

A measure of the effects of changing food prices on the food and nutrition security of low income populations

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Abstract

Recent food price crises have revealed profound instabilities in food and agricultural commodity production systems. Increasing pressures on this sector are driven principally by dietary change with economic growth, world population growth and biofuels, expanding food demand and by environmental constraints. The necessity for reliable indicators to measure and monitor the effects of food price shocks on food insecurity is widely acknowledged. However, there are conflicting views on how severely recent food price shocks (2008/09 and 2010/11) have affected poor and food insecure population. In addition, most of the existing food and nutrition security indicators rely on labour intensive and expensive surveys, while the widespread reliance on food prices as indicators presents a number of weaknesses in interpreting food security outcomes. Such shortcomings limit the capacity to timely and effectively measure and respond to such crises. This PhD research develops an alternative food and nutrition security indicator, the **Minimum Calorie Expenditure Share (MCES)**.

Problem Identification and Rationale

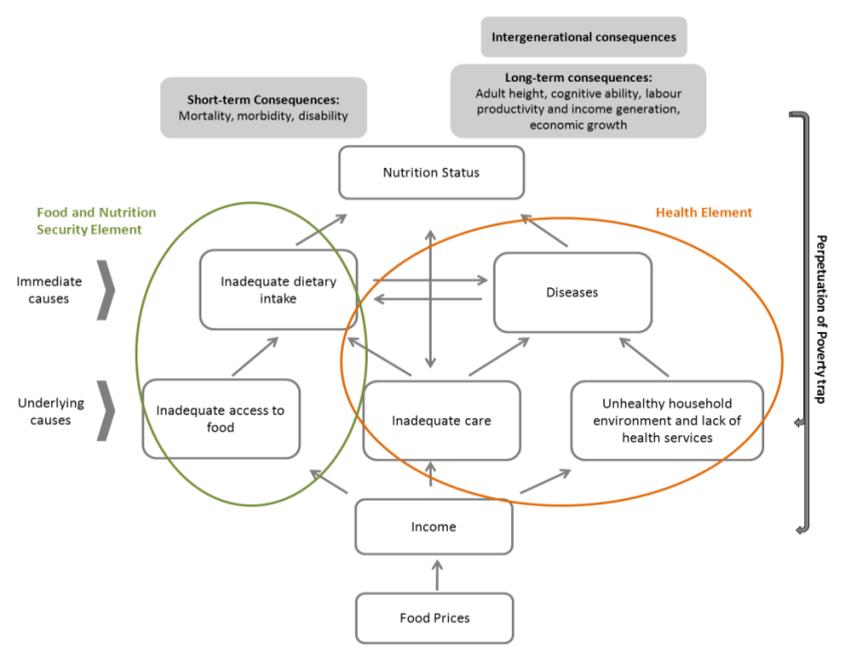
The literature and evidence on the effects of high food prices on food and nutrition security of the poor emphasize three main problems:

- *Contradictory conclusions on the effects of food price shocks on food and nutrition security of vulnerable populations*
- *Conflicting views in recognising the severity of the recent food price crisis on food and nutrition security of the poor while simultaneously stating that real food prices in 2008-09 were low in historical terms*
- *Lack of comprehensive, cost effective and timely metrics for measuring and monitoring the effects of price shocks on the food and nutrition security of vulnerable populations*

A number of studies conclude that in the medium to long run the welfare of rural households improves with higher prices

But what happens in the meantime to poor and vulnerable population?

Figure1. Possible channels of impact on nutrition status in the short and medium term

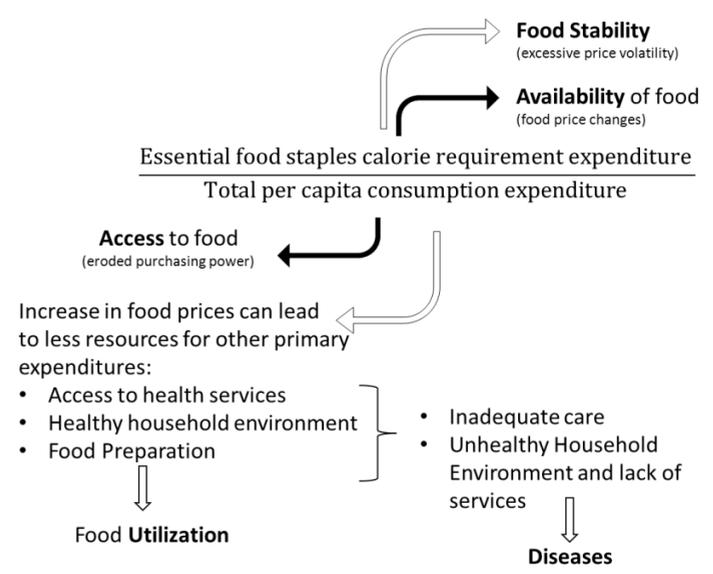


Source: Modification from Brickman et al., 2010, from the UNICEF Conceptual Framework

An Alternative Indicator

The **MCES** calculates the expenditure required to meet a minimum per capita calorie requirement from staple food consumption as a share of total expenditure. MCES can be calculated for different income groups of a population.

Figure2. The **MCES** specification and possible pathways in explaining the effects of food prices increase on Food Security's dimensions



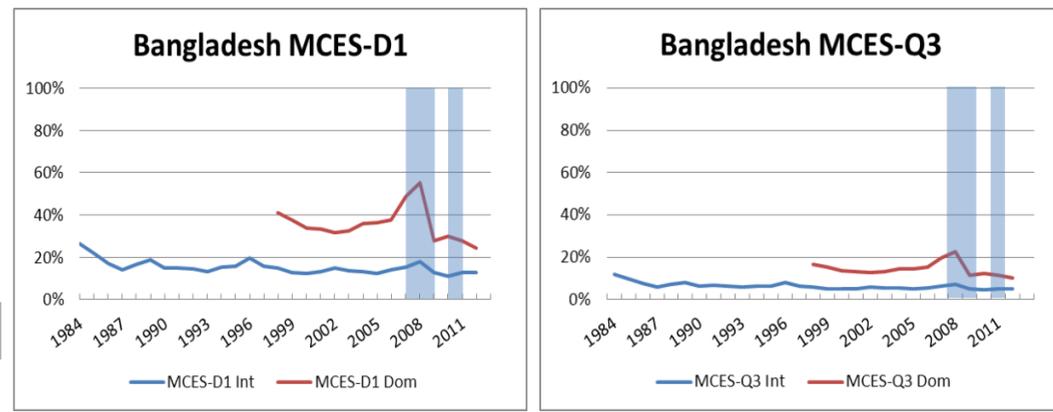
Advantages of the MCES

- It measures the depth of food and nutrition insecurity
- It corrects the often misleading perception of low real food prices from the use of classic deflators (i.e. CPI and MUV) for high income groups if applied to low income groups
- It employs a methodology that is achievable and cost-effective and uses readily and rapidly available data
- It uses domestic prices for each staple food, weighted against country specific consumption shares of each staple on the total staple foods basket
- It can be calculated for different population groups and allows cross-sectional comparison within and between countries
- It can detect the outcomes of significant short run price shocks and measure repercussions of medium- term crises
- It can be calculated at country, regional and global levels
- It can provide valuable indicative information on nutritional and health outcomes

Further Work

- Calculate MCES for all identified countries and improve methods and data quality
- Refine aggregation techniques for the development of regional and global estimates
- Develop ad-hoc dataset that combine socio-economic information, info on seasonality, local staple prices, anthropometric and dietary diversity variables both at micro (household) and macro (national) levels
- Test econometric robustness as well as micro and macro validity of the Minimum Calorie Expenditure Share against dietary and nutritional changes

Preliminary Results



where MCES-D1 stands for MCES values calculated for the poorest decile of the population and MCES-Q3 for the mid-quintile. Similarly, **Int** and **Dom** report respectively International Cereal Prices and weighted domestic staple prices (i.e. Rice, Wheat, Maize).

References

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