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Food System
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The Food System Economics Commission is an independent academic commission that equips political and economic decision makers with tools and evidence to shift food and land use systems.

POLICY BRIEF 3

India's Food System Transformation

SUMMARY

The hidden costs of India's food system are estimated at 1.5 trillion driven by poor nutritional outcomes and unsustainable production practices. The Food System Economics Commission (FSEC) transformation scenario for India up to 2050 suggests that such costs could be cut by a quarter, equivalent to about 300 billion USD annually. FSEC's global policy priorities offer the starting point for a country-level dialogue on food system transformation priorities.

BACKGROUND

The Food System Economics Commission (FSEC) is an independent commission tasked with providing policy makers with a global analysis of the benefits of transforming food systems towards more inclusive, health-enhancing and environmentally sustainable outcomes.

This note summarizes some of its key results, focusing on India, which faces unique challenges and has major global relevance. This note is meant as a starting point for a country-level dialogue on food system transformation priorities.

India's food system is complex and diverse, tasked with providing healthy diets to over 1.4 billion people. At present approximately 194 million people are undernourished, 43.3 million children under five are stunted, while obesity affects roughly 20 percent of the adult population. Food systems are also central to livelihoods: agriculture alone engages over 50 percent of the workforce. Yet rural poverty remains significant at 20 percent, despite a nearly sevenfold increase in rural incomes over the past four decades. The agricultural sector is dominated by smallholders, facing intense challenges in adapting to climate change and water depletion. Moreover, cereal-intensive production and distortionary policies result in excessive water withdrawals, soil degradation, and chemical runoff, contributing to India's status as a global hotspot for nitrogen pollution.

FSEC has explored the potential of transforming food systems through economic modelling paired with costing exercises, in depth literature review and case studies. In particular it has evaluated the outcomes of two science-based pathways, designed to assess the potential of a long-term food system transformation aimed at (1) consumption of healthy diets by all; (2) strong livelihoods throughout the food system; (3) protection of intact lands and restoration of degraded lands; (4) environmentally sustainable food production and (5) resilient food systems that maintain food security and nutrition in the short and long run.

The Current Trends (CT) pathway is based on a relatively optimistic set of assumptions on socio-economic development and the implementation of current policy commitments, but without ambitious new approaches. It results in alarming projections, including a minor reduction in the number of underweight individuals, an escalating obesity problem, and deteriorating environmental indicators.

The Food System Transformation (FST) pathway explores an integrated set of changes in food consumption and production patterns between 2020 and 2050, reflecting a global effort to transform food systems.

The economic opportunity offered by these pathways is examined through a hidden costs analysis, looking at how

those would evolve over time and the benefits that food system transformation would bring. These hidden costs are the environmental, health, and poverty-related impacts of food systems that are not reflected in market price valuations of food today, but are insidiously mortgaging society's future.

KEY RESULTS

Today's food systems in India generate an estimated 1.5 trillion USD 2020 PPP of hidden costs per year.

Transforming food systems in India along the FST pathway would entail economic benefits of 296 billion USD 2020 PPP yearly until 2050, leading to a reduction of the hidden costs by one quarter. These avoided costs result from labor productivity improvements from healthier diets, reduced environmental impacts, and mitigating damages from greenhouse gas (GHG) emissions. Crucially, these benefits would extend far into the future, growing for decades beyond 2050.

- The universal shift towards healthy diets, eliminating undernutrition and reducing obesity, accounts for two thirds of the benefits, equivalent to at least 195 billion USD 2020 PPP per year.
- The improvements in environmental indicators provide a myriad of benefits, amounting to a total of 98 billion USD 2020 PPP per year. This figure includes an annual 34 billion USD 2020 PPP derived from the avoidance of GHG-related damages. This reduction is predominantly driven by a decrease in livestock production, the adoption of improved rice production practices and increased productivity in the livestock sector. Another significant aspect of these environmental improvements is the reduction in nitrate run-off.
- The pathway analysis highlights the need for integrated strategies to manage potential trade-offs between different policy measures. For example, a shift in dietary patterns towards labour-intensive fruits and vegetables can create 17 million new jobs. Such a shift might, however, result in higher food prices. Conversely, seasonal price fluctuations for nutrient-dense foods, coupled with low wages for unskilled workers, could have a detrimental impact on public health. Compensatory programs or other measures might be required to ensure the affordability of healthy diets for all. And while overall the shift towards healthy diets improves health and environmental indicators, in India they might also be linked to increased water stress due to more irrigation dependent agriculture, especially to produce more nuts, fruits and vegetables, calling for targeted investments to diffuse existing and new technological solutions.

RECOMMENDATIONS

FSEC identifies a set of criteria to put in place integrated national strategies for food system transformation. These include:

- **Adopting a comprehensive policy framework** to avoid unintended consequences, starting with a thorough assessment of existing policies to identify and rectify inconsistencies, interlinkages, gaps, and inadequacies.
- **Designing comprehensive and coherent policy bundles** to create synergies between individual actions and address trade-offs.
- **Focusing on key areas with maximum impact**, such as promoting healthy diets for human and environmental benefits. The Public Distribution Scheme in India is a good starting point.
- **Adopting inclusive and integrated governance mechanisms**, spanning government departments, local governments, community institutions, and stakeholders to ensure a shared vision and minimize trade-offs in pursuing sustainable food system goals.
- **Creating organizational, technical, and financial implementation capacities**, at all levels of government.
- **Adopting an inclusion lens in policy design** to prevent unintended social consequences.

While it is expected that national strategies will span the full spectrum of policies available—that is, incentives and regulation, innovation, and investment—FSEC has identified five policy priorities at the global level. Those are offered as a starting point for national and local processes of deliberation.

Those global priorities include:

Shifting consumption patterns towards healthy diets.

Policies such as regulating the marketing of unhealthy foods to children; front-of-pack nutritional guidance; targeting public food procurement on healthy options; taxing sugar-sweetened beverages and unhealthy foods; and reformulating packaged food have been shown to be effective. These policies can be applied at scale to increase their impact, but will not go far enough: more work is needed to find new ways to shift consumption patterns and improve access to healthy food. Recognition of local foods and preferences and their inclusion in dietary recommendations to support communities is important.

Resetting incentives: repurposing government support for agriculture. Most agricultural support from governments benefits larger producers, and much is linked to harmful environmental, climate, and health effects. Reforming agricultural support to make sure it incentivises choices in line with the goals of food system transformation could lower food systems' hidden costs if interventions are properly designed.

Resetting incentives: targeting revenue from new taxes to support the food system transformation. Transforming food systems into net carbon sinks and reducing nitrogen pollution are two important sources of benefits. Taxing carbon and nitrogen pollution to help achieve these outcomes is in line with recommendations from expert bodies including the IPCC and OECD. But new taxes must be designed to suit the local context and to offer progressive benefits for poorer households that might otherwise struggle to afford food.

Innovating to increase labour productivity and workers' livelihood opportunities, especially for poorer food systems workers. Fit-for-purpose innovations that are inclusive and affordable can bring in significant improvements in labor productivity and livelihoods of the agricultural producers. National and international public institutions can do a lot to speed up the development and diffusion of the innovations that meet the needs of poorer producers and remove barriers to their adoption.

Scaling-up safety nets to keep food affordable for the poorest. Developing and strengthening safety nets is key to making food system transformation inclusive and politically feasible.



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