



Policy options for gender-focused crop diversification to mitigate climate shocks on food security in Nigeria

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Key messages

Empowering women plot managers with skills that enable them to diversify their crops helps to improve household food security and mitigates the impact of climate shocks. These results could be achieved by:

- Training household plot managers, particularly women, on crop diversification strategies
- Providing cash transfers to stimulate access to food of the right quality and quantity for the households of women plot managers (particularly in extreme food conditions)
- Improving intergovernmental collaboration to promote access to agricultural inputs, such as fertilizer and improved seeds
- Mobilizing legislative action to amend the existing land use act and promote access to – and ownership of – land for women plot managers.

Climate shocks threaten Nigeria's food security, disproportionately impacting households with women plot managers

Climate shocks have a disproportionate impact on the food security status of vulnerable households in Nigeria, where an estimated 44.1% of the population (86.4 million people) is moderately or severely food insecure (FAO, 2020). Women plot managers, who own less than 15% of agricultural land, are hit hardest by the effects of climate shocks on food supply chains (Gaddis et al., 2022). Yet, policies, actions and guidelines to address climate shocks seem clumsy and uncharted.

Nigeria's Agricultural Promotion Policy (APP) (2016-2020) recognizes the critical importance of the climate threat to the country's food security and supply system, and proffers climate-smart agriculture as a national countermeasure. However, this policy neglects the gender dimension. In the absence of this dimension, policy actions may fail to reach their goals, as seen in relation to the Agricultural Transformation Agenda (ATA) policy, which failed to reduce food insecurity.

Climate shocks are likely to persist, and their consequences will continue to exacerbate

household food security crises. In addition, the absence of an articulated policy will further accentuate the current unequal and gender bias in food security status while women's widespread but preventable food poverty intensifies.

To explore policy options on this issue, a team of local PEP researchers and government officials conducted a co-produced research project from 2021 to 2022. The team aimed to identify and evaluate policies to reduce the gendered effects of climate shocks on household food security in Nigeria. Our results confirm the need to target policies to encourage crop diversification in households and promote crop diversification components in women's empowerment programmes.



Methodology

There were two parts to the project:

1. A scientific analysis to identify how climate shocks contribute to gender disparity in household food security and test how crop diversification can improve the food security status of households, considering the gendered effects of climate shocks.
2. A policy analysis to compare potential policy options that can address the factors identified in the scientific analysis.

Data are drawn from historical rainfall and temperature datasets combined with the World Bank Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA) for Nigeria.

While crop diversification is measured through an adapted version of the Shannon Index (WSI), three food security indicators are used: the Household Dietary Diversity Score (HDDS); the reduced Coping Strategies Index (rCSI); and food per capita expenditures.

Key findings

The research confirmed the negative effects of climate shocks and the positive effects of crop diversification, particularly for households with women plot managers. Climate shocks have a negative impact on the food security status of households that have either male or female plot managers. Drought is linked to a five-unit reduction in the number of food groups consumed by households with male plot managers. However, flood shocks are linked to a large and significant fall in expenditure on food for households whose plot managers are women. Crop diversification has a positive effect on household food security status, muting the impact of climate shocks on households with female plot managers.

- **Training and empowerment.** Overall, training and empowerment intervention is ranked as the best policy option. There was a consensus among stakeholders supporting training and empowerment policies as the best route to achieve crop diversification and mitigate climate shocks.
- **Input subsidies.** Our study affirmed the importance of agricultural input subsidy policy options for muting the impact of climate shocks on household food security. Furthermore, it established that the direction of input subsidy effect is divergent but remains mostly positive and sustainable.
- **Cash transfers.** During periods of uncertainty and extreme climate effects, cash transfers are found to be a potent policy option. They are, however, an extreme measure and their sustainability is questioned while their effectiveness in resolving household food crises may be feasible only in the short run.
- **Land tenure system reform.** Reforming land policies to facilitate women's access to land may be relatively less cost-effective, particularly in the short run. It is our opinion that, while access to land is an issue, making the most efficient use of the available land is the most significant agricultural constraint in Nigeria.

Table 1. Stakeholders' qualitative evaluation of policy alternatives

Serial number	Ranking criteria	POLICY ALTERNATIVES TO ACHIEVE CROP DIVERSIFICATION			
		Training and empowerment	Input subsidies	Cash transfers	Land tenure system reform
1	Effectiveness	4.25	3.75	3.5	2.25
2	Efficiency	3.8	3.5	3.3	2.8
3	Equity	3.5	3.0	2.8	3.0
4	Liberty	3.7	3.0	3.7	3.3
5	Relevance	4.5	4.3	4.0	3.5
6	Policy consistency	4.5	3.8	4.3	4.0
7	Feasibility	4.3	2.8	3.0	3.0
	Average ranking	4.1	3.5	3.5	3.1

Source: Authors' analysis. *Ranking was on a scale of 1-5, with 5 being best and 1 being worst. The table above presents the average stakeholders' ranking of the policy alternatives.

Policy roadmap

A multi-stakeholder participatory approach is an ideal framework for policy implementation. A tripod arrangement is considered to be adequate, comprising: the public sector policy anchors (National Food Security Council and relevant ministries); sub-national and local agriculture offices and institutions; and governmental/civil society actors. Strengthening the intensification and wider acceptance of crop diversification as a tool to build resilience and bolster the fragile food security status of women plot managers will require the following actions under each of the policy measures.

- **Training and empowerment:** Community-level enumeration of women plot managers on their climate-shock awareness and vulnerability and strategic capacity support for farm-level shock mitigation through crop diversification.
- **Direct cash transfers:** For lasting policy impact, women plot managers should be included in the National Social Register to streamline a cash transfer policy that is tailored to support them against household food shortages. The National Social Investment Programme can become a crucial and major anchor to facilitate the precise targeting of women plot managers.
- **Input subsidy:** The Input Subsidy Scheme, anchored by the Ministry of Agriculture at the national and sub-national levels, should be data-driven. Its data must be accurate and adequate to ensure equal access to women plot managers.
- **Land tenure system reform:** The reform of the Land Use Act to enable equal and accelerated access for women plot managers to arable land should be led by the National Food Security Council. Legislative arms, particularly at the sub-national level, should step up concrete action on land use reform and embrace its periodic review to address the future needs of farming households.

References

FAO (2020). The state of food security and nutrition in the world 2020: transforming food systems for affordable healthy diets, technical report, Rome, Food and Agriculture Organization.

Gaddis, I., Lahoti, R., Swaminathan, H. (2022). 'Women's Legal Rights and Gender Gaps in Property Ownership in Developing Countries'. *Population and Development Review*, 48(2), 331-377.



To find out more about the scientific research methods and findings, read the full [PEP working paper](#). This policy brief summarizes the results and conclusions from analysis conducted as part of the PEP project [PMMA-20568](#), supported under the initiative *Climate change in Africa: Impact and responses for women and girls*.



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