

Poverty and Malnutrition in Tanzania: New Approaches for Examining Trends and Spatial Patterns

What have been the trends in poverty in Tanzania since 1990? Have remote rural households been left behind in the process of economic development? And where in Tanzania is the prevalence of child malnutrition highest? These are some of the questions addressed in a new study by the International Food Policy Research Institute (IFPRI) in collaboration with researchers from Research on Poverty Alleviation (REPOA), the Economic Research Bureau and the National Bureau of Statistics.

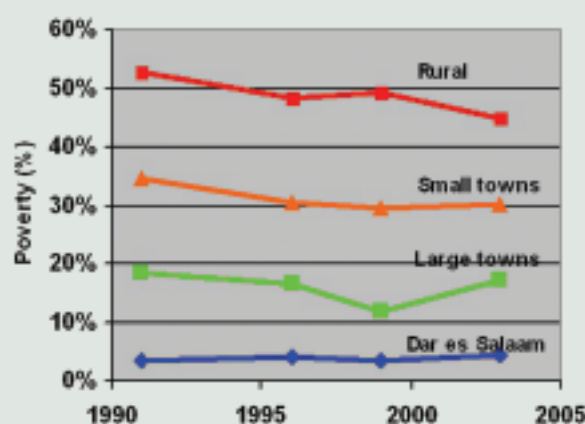
Poverty reduction since 1991 was greater than expected

Methods: Changes in poverty are usually measured by comparing the results from two household surveys carried out in different years, but typically the surveys use different questionnaires, different samples, and different definitions of poverty. Our study uses an alternative approach, measuring poverty using a variety of household indicators including family size and composition, education, housing characteristics, water source, type of toilet, availability of electricity in their home, and ownership of consumer goods such as radios, televisions, bicycles, and motorbikes. Regression analysis was used on the 1991-92 Household Budget Survey to generate equations that “predict” per capita expenditure based on these household indicators. These equations were then applied to the same indicators in the Demographic and Health Surveys carried out in 1991-92, 1996, 1999, and 2003, all of which used similar sampling methods and questionnaires.

Results:

- The incidence of poverty fell from 47% in 1991-92 to 38% in 2003. This decline is more than was estimated from a comparison of the 1991-92 HBS and the 2000-01 HBS, but it is consistent with the Tanzania’s GDP growth and the relationship between GDP growth and poverty reduction observed in international studies.
- Poverty declined as much in rural areas as in urban areas.
- Within urban areas, poverty declined more in small towns than in Dar es Salaam.
- Less educated households experienced more poverty reduction than more educated households.
- Poverty reduction was greater among male-headed households than among female-headed households.

- Dar es Salaam, Kilimanjaro, and Arusha are the least poor regions in Tanzania, while Rukwa and Kigoma are the poorest.
- Mtwara has experienced the most poverty reduction, (possibly due to the boom in cashew-nut production), while Dodoma has not experienced any poverty reduction.



Poverty trends in urban and rural areas

To test the sensitivity of these results to the choice of data sources, we repeated the analysis using the 2000-01 HBS instead of the 1991-92 HBS. In these results, the estimated poverty reduction is less, but we found similar patterns with respect to poverty reduction in urban and rural areas, by educational level, by zone, and by sex of the head of the household.

Remote rural households have not been left behind by economic growth

Methods: In this study we developed six measures of market access, including the distance to cities of different sizes, to Dar es Salaam, and to the coast. We then looked at the relationship between poverty (from the above analysis) and distance and how this relationship had changed since 1991-92.

Results:

- Rural poverty is higher in remote areas, but the relationship is surprisingly weak and it varies depending on the definition used of remoteness.

- Poverty reduction in remote rural areas is no less than poverty reduction in urban areas and rural areas with good market access. Thus, contrary to widespread perceptions, we find no evidence that remote rural areas are being “left behind” by economic growth.

Child malnutrition is high, but has recently started declining

Methods: We compared the results from four Demographic and Health Surveys and carried out a more in-depth analysis of one of them.

Results:

- Child malnutrition levels remained essentially unchanged during the 1990s.
- Child nutrition improved markedly between 1999 and 2004, perhaps due to the rapid economic growth during this period.
- Child malnutrition is almost twice as high in rural areas as compared to urban areas.
- Child malnutrition varies by region, being highest in Mtwara, Lindi, Morogoro, and Dodoma.
- The risk of child malnutrition is lower when the mother and/or the head of household is educated, when the household has a clean water source, and when the household uses an “improved” form of toilet.

Spatial patterns of child malnutrition are dominated by urban/rural differences

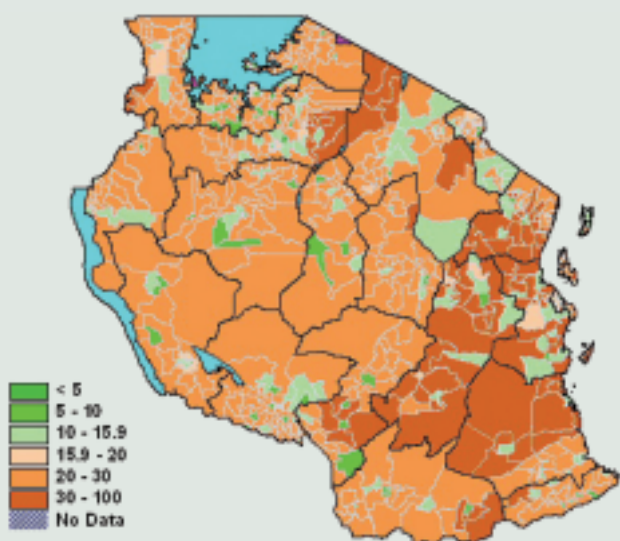
Methods: In an exploratory application of nutrition mapping analysis, we used regression analysis of the 1991-92 Tanzania DHS to estimate the relationship between various measures of child malnutrition and a set of individual, household, and community characteristics. Then the estimated relationship was applied to the same characteristics in the 1988 Census data to estimate the prevalence of underweight children under five years old. From these estimates, the prevalence of child malnutrition was calculated for regions, districts, and sub-districts.

Results:

- The indicators were only able to “explain” about 15 to 20% of the variation in nutritional status, so the estimates have wide confidence intervals. Nonetheless, the estimates give indications of distinct spatial patterns in malnutrition in Tanzania.
- While there is some variation in malnutrition rates between regions, there is a much greater range of malnutrition among the districts and sub-districts that make up a region.
- Urban centres, including small towns such as district headquarters, have lower than average malnutrition rates, while rates in rural areas are higher than average. This suggests the need for greater attention to meeting nutrition needs in rural areas.

Conclusions

At first glance, the results of this study offer good news to Tanzanians. The strong economic growth and macro-economic stability are being translated into improvements in the well-being of ordinary Tanzanian households, even poor, remote, and less educated households. On the other hand, some regions (such as Dodoma) and some types of households (such as female-headed households) show little improvement, the rates of poverty and malnutrition remain unacceptably high, and achievement of the Millennium Development Goals will be a challenge.



Estimated proportion of underweight children by grouped wards