

Household dietary diversity, food security and market access: A multi-indicator assessment using nationwide survey data from Sri Lanka

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Food and nutrition security is one of the most significant global challenges today, and it is predicted to exacerbate in the years ahead. While various developments have been made over the years to improve food security within nations, market interventions have received relatively little attention in research. This study examines how food security changes if households have better market access to food commodities. The food security in this study is measured by dietary diversity (eating a variety of foods), which is used as a proxy measure for food security in the literature. The relevant past studies advocate enhancing market access as an essential pathway toward improving the dietary diversity of households (Dercon et al., 2009; Bharucha et al., 2010; Johns et al., 2013; Powell et al., 2013; Abay and Hirvonen, 2017). However, many past studies suffer from several empirical and data-related limitations. First, the sample sizes used in these studies are typically small or specify only a particular population segment. Second, the results of most previous studies were based on one general indicator, and they have not used multiple indicators of household dietary diversity in a single study. This paper aims to fill these gaps by examining the relationship between market access to dietary diversity of households.

Secondary data were sourced from the Sri Lankan national-level disaggregated Household Income and Expenditure Survey (HIES) with a sample size of 21,755. This survey used a structured questionnaire to collect socio-demographic and economic data. The food consumption reference period was seven days, and quantities and values were provided for over 200 food items in 12 subgroups (cereals, legumes and nuts, vegetables, fruit, tubers and roots, meat, eggs, fish and other seafood, milk and milk products, oil and fats, sweets, and miscellaneous). The study employs four dietary diversity indicators: the Household Dietary Diversity Score (HDDS), the Entropy Index (EI), the Herfindahl-Hirschman Index (HHI), and the Simpson Index (SI). Distinct from the previous studies, market access is proxied by the access to food marketplaces (registered retail shops including supermarkets, restaurants, canteens, meat, fish and vegetable shops) measured as the number of marketplaces per 1000 people. Data were analysed using descriptive and inferential statistics, including OLS regression.

The sample characteristics indicated that most households (74.1%) were male headed and lived in rural areas (79.9%). Further, the majority of household heads were married (77.7%), received secondary education (57%) and aged 41-60 years (47.2%). A general observation of the sample is that increased diet diversity of the rural poor households in Sri Lanka is signified by the inclusion of low-priced foods such as vegetables, sweets, legumes, and nuts other than the staple food. The expensive foods such as meat, fruits, milk, dairy products are consumed by the urban-rich cohort of the population.

The econometric exercise confirms that market access significantly (<0.01) and positively correlated with dietary diversity. With a 1-point market access increase, the household's dietary diversity increased by 9.8% (HDDS), 4.6% (EI) and 2% (SI), respectively. Regression analysis further confirms that urban households enjoyed more diverse food than the households living in other sectors (rural and estate). As expected, the dietary diversity increased with household income and decreased with the share of food expenditure to the total household expenditure. Further, household heads who were married, more educated and younger, enjoyed more diverse diets than their counterparts. The households with female heads also enjoy a greater diversity in their diets. The study informs the policymakers that the due considerations of enhancing market access to food commodities are important to improve household dietary diversity in Sri Lanka.

Key Words

Dietary diversity indicators, Food security, Household dietary diversity, Market access, Sri Lanka