state of equal ease of access to resources and opportunities regardless of gender in economic participation and decision-making (Oradi, 2023). The World Bank (2022), observes that despite many international agreements affirming their human rights, women and girls are still much more likely than men to have less access to agricultural land ownership, credit for farm inputs, agricultural innovations training and well paid employment in the agricultural sector. They are far less likely than men as decision makers and far more likely to be victims of domestic violence. Gender parity, which is used to measure gender balance in a given situation, can aid in achieving gender equality but is not the goal in and of itself. Gender equality is the goal, while gender neutrality and gender equity are practices and ways of thinking that help in achieving the goal. Achieving gender equality in Nigeria requires eliminating harmful practices against women and girls, including gender wage gap, and other oppression tactics.

*Agricultural and Environmental Sustainability Towards Gender Equality*

In the Nigeria, the involvement of women in the agricultural sector is a means of achieving the objectives of sustainable development. The participation of women in the agricultural sector has over the years been largely informal and unrecognized due to the inherent gender inequality that exists in our larger society (Olaitan, 2023). It can therefore be concluded that a gender gap exists in agricultural labor participation with the males playing dominant roles as compared with their female counterparts.

## Theoretical Framework

Intersectionality-This posits that multiple social categories (e.g., race, ethnicity, gender, socio-economic status, disability) intersect at the micro level of individual experience to reflect multiple interlocking systems of privilege and oppression (i.e., racism, sexism, and classism) at the macro, social-structural level. Intersectionality provides the discipline of gender studies with a critical unifying interpretive and analytical framework for re-framing how gender scholars conceptualize, investigate, analyze, and address disparities and social inequality in agriculture and environment variability in Nigeria (Bowleg, 2012).

The Gender Relations Framework (GRF)- This is an analytical tool by Kabeer (1994) that builds on conceptualization of empowerment and its three interrelated dimensions – resources, agency, and achievements (Van Eerdewijk, Wong, Vaast, Newton, Tyszler & Pennington, 2017). In the GRF, women's empowerment leading to agricultural sustainability and environmental factors adaptability is a dynamic process that relies on the transformation of gender relations (Danielsen & Newton 2018), and shaped via a continuum of choice and control that is negotiated through access to resources as well as community structures (Eger, Miller, & Scarles, 2018).

The GRF examines four domains which are division of labor and roles, access and control over resources and benefits, intra-household decision-making, and social and gender norms. All four domains of the GRF interact and are interconnected, and are defined as four conceptual tools used as a basis for conducting gender analysis in the study. These tools are presented as four dimensions of gender relations, which interact to affect the empowerment of women and girl smallholder/subsistence farmers (Van Eerdewijk & Danielsen, 2015; Verhart, N., van Den Wijngaart, A., Dhamankar, M., & Danielsen, K., 2016; Danielsen & Newton 2018).

The conceptual framework of the study's gender analysis approach draws on the following perspectives as postulated by Van Eerdewijk and Danielsen (2015):

- I. Gender as a social relation division of labour and roles- This concept shifts attention away from looking at women and men as isolated categories to looking at the social relationships through which they were mutually constituted as unequal social categories in different productive functions related to agriculture and environment, and community related roles.
- ii. Gender norms – This implies a set of social rules and assumptions about what men and women should do, how and with what resources, and the status of individuals and their relative value in society. Gender norms are likely to constraint opportunities in agricultural production and environmental sustainability.
- iii. Access to and control over resources- This relates to unequal distribution of resources between women and men. Access refers to the opportunity to use resources and benefits, whereas having control is being able to define and decide their use. Gender analysis entails examining how these are distributed by gender and how this is affected by gender relations.

iv. Decision-making - This concerns the analysis of who is involved in whichever decisions in agricultural production, and the unpacking the nature of that involvement. For the study, it is critically important to understand decision-making around, labour allocations, and income and benefits from the production with a focus on women smallholder farming becoming more productive and profitable, as a result of shifts in decision-making from women to men.

## **Methodology**

The study anchors on qualitative desk review of literature on gender, agriculture and environment in Nigeria. Secondary data sources were synthesized from the internet and a range of gender, agricultural and environmental related sources were content analyzed.

## **Discussion of Findings**

### *Gender Dimensions in Women's Participation in Agriculture in Nigeria*

Many factors impact on food security and nutrition when considering gender relations. For instance, the agricultural roles men and women perform and who owns or has user rights over land, and other assets like livestock influence control over their output and access to income. Women have access to less than 20 per cent of available agricultural resources. This leads non-access to decision making opportunities for women and girls -a fundamental negative social norm and gender bias that drives and perpetuate gender inequality (FAO, *et. al.*, 2020).

### *Gender Dimensions in Women's Vulnerability and Adaptability to Environmental Factors*

A nexus exists between climate change and environment-based livelihoods, and are closely linked with gender dimensions. African women, nay Nigeria on the frontlines climatic change, are poorly equipped for adaptations. Disparities in the effect of climate change on women and men exist because of the social position of women in the family and the community- climate change affects the factors most essential to a woman's means of subsistence - food, water and energy (United Nations, 2020). Climatic environmental change alters the allocation of tasks and time in different ways for men and women. For example, water stress in rain-fed agriculture decreases the time available for food production and preparation as well as participation in other income-generating activities, and likely affects household food security and nutritional wellbeing (UN Women, 2022).

The productivity of women in subsistence/smallholder agriculture depends on the services provided by well-functioning ecosystems, including soil fertility, freshwater delivery, pollination and pest control. Smallholder farming practices in turn, affect the condition of ecosystems. These impacts are not always negative, but poverty and immediate needs can drive women smallholders to put pressure on ecosystems through habitat modification, over extraction of water and nutrients, and use of pesticides (Onah, & Horton, 2018).

### *Gender Inequality in Decision Making and Access to Agricultural Assets*

Various micro level studies in Nigeria reveal that men make more decisions about farming and control productive resources (Alexander, Nabalamba & Mubilia, 2011; Ajani 2019).

Inequities in access to and control of assets have severe consequences for women's ability to provide food, care, health, and sanitation services to themselves, their husbands, and their children, especially their female children. Gender inequality hinders a woman's chances of access to decision making and affects her and her household's food security (Van Eerdewijk, *et. al.*, 2017).

## Conclusion

There is an increasing amount of literature establishing the link between gender and agricultural sustainability, especially regarding sustainable farming practices. Alternative practices are therefore seen as a way to *challenging the traditional gender-based division of agricultural labor*. The study points at the benefits of gender dimensions' intersection in agriculture and environment. In adapting intersectionality framework towards sustainable climate action in Nigeria, the paper focused on gender dimensions and inequalities in choice, voice, and influence over agricultural resources and adaptability to environmental factors. Although the paper focuses preponderantly on women, differential roles and responsibilities of women and men of different ages and social class was kept in mind in ascertaining gender intersection with agriculture and environment changes. A key finding is that it is important not merely to focus on women's vulnerabilities, but also to understand their unique capabilities in adaptation to climate change. Climate change presents threats to attainment of the Social Development Goals (SDGs), particularly those related to SGD-5. More attention must be given to women and girls adaptation to environmental and climate change.

## Recommendations

In conformity with the study findings, the following recommendations are hereby made:

- I. The three tiers of government in Nigeria and all stakeholders must begin to initiate multi-stakeholder processes to develop a gender road map that evoke public acceptance of the need to combat gender inequalities and inequities.
- ii. As environmental change has specific differentiated impacts on women, girls, men and boys in Nigeria, using a gender-specific policy transformative approach is thus an appropriate way to investigate the dynamic relationships between agriculture, environmental change and gender equality, as well as between impacts on sustainability.

## Work Cited

Abiala, A.F & Ojo, A.A (2019). Role of Women in Agriculture for Sustainable Economic Development: 'A Conceptual Review. 1st National Conference of WITED, Ilaro Chapter. The Federal Polytechnic, Ilaro August 13-16, 2019. Pages 338-343.

Ajani, O.I.Y (2019). Gender Dimensions of Agriculture, Poverty, Nutrition and Food Security in Nigeria. *Nigeria Strategy Support Program (NSSP) Background Paper No. NSSP 005* International Food Policy Research Institute

Alexander, P., Nabalamba, A. & Mubilia, M. (2011). The Link Between Climate change, gender and development in Africa. *The African Statistical Journal*, Volume 12, 139-148

Amusan, L.I., Akokuwebe, M.E. & Odularu, G. (2021). Women Development In Agriculture As Agency For Fostering Innovative Agricultural Financing In Nigeria. *Afr. J. Food Agric. Nutr. Dev.*; 21(7): 18279-18299 <https://doi.org/10.18697/ajfand.102.19345>

BasDefossez, F. & Pagnon, J. (2021). What is the link between gender equality and agriculture sustainability? Institute for European Environmental Policy

Bello, L.F., Baiyegunhi, L.J.S., Danso-Abbeam, G. & Ogundesi, A.A. (2021). Gender decomposition in smallholder agricultural performance in rural Nigeria. *Scientific African*, Volume: 13, 1-6. <https://doi.org/10.1016/j.sciaf.2021.e00875>.

Bowleg, L. (2012). The Problem With the Phrase *Women and Minorities*: Intersectionality—an Important Theoretical Framework for Public Health. *Am J Public Health*. 102(7): 1267–1273. doi: 10.2105/AJPH.2012.300750

Danielsen, K., & Newton, J., (2018). Gender Strategy: African Chicken Genetic Gains Program. ILRI Project Report. International Livestock Research Institute (ILRI), Nairobi. <https://cgspace.cgiar.org/handle/10568/91218>

Eger, C., Miller, G., & Scarles, C. (2018). Gender and capacity building: a multi-layered study of empowerment. *World Dev.* 106, 207–219. <https://doi.org/10.1016/j.worlddev.2018.01.024>

Food and Agriculture Organization of the United Nations (2015). Climate change and food security: risks and responses. FAO

Food and Agriculture Organization of The United Nations [FAO], IFAD, UNICEF, WFP, WHO (2020). The State of Food Security and Nutrition in the World (SOFI). Rome. Food and Agriculture Organization of the United Nations (FAO). <http://www.fao.org/publications/card/en/c/CA9692EN>.

Kilic, T., Palacios-Lopez, A. & Goldstein, M. (2015). Caught in a productivity trap: a distributional perspective on gender differences in Malawian Agriculture *World Dev.*, 70: pp. 416-463

Olaitan, Z.M. (2023). Gender Participation and Agricultural Development Projects in Nigeria. African Journal of Gender, Society and Development (formerly Journal of Gender, Information and Development in Africa) Vol. 12, No. 3: 1-8. [https://hdl.handle.net/10520/ejc-aa\\_jgida1\\_v12\\_n3\\_a2](https://hdl.handle.net/10520/ejc-aa_jgida1_v12_n3_a2)

Onah, M. N. & Horton, S., (2018). Male-female differences in households' resource allocation and decision to seek healthcare in south-eastern Nigeria: results from a mixed methods study. *Soc. Sci. Med.* 204, 84–91. doi.org/10.1016/j.socscimed.2018.03.033.

Oradi (2023). SDG #5: An Appraisal Of Nigeria's SDG Gender Equality Project info@oradi.org

UN Women (2022), 'Facts & Figures on Gender & Climate Change', Global Gender and Climate Alliance. UN Women. New York.

United Nations (2020). *Human development report (HDR) for Nigeria*. New York: United Nations

Van Eerdewijk, A. & Danielsen, K. 2015. *Gender matters in farm power—gender dynamics in small-scale mechanization*. Amsterdam, The Netherlands: Royal Tropical Institute (KIT). <https://www.kit.nl/publication/gender-matters-in-farm-power-2/>.

Van Eerdewijk, A., Wong, F., Vaast, C., Newton, J., Tyszler, M. and Pennington, A. (2017). *White Paper: A conceptual model of women and girls' empowerment*. Amsterdam, The Netherlands: Royal Tropical Institute (KIT).

Verhart, N., van Den Wijngaart, A., Dhamankar, M., & Danielsen, K. (2016). *Bringing Agriculture and Nutrition Together Using a Gender Lens*. KIT Working Papers. Netherlands Development Organisation (SNV) and the Royal Tropical Institute, Amsterdam (KIT). <https://www.kit.nl/wp-content/uploads/2018/08/Bringing-agriculture-and-nutrition-together-using-a-gender-lens.pdf>.

World Bank (2022). Closing Gaps, Increasing Opportunities: A Diagnostic on Women's Economic Empowerment in Nigeria. Washington, DC: World Bank. <http://hdl.handle.net/10986/37225>.