POLICY BRIEF

Protecting Household Nutrition in Senegal amid Food Price Shocks: Policy Options to Safeguard Vulnerable Populations

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Protecting Household Nutrition in Senegal amid Food Price Shocks: Policy Options to Safeguard Vulnerable Populations

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Key messages

- Rising food prices significantly undermine diet quality and nutritional outcomes among Senegalese households, particularly the most vulnerable.
- Impacts are gendered and location-specific, with women headed households, young children, and rural households disproportionately affected.
- Universal price subsidies and broad food policies provide only partial relief, impose substantial fiscal costs, and may not effectively reach the most vulnerable.
- Targeted, nutrition-sensitive social transfers offer the most effective short-term response, protecting dietary diversity while making efficient use of limited public resources.

Executive summary

Food inflation poses a major threat to food and nutrition security in Senegal. In November 2022, food inflation reached 14.1%, significantly reducing households' purchasing power and access to quality food. While progress has been made in reducing chronic malnutrition, acute malnutrition has increased, highlighting a growing vulnerability to price shocks.

This policy brief assesses the effects of rising food prices on Senegalese households using a computable general equilibrium model (CGE) combined with a household-level microsimulation module. The results show that an increase in international food prices leads to a 0.34 per cent decline in food consumption, a deterioration in energy intake (+0.28 nutritional poverty points), and a marked deterioration in essential micronutrient intake.

The impacts of food price shocks are uneven and require differentiated policy responses: urban and female-headed households face sharper declines in dietary diversity, while rural households are somewhat better able to cope by relying on their own production and stored food reserves.

A comparative analysis of policies reveals that:

- Universal subsidies slightly improve consumption (+0.03%) but worsen public finances (-0.10% of public revenue);
- Trade restrictions reduce household welfare (–0.13% equivalent variation);
- Targeted transfers, particularly external transfers, generate the most positive effects on consumption (+0.20%) and GDP (+0.21%).

Overall, the results suggest that it is necessary to move from generalised price-based interventions to targeted social protection combined with productive investments**,** to improve nutritional outcomes and strengthen Senegal's resilience to food price volatility.

1. Context and rationale

Senegal is heavily dependent on food imports, which directly exposes households to international price shocks. This structural vulnerability has been greatly exacerbated by the successive crises that have occurred since 2020.

In the wake of the COVID-19 pandemic, disruptions to global supply chains, rising transport costs and tensions on international markets have put increasing pressure on import prices. This inflationary dynamic was amplified from 2022 onwards by the war between Russia and Ukraine, two major players in the global markets for cereals, vegetable oils and fertilisers.

Against this backdrop, headline inflation in Senegal rose sharply, driven mainly by food prices. In November 2022, food inflation reached 14.1% year-on-year, a historically high level. In practical terms, this meant that households had to spend a significantly larger share of their income to buy the same amount of food, automatically reducing their real purchasing power.

This food inflation has a particularly marked impact in a country where:

- Food expenditure accounts for a high proportion of household budgets, particularly for poor households;
- Urban households depend almost exclusively on markets for their food supplies;
- The possibilities for short-term income adjustment are limited.

In response to this situation, public policy responses have mainly focused on price stabilisation measures, such as generalised subsidies on certain basic commodities and temporary trade restrictions. While these policies have partially contained short-term price increases, they have also incurred significant budgetary costs, while proving limited in their ability to target vulnerable households and improve nutritional quality.

In a context of tightening fiscal space, it is increasingly important to reassess public policy instruments, not only in terms of their capacity to stabilize prices, but above all in terms of their effects on actual food consumption, dietary and nutritional quality, inequalities across households, and macroeconomic sustainability.

Against this backdrop, this policy brief applies a MEGC-microsimulation framework to compare the relative effectiveness, distributional impacts, and fiscal implications of alternative public policy responses to food inflation shocks.

2. Methodology

The analysis relies on an integrated framework that combines a static MEGC model calibrated to Senegal's 2019 Social Accounting Matrix with a microsimulation module based on the Harmonised Household Living Conditions Survey (EHCVM). The simulations replicate the increase in international prices of key food commodities observed between 2019 and 2023 and assess a range of public policy responses, including cash transfers, subsidies, trade restrictions, and external trade shocks. This approach enables a simultaneous evaluation of macroeconomic, distributional, and nutritional effects.

3. Findings

3.1. Impact of Prices on Households and Macroeconomic Aggregates

- Rising international food prices have pushed up the average price of imported products by 2.41%, resulting in a moderate 1.39% increase in overall consumer prices. This occurs because higher export prices (+0.91% relative to domestic prices) incentivize producers to prioritize exports over local sales, reducing domestic supply and further driving up prices for consumers.
- Rising value-added prices drive a 2.22% increase in GDP, reflecting the broader macroeconomic impact of food price shocks. Despite this GDP growth, household food consumption falls by 0.34% due to reduced purchasing power, while overall consumption rises slightly by 0.09%, driven mainly by a 0.48% increase in non-food spending. This illustrates that while higher international prices can boost economic output, they can simultaneously undermine households' access to food.

👉Rising GDP conceals worsening household food security

3.2 Impacts on nutritional quality

Rising food prices are worsening national nutritional outcomes:

- Energy poverty has increased by 0.28 points, from 24.39% to 24.67%. Higher food costs reduce households' purchasing power, particularly among the poorest, who already spend a large share of their income on food. As a result, these households often compromise dietary quality, substituting nutrient-rich foods such as fruits, vegetables, and animal products with cheaper, calorie-dense alternatives.
- Micronutrient intake is also severely affected. Rising food prices force households to reduce consumption of fruits, vegetables, legumes, and animal products, foods rich in essential micronutrients while increasing reliance on refined staples and cheaper, nutrient-poor options. This dietary shift drives the observed declines in key micronutrients, including folate (+0.56 points), dietary fiber (+0.55 points), zinc (+0.48 points), and calcium (+0.42 points).

3.3. Distributional impacts and gender analysis

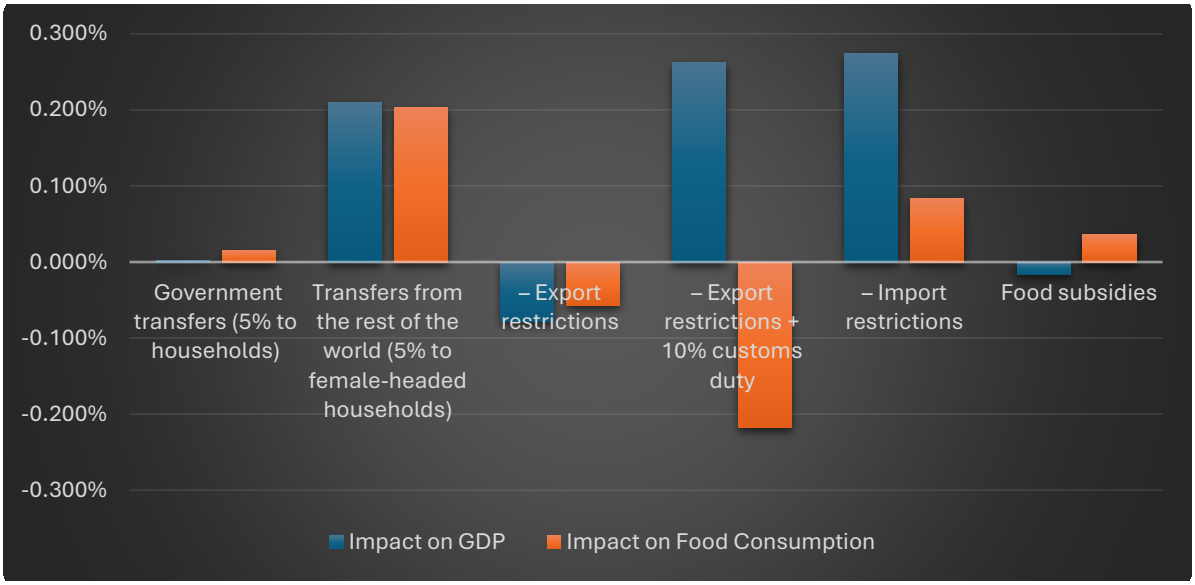
Rising food prices affect households unevenly, reflecting both location and gender. Urban households experience a greater deterioration in nutritional poverty compared with rural households, who are better able to absorb the shock due to higher average cereal stocks (259 kg versus 234 kg in urban areas). Gender further shapes vulnerability: female-headed households experience a more pronounced decline in dietary diversity, even though their energy intake declines less than that of male-headed households. Nutritional transitions show that 1.4% of female-headed households move from "good" to "acceptable" nutritional status, compared with only 0.6% of male-headed households, highlighting the need for targeted interventions for the most at-risk groups.

👉 Female-headed households protect energy intake, but this comes at the cost of dietary quality, highlighting constrained nutritional trade-offs

4. Comparison of public policies

Cash transfers, especially remittances, outperform subsidies and trade restrictions in protecting household food security and welfare under fiscal constraints.

Figure 1 : Effect of public policy options



Source: the authors

4.1 Government transfers equivalent to 5% of household income have a modest but positive impact on the economy. Overall final consumption rises by 0.014%, while food consumption increases slightly more, by 0.015%, reflecting households' tendency to allocate a portion of additional income to food. At the macroeconomic level, these transfers contribute to a 0.002% increase in GDP, indicating a small yet beneficial effect on economic activity.

👉 Transfers help improve household purchasing power, but their impact is constrained by limited public budgets

4.2 Targeted Transfers to female-headed households

Targeted transfers equivalent to 5% of household income to female-headed households have a substantial positive impact. GDP rises by 0.21%, reflecting stronger economic activity. At the household level, food consumption increases by 0.203%, showing that part of the additional income is spent on improving diets. Overall well-being, measured by the equivalent variation, improves by

0.155%, demonstrating that these transfers meaningfully enhance the living standards of female-headed households.

👉 Remittances offer households direct, flexible income and deliver high multiplier effects across the economy

4.3. Trade policies

The impacts of different trade policies on the economy and household food consumption vary significantly:

- Export restrictions alone have a negative effect, reducing GDP by 0.078% and food consumption by 0.057%, reflecting the economic losses and reduced availability of goods for domestic consumers.
- When export restrictions are combined with a 10% customs duty, GDP increases by 0.262%, suggesting a boost in domestic revenues, but food consumption falls by 0.217%, indicating that higher domestic prices outweigh the gains for households' food access.
- Import restrictions, on the other hand, result in positive outcomes, with GDP rising by 0.274% and food consumption increasing by 0.084%, showing that limiting imports can stimulate domestic production and slightly improve household food availability.

👉 Trade restrictions create distortions and penalise welfare despite temporary productivity gains.

4.4. Food subsidies

Implementing food subsidies has mixed effects on the economy and households. Food consumption increases by 0.036%, indicating that subsidies make food more affordable and slightly improve access for households. However, GDP decreases by 0.016%, reflecting a small negative impact on overall economic output, while public revenue falls by 0.102%, showing that subsidies come at a fiscal cost to the government. In short, food subsidies benefit households' access to food but strain public finances and slightly dampen economic growth.

👉 Subsidies reduce prices but weaken the government's fiscal capacity.

5. Policy implications

The findings clearly show that:

- Targeted household transfers (5%) modestly support consumption and food access, but their broader economic impact is limited by budgetary constraints;
- Direct and flexible transfers, such as remittances (5%), generate strong multiplier effects on the economy, food consumption, and the well-being of vulnerable households;
- Trade restrictions including export reductions (–10%), higher customs duties (10%), or import reductions (–15%) can create market distortions, harm household welfare, and restrict food access, despite temporary gains in production or income.
- Food subsidies (20%) slightly improve food access but carry fiscal costs and may dampen economic growth.

6. Policy Recommendations

Short Term

- Expand targeted cash transfers for vulnerable households to cushion the immediate effects of food price shocks;
- Complement cash transfers with food baskets or nutrition linked incentives for households at high nutritional risk, particularly women and young children

Medium Term

- Gradually reform universal food subsidies, shifting towards well-targeted social protection mechanisms to improve efficiency and equity;
- Redirect a portion of external financial transfers towards productive investments that enhance household resilience.

Long Term

- Strengthen local food production systems to reduce dependence on food imports and vulnerability to external price volatility.
- Promote export diversification and agri-food processing to support income generation and food system transformation.
- Integrate nutrition and gender perspectives systematically into economic and agricultural policy design to ensure inclusive and equitable outcomes.

Conclusion

Food price volatility poses a structural challenge to Senegal's nutritional security and economic stability. The findings show that rising prices reduce both household consumption and dietary quality, with disproportionate effects on vulnerable groups, including women-headed households and urban populations. Transitioning towards targeted, nutrition-sensitive, evidence-based policies, complemented by productive investments and a strategy for economic diversification, will strengthen household resilience, safeguard fiscal sustainability, and promote inclusive and sustainable development.

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