POLICY BRIEF

Healthy Diets in Eight West African Countries: Access and Preferences

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Executive Summary

This policy brief describes findings from a study on the role of income and preferences in the consumption of healthy diets in eight West African countries (Benin, Burkina Faso, Guinea-Bissau, Ivory Coast, Mali, Niger, Senegal, and Togo). Applying the Exact Affine Stone Index (EASI) demand system to data from nationally representative household surveys collected in 2018 and 2021, we find that greater affordability of healthy diets, either from higher income or lower prices, generally leads to improved nutritional quality of foods actually consumed. However, increased income is spread over many household needs, so that only a fraction of income growth is spent on improved nutrition. Meanwhile, lower prices for nutritious foods have both income and substitution effects, so price reductions lead to larger improvements in diet quality than would income gains of the same monetary value. These patterns arise partly due to changes in nonfood spending and partly

due to changes in food spending that meet household goals other than health, such as convenience, taste, and aspirations.

Consumers seek healthy diets, but also other foods: While 53% of households cannot afford a healthy diet (62% rural, 41% urban), even among those who can afford such diets, households often consume other foods instead. Among the wealthiest quartile, only 39% of rural and 51% of urban households consume all six recommended food groups, despite 94% being able to afford them.

Policy simulations reveal stark differences in effectiveness: Price reductions generate the largest increases in consumption of targeted healthy foods (60-100% for fruits and vegetables among the poorest), followed by food vouchers (particularly effective for low-baseline foods like eggs, with increases exceeding 700% in some groups), while income growth produces the smallest improvements in healthy food consumption (6-39% increases). However, none of the interventions at realistic scales achieve large improvements in overall diet quality scores, highlighting the continued need for fortification and supplementation to meet nutrient requirements.

Insight for policy design: For several under-consumed healthy foods, including fruits, legumes, poultry, and fish, own-price elasticities exceed income elasticities among the poorest households. This indicates that price policies can be more effective than income transfers for these food groups, particularly at very low-income levels.

Implementation constraints: Price reductions have strong consumption effects but are difficult to achieve, requiring lower production and distribution costs throughout the supply chain to local markets. Price reductions cannot be reliably achieved through subsidy payments, mainly because subsidies lead to market responses that benefit groups other than the intended beneficiaries. Food vouchers offer strong targeting but face logistical challenges. At the same time, income growth, e.g., in the form of cash transfers, provides administrative simplicity but encourages spending on less nutritious food and non-food items.

The findings suggest that policy interventions focused solely on income or affordability are just one step towards a healthy diet. Effective strategies would combine income growth with increased productivity and lower costs along the entire supply chain to reduce retail prices for the foods needed in a healthy diet. These strategies would also address the displacement of healthy diets by other foods that meet household needs for convenience, as well as taste and preferences shaped by marketing.

1 Main Findings

1.1 The Affordability-Consumption Disconnect

- **Widespread unaffordability**: Across WAEMU countries, 53% of households cannot afford even the least-cost healthy diet meeting basic nutritional guidelines, with stark rural-urban disparities (62% rural vs. 41% urban).
- **Affordability does not ensure consumption**: Among households in the highest income quartile who can afford healthy diets (94% of rural, 98% of urban), only 53% (rural) and 64% (urban) actually consume all six recommended food groups.
- **Even the poorest consume some healthy foods**: In the lowest income quartile, where 99% of rural and 94% of urban households cannot afford a healthy diet, 23% and 37%, respectively, still manage to consume all six recommended food groups, suggesting that other factors, e.g., preferences, also contribute to shaping food choices beyond pure affordability.
- **Linear relationship with income**: Diet quality improves consistently with income across the observed range, with no evidence of an inverted-U pattern. However, even the wealthiest households fall short of the recommended consumption levels for most healthy food groups.

1.2 How Households Respond to Income and Price Changes

The research estimated a flexible demand system, revealing how food consumption responds to economic changes and providing critical evidence for policy design:

Price vs. Income Responsiveness for Policy Design

For several under-consumed healthy foods, price elasticities exceed income elasticities among the poorest households, indicating that price reductions can be as effective as income growth for some goods. For example:

Foods for which price reductions may be more effective for the poor (Q1):

- Green leafy vegetables: price −1.04 vs income 0.53 for rural households, and price −0.91 vs. income 0.58 for urban households
- Whole legumes, nuts, and seeds: price −1.04 vs. income 0.78 for urban households
- Eggs: price −− 2.11 vs. income 1.32 for urban households

Foods for which income growth may be more effective for the poor:

- Rural households (income elasticities in parentheses): fruits (1.30), fish (1.10), poultry (2.40)
- Urban households (income elasticities in parentheses): fruits (1.2), fish (1.1), poultry (2.10)
- For these goods, the income elasticity generally exceeds the own-price elasticity.

2 Policy Simulation Results: What Works Best?

The research simulated three policy interventions—income growth, food vouchers, and price reductions—calibrated to identical government fiscal costs (888 CFA francs per person per week, approximately 25% of baseline expenditure for the poorest urban households). This equal-cost framework allows for a direct comparison of policy effectiveness.

2.1 Consumption Effects on Targeted Healthy Foods

Price reductions generate the largest consumption increases:

- Rural Q1 (poorest): Fruits +99%, vegetables +100%, legumes +102%, poultry +190%, fish +66%, dairy +92%
- Urban Q1: Fruits +124%, vegetables +70%, legumes +103%, poultry +166%, fish +58%, dairy +109%
- Effects remain substantial even for Q4 (wealthiest), though smaller: fruits +39% (rural), +24% (urban)

Food vouchers show strong but more targeted effects:

- Dramatic increases for low-baseline foods: Rural Q1 eggs +3,402%, dairy +195%
- Substantial gains for vegetables: Rural Q1 +115%, Urban Q1 +165%
- More modest effects for foods already consumed: fruits, legumes, fish typically 10-70%
- Effects decline sharply with income: Q4 effects are generally under 10% except for vegetables

Income growth produces the smallest increases in healthy foods:

- Rural Q1: Fruits +39%, vegetables +15%, legumes +34%, poultry +85%, dairy +51%
- Urban Q1: Fruits +27%, vegetables +14%, legumes +17%, poultry +54%, dairy +36%
- Q4 effects are very modest: most healthy foods see increases of under 10%

Critical finding: income growth also substantially increases consumption of non-targeted foods, including red meat (+66% rural Q1, +39% urban Q1), wheat (+55% rural Q1, +29% urban Q1), and "other foods" (+30% rural Q1, +23% urban Q1), diluting their impact on diet quality.

2.2 Diet Quality Outcomes

Limited improvements in overall diet quality: Despite large percentage increases in targeted foods, none of the interventions achieves the hGDQS threshold of 15 (indicating lower risk of poor diet-related health outcomes):

- Baseline hGDQS scores: Rural Q1: 9.2, Urban Q1: 10.6; Rural Q4: 12.5, Urban Q4: 13.7
- Improvements from interventions: typically 0.3-1.0 points, with food vouchers slightly outperforming (0.6-1.0 points) but still insufficient
- Mean food group adequacy improves by only 0.02-0.05 points (on a 0-1 scale)

Interpretation: The modest improvements in diet quality, despite large increases in consumption of targeted foods, reflect: (1) the low baseline consumption of healthy foods, meaning large percentage increases still leave absolute levels below recommendations; (2) households continue to over-consume starchy staples and discretionary foods; and (3) achieving dietary balance requires coordinated changes across multiple food groups simultaneously.

3 Policy Implications and Recommendations

3.1 Match Policy Instruments to Objectives and Constraints

The simulation results demonstrate that no single policy instrument dominates across all contexts. Policymakers must balance effectiveness, targeting efficiency, fiscal feasibility, and administrative capacity:

Policy Selection Framework

Use price reductions when:

- The goal is to maximize consumption of specific under-consumed healthy foods
- The targeted foods have high own-price elasticities among the poor (fruits, vegetables, legumes)
- Universal coverage is acceptable, or budgets permit broad subsidies
- Administrative capacity exists to manage food distribution systems

Use food vouchers when:

- Targeting low-income households is a priority (vouchers can be means-tested)
- The goal is to build consumption of very low-baseline foods (e.g., eggs, dairy, among the poorest)
- Strong preferences or habits need to be overcome (vouchers force exposure to healthy foods)
- Distribution infrastructure exists (schools, health centers, markets)

Use income growth when:

- Administrative simplicity and low overhead costs are paramount
- Broader poverty reduction is the primary objective (not just nutrition)
- Beneficiaries face diverse barriers beyond food access
- Combined with nutrition education and behavior change programs

Combined approaches: For instance, it is possible that a modest cash transfer (for general welfare) + targeted vouchers for specific under-consumed foods (fruits, vegetables, eggs) + nutrition education could outperform any single instrument.

3.2 Economic Incentives Alone May Not Be Enough

Finding: Even at substantial intervention levels (25% of baseline expenditure for the poor), none of the economic policies achieve the dietary quality thresholds associated with lower health risks. Baseline hGDQS scores of 9-13 improve by less than one point.

Implication: The disconnect between affordability and consumption, along with the limited improvements in diet quality resulting from economic policies, indicates that preferences, knowledge, food preparation constraints, and food environmental factors play critical roles.

Recommendation: Economic interventions must be complemented with:

- **Nutrition education and behavior change communication**: Focus on preparation methods, the cheapest nutritious options within food groups, and dispelling misconceptions about healthy foods.
- **Marketing and social norms campaigns**: Counter-marketing for over-consumed discretionary foods; positive messaging for fruits, vegetables, legumes, and affordable animal-source foods.
- **Food improvements**: Increase access to fresh produce through market infrastructure and storage/cold chain investments.

3.3 Address the Universal Nature of Price Reductions

Finding: Price reductions generate the largest consumption increases but cannot be efficiently targeted to specific income groups, unlike income growth and vouchers, which can be mean-tested.

Implication: If the government aims to support low-income households, universal price reductions could cost at least 3 times as much as targeted interventions, since the subsidy extends to all consumers, regardless of income.

3.4 Leverage Existing Infrastructure for Food Vouchers

Finding: Food vouchers show particularly strong effects for increasing the consumption of under-consumed (nutritious) foods and can be effectively targeted. However, they require distribution infrastructure.

Recommendation: Several existing platforms could be leveraged:

- **School feeding programs**: Several African countries have experience with "take-home rations" in schools. Vouchers for healthy foods can build on this existing experience.
- **Health centers**: Vouchers could be integrated into maternal and child health services, timed to coincide with clinic visits and focusing on nutrient-dense foods for pregnant/lactating women and young children.
- **Agricultural input voucher systems**: Some governments have experimented with farm input vouchers. The same distribution networks and verification systems could be adapted for food vouchers.
- **Mobile money and digital systems**: Where mobile payment infrastructure exists, electronic vouchers could reduce transaction costs and enable beneficiaries to redeem them at authorized retailers.

3.5 Prioritize Supply Chain Investments

Finding: Rural areas face significantly higher prices for perishable foods, particularly fruits (903.75 CFA/kg rural vs. 548.44 urban) and vegetables. This price wedge reflects supply chain constraints—poor storage, limited cold chain, and high spoilage rates.

4 Implementation Considerations

4.1 Fiscal Costs and Sustainability

Cost magnitudes: The simulation baseline transfer (888 CFA/person/week) represents approximately 25% of mean expenditure for the poorest urban households. Scaling this to population-wide coverage would require substantial fiscal resources.

Targeting efficiency:

- Income growth and vouchers can be means-tested, limiting costs to intended beneficiaries
- Price reductions inherently benefit all consumers, thereby multiplying fiscal costs

Recommendations:

- Prioritize targeting mechanisms to improve fiscal sustainability
- Consider piloting programs at modest scale before nationwide rollout

4.2 Behavioral Responses and Unintended Consequences

Potential challenges:

- **Substitution effects**: Income growth increases consumption of non-targeted foods (red meat, wheat, and "other foods"), potentially offsetting some nutritional gains

- **Stigma and participation**: Vouchers targeting the poor may face stigma, reducing take-up unless designed sensitively
- **Market distortions**: Price reductions can create black markets, rent-seeking, or supply disincentives if producers face controlled prices without cost compensation
- **Preference persistence**: Vouchers forcing exposure to new foods may not create lasting preference shifts once the program ends

Recommendation: Monitor and evaluate programs to detect unintended consequences early and adapt designs. Combine economic incentives with education to build intrinsic motivation for healthy eating.

5 Conclusion

This research demonstrates that improving diet quality in West Africa requires moving beyond affordability to evidence-based policy design addressing the complex factors shaping food choices. While economic access to healthy diets is necessary, it is far from sufficient to ensure adequate nutrition.

Key takeaways for policymakers:

1. **No single policy instrument dominates**: price reductions generate the largest consumption increases but are fiscally expensive and untargetable. Food vouchers enable targeting and work well for low baseline foods but require infrastructure. Income growth is administratively simple but increases consumption of non-targeted foods. Policy choice must balance these tradeoffs based on objectives, fiscal capacity, and administrative constraints.
2. **Economic interventions alone are insufficient**: Even substantial economic incentives (25% of baseline expenditure) produce modest improvements in overall diet quality scores. Preferences, knowledge, food preparation constraints, and food environment factors play critical roles and must be addressed through complementary interventions.
3. **Price vs. income policies vary by food group**: For some under-consumed healthy foods (fruits, vegetables, legumes), price policies are more effective than income transfers, especially among the poorest. For others (animal-source foods), income growth is the primary driver. Effective strategies leverage both instruments strategically.
4. **Targeting matters for fiscal sustainability**: Universal price reductions can cost 3-5 times more than targeted transfers to achieve similar benefits for low-income households. Means testing, strategic food selection, or time-limited subsidies can improve efficiency.
5. **Implementation capacity is binding**: Policy effectiveness depends on administrative capacity, distribution infrastructure, and monitoring systems. Choose instruments compatible with existing capacity while building systems for more sophisticated approaches.

6. **Supply-side investments complement demand-side policies**: High prices for perishable foods in rural areas reflect supply chain constraints. Investments in cold chain, market infrastructure, and peri-urban production can sustainably improve affordability without continuous fiscal transfers.

7. **Evidence gaps remain**: While simulations provide valuable insights, experimental evaluations are essential for validating findings and uncovering implementation challenges. The WAEMU survey program offers a unique opportunity for embedded policy experiments at modest marginal cost.

Moving forward: Effective nutrition policy in West Africa will require integrated approaches combining (1) carefully designed economic incentives (transfers, vouchers, strategic subsidies), (2) nutrition education and behavior change programs, (3) food environment improvements, and (4) supply chain investments—all coordinated across agriculture, health, education, and social protection sectors. The evidence base presented here provides a foundation for this multisectoral effort, while highlighting critical areas where further research and pilot programming can refine policy design and implementation.

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