POLICY BRIEF

Building Trust and Gender Equity to Increase Biofortified Food Uptake and Consumption in Malawi

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November 2025/No. PASHFARM-PB-013

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Key Messages

- Consumption of biofortified crops such as Orange-Fleshed Sweet Potato (OFSP) and Quality Protein Maize (QPM) remains low in Malawi despite ongoing promotion efforts.
- Social trust, particularly within community networks, influences the adoption and consumption of OFSP and QPM.
- Nutrition education and knowledge of healthy cooking methods play a stronger role in driving initial consumption decisions than social trust.
- Policies should leverage social trust networks and strengthen gender sensitive nutrition education and outreach.
- Policies to promote biofortified food consumption should strengthen community trust systems and advance gender equity through targeted nutrition education and inclusive outreach.

1. Context

Malnutrition and micronutrient deficiencies continue to undermine Malawi's human-capital development. About 38 % of children under five are stunted, and 63 % of women are zinc-deficient (NSO, 2024; NSO, 2016; UNICEF, 2023). These figures represent a serious public health threat. They impair children's physical growth and limit cognitive development. To address these gaps, Malawi has adopted biofortification of staple crops such as maize and sweet potato, a strategy recognized globally as cost-effective and nutrition-sensitive (Bouis & Saltzman, 2017). Biofortification increases the micronutrient density of food crops through plant breeding or agronomic practices. It also makes nutritious diets more accessible to low-income rural households (De Moura, Bouis, & Hotz, 2017; Bouis & Saltzman, 2017). However, despite the demonstrated nutritional and economic benefits, adoption and sustained consumption remain below expectations (Kaphaika et al., 2023). In many communities, socio-cultural norms and socialisation networks guide how people learn, share information, and decide whom to trust (Beaman et al., 2018; Ren et al., 2022). However, the role of social trust in these decisions is often overlooked (Han, 2022). Gender inequities, which strongly influence who receives information and who acts on it, are also inadequately addressed in policy (Mgalamadzi et al., 2024). Trust determines whether households

view new crops as safe, valuable, and worth integrating into their diets. When trust is weak, adoption slows or stops entirely (Ren et al., 2022; Han, 2022). Gender inequities further compound these challenges (Ofori et al., 2020).

Women are the primary food handlers in most households. Yet they have limited influence over production and income decisions. This weakens their ability to promote the use of biofortified foods at home (Mgalamadzi, Matita, & Chimombo, 2024; Floro, 2021; Becker & Nkonde, 2022). Extension campaigns often focus on pregnant women. This leaves out men and youth, even though they also shape household consumption choices (Talsma et al., 2017). As a result, access to information becomes uneven, and household support for new technologies remains limited (Jones & Johnson, 2025).

Nutrition-extension systems are also weak. Families often receive little or inconsistent guidance. This makes it difficult for information about new technologies to flow effectively (Andersson & D'Souza, 2021; Kaphaika et al., 2023). Households rely heavily on interpersonal trust rather than formal institutions to validate new crops. When social trust is low, uptake of new technologies becomes even harder (Giller et al., 2021; Spielman & Smale, 2022). These barriers place a disproportionate burden on women and slow the spread of nutrition-focused agricultural technologies (Quisumbing et al., 2014; Beuchelt & Badstue, 2013). Strengthening social trust is essential. Reducing gender inequities is equally critical. Together, these steps can support a more inclusive, nutrition-responsive agriculture system. They are also key to increasing the adoption and sustained consumption of biofortified crops such as OFSP and QPM (Saltzman et al., 2017; Birol et al., 2020).

2. The Problem

Biofortification efforts were designed to improve nutrition, but gender disparities and weak social trust have hindered their success. Men dominate resource allocation and production choices, whereas cultural hierarchies often override women's decisions (Mgalamadzi, Matita & Chimombo, 2024; HarvestPlus, 2022). This power imbalance limits women's influence. It also prevents them from turning nutritional awareness into actual production and dietary practices (Samuel et al., 2024; Quisumbing et al., 2014). At the same time, social trust deficits, a key dimension of social capital, limit community acceptance of innovations (Coleman, 1988; Giller et al., 2021).

Traditional awareness campaigns focus on information, but they often miss critical behavioural and social factors. They rarely address the role of trust, networks, and social learning in shaping household food choices (Talsma et al., 2017; Kaphaika et

al., 2023). Understanding how interpersonal trust (in-group and out-group) affects consumption decisions is critical in designing effective nutrition-sensitive interventions. These insights are especially important for reaching diverse gender groups in rural areas (Samuel et al., 2024; Spielman & Smale, 2022).

Low interpersonal trust and the spread of misinformation reduce the uptake of OFSP and QPM. Examples include myths that yellow maize causes infertility or is meant only for animal feed. Such beliefs persist when communities lack credible, trusted information sources (Andersson & D'Souza, 2021). The absence of inclusive education and dialogue reinforces suspicion. This makes trust-building and gender integration not optional but essential for achieving Malawi's nutrition goals (Birol et al., 2020; Saltzman et al., 2017).

3. Key Findings

3.1. Gender Roles - Women handle cooking and household chores, but men control land and production. Female-headed households consume less OFSP and QPM, highlighting the need for targeted support. Limited autonomy over land and income reduces women's ability to produce, purchase, or consume biofortified foods.

3.2. Knowledge & Extension - Nutrition education focuses on pregnant women, leaving men and youth underserved. Households with nutrition knowledge and healthy-cooking skills consume more OFSP and QPM. Education increases OFSP consumption by 18% and QPM by 25%.

3.3. Social Trust - Trust in NGOs, extension workers, and peers boosts adoption. In-group trust strongly influences OFSP consumption, while general trust supports QPM uptake.

3.4. Misinformation - Skepticism and myths (e.g., yellow maize causes infertility or is for animals) reduce adoption, especially where trusted information is limited.

3.5. Perceived Benefits & Priorities - Older women value nutrition and health benefits; men and youth prioritise income and resilience during hunger seasons.

3.6. Household & District Patterns - Male-headed households consume more biofortified crops. District preferences differ: Mchinji favours OFSP, Dowa favours QPM. Knowledge of healthy cooking further increases consumption.

4. Implications for Policy Makers – Conclusions and Policy Recommendations

4.1. Policy Implications

- Biofortification policies must address gender inequalities in production, income, and decision-making.
- Programmes should actively build social trust through inclusive community engagement.
- Nutrition education should reach all household influencers: men, women, and youth.
- Targeted support is needed for female-headed households to increase uptake.
- Correcting myths and misinformation is critical for sustainable consumption.
- Policies should consider district-specific preferences for OFSP and QPM to maximise adoption.

4.2. Policy Recommendations

- The Ministry of Agriculture and Food Security, together with the Ministry of Gender, Children, Disability and Social Welfare, should embed gender and social trust principles into all biofortification programmes to ensure equitable participation and strengthen adoption.
- The Ministry of Health and Department of Nutrition should expand education programmes to reach men, women, and youth, improving knowledge, household decision-making, and consumption of OFSP and QPM.
- Government extension services and local councils should run targeted campaigns to challenge misconceptions, encourage male and youth involvement, and increase household uptake of biofortified crops.
- The Ministry of Agriculture, through district agricultural offices and farmer cooperatives, should ensure equitable access to OFSP vines and QPM seeds, build trust through cooperative networks, and monitor gender and trust outcomes to enhance adoption and accountability.

4.3 Costing Considerations/Estimates

Policy Recommendation	**Indicative Cost (USD)**	**Notes / Scale Considerations**
Develop a Gender and Trust Integration Strategy	120,000 nationwide	Covers strategy development, training, and initial rollout
Standardise Nutrition and Healthy-Cooking Curriculum	80,000	Includes pilot curriculum development and national rollout
Engage Men and Youth through Behaviour-Change Campaigns	50,000 per district	Costs include campaign materials, workshops, and outreach

Support Gender-Inclusive Seed and Vine Distribution	10,000 per district	Seed and vine procurement, distribution logistics
Build Social Trust through Farmer Cooperatives	30,000 per district	Formation of cooperatives, training, and facilitation
Integrate Gender and Trust Indicators into Monitoring and Evaluation	40,000 annually	Includes data collection, analysis, and reporting (~10% of program budget)

4.4. Implementation Horizon

- Short term (1–2 years): Design gender strategy; develop curriculum; pilot trust-based cooperatives.
- Medium term (3–5 years): Scale inclusive extension campaigns and seed systems.
- Long term (>5 years): Embed gender and trust modules within the National Agricultural Investment Plan (NAIP).

5. Conclusion

The evidence shows that technical innovation alone cannot overcome structural barriers to nutrition. To scale the impact of biofortification, policymakers must simultaneously build trust, address gender inequities, and strengthen nutrition education. Integrating these strategies into national policy will enhance Malawi's capacity to reduce micronutrient deficiencies and achieve sustainable food security.

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Acknowledgements

This study was carried out with administrative and technical support from the African Economic Research Consortium (AERC) under the Policy Analysis for Sustainable and Healthy Foods in African Retail Markets (PASHFARM) project, with funding from the Gates Foundation (GF). The authors acknowledge LUANAR, the District Agriculture Offices of Dowa, Kasungu, and Mchinji, and participating communities.

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