Poverty in Tanzania: Regional Distribution and a Comparison Between 1991 and 2000

A RESEARCH PROPOSAL

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Introduction

The long awaited 2000 Tanzania Mainland Household Budget Survey (HBS) Data has just been released in 2002. This is a comprehensive survey of household incomes, consumption, sources of income and other welfare indicators that covered over 20,000 households in Tanzania mainland. It is the second major household budget survey (HBS) in Tanzania mainland since 1990/91, and the release of data is timely in that an assessment of the Structural Adjustment Programme that has been implemented with vigour since 1995\(^1\) can now be made in terms of the trend of poverty in the country. Also, the release of the data is timely in that increasingly distribution of public resources across the country and different communities is informed by the geographical distribution of poverty and relative welfare of communities in the country. The 1990/91 Household Budget Survey that has been the main source of information on the levels of poverty in different communities and geographical areas is outdated; thus the 2000 Household Budget Survey Data provide a more up to date information.

It is also important to note that increasingly politicians from different parts of the country are demanding that public resources be distributed over different parts of the country and across communities on the basis of levels of poverty. The Tanzania’s National Bureau of Statistics in collaboration with the Oxford Policy Management (UK) have produced results of preliminary analysis on the levels of poverty in Tanzania including its geographical distribution and a comparisons with the year 1990/1990 using the 2000 HBS and 1990/91 HBS. Already these results are being used in making policy evaluation and judgements. Still, there are a number of issues that still need to be properly taken into account in conducting poverty analysis for policy use using the available data. This research proposal delves on some of the issues. The broad objective of the proposal is to make use of the 1990/91 and 2000 HBS to conduct a more rigorous analysis of poverty in Tanzania with the aim of building poverty profile

\(^1\) Structural Adjustment Programme started in Tanzania in the mid 1980s. However, earnest implementation of the programme picked up under president Mkapa’s administration that came to power in 1995.
for Tanzania as a way of improving the measurement and monitoring of poverty in the country.

**Research Questions**

The following are the main research questions that the proposed study intends to address;

(1) Poverty analysis and ranking in Tanzania has generally used the adult equivalent scales that were initially proposed and used by Collier *et al* (1990) in their 1986 study. These scales are based on (i) economies of scales that were adopted from estimation on data collected in another country (ii) estimates of nutritional requirement by age and gender for the people of East Africa, the estimates that are not identical to the one given by WHO (1985) What would happen in terms of ranking by poverty if different but reasonable scales were to be used? In particular, if Tanzanian data are used to generate economies of scales and if the WHO nutritional requirements by age and gender are used to develop equivalent scales by age and gender would the ranking of different communities and regions by poverty remain the same?

(2) In building up poverty profiles in Tanzania reasonable attempts had been made in developing poverty line. Still, it is generally conceded that poverty line is a bit of a nebulous concept, and it is used mostly to make it possible to calculate poverty indices as a matter of pragmatic and practical necessity. There remains a possibility that a ranking by poverty of different communities or regions may be upset if the poverty line is altered. An interesting research question regarding poverty profile in Tanzania is whether it is not possible for poverty ranking to be reversed or eliminated by altering the poverty line within a reasonable range.

(3) Much as poverty is mostly discussed in Tanzania in terms of income or consumption shortfall (based on what Sen calls welfarism), there is no doubt that poverty is a multidimensional phenomenon. In a series of works Sen (1985a, 1985b, 1987,1992) has argued that the analysis of poverty should use what he called a capability to functioning approach. Aspects such as good health, education and freedom are intimately related to the welfare of individuals and failure in such capabilities should be viewed as constituting some form of poverty. One major problem of Sen’s proposed approach to poverty analysis is how to make it operational particularly in terms of constructing a meaningful index of welfare for ranking households, communities and regions in terms of poverty. Klassen (1999) and Mkenda (2001) attempted to construct an index of capability to functioning approach by using principal component analysis, but
this is not good enough. A promising approach proposed and used by Duclos, Sahn and Younger (1999) employs stochastic dominance analysis. An interesting research question is; how close is the correlation between ranking by income poverty and ranking by “multidimensional” poverty or capability to functioning in Tanzania?

Core Research Objective

The main research objective of the proposed study is to build up a poverty profile in Tanzania using the 2000 and 1990/91 Household Budget Surveys so that meaningful comparisons of poverty between different regions and communities can be made and also to be able to assess the trend of poverty in the country between 1990/91 and 2000. The main thrust of the study would be the use of a more rigorous analysis that tests for sensitivity of results (e.g. attempt to use different adult equivalent scales, stochastic dominance tests to test sensitivity to reasonable variation of poverty line and for multidimensional poverty analysis) as well as establishing the robustness of the results.

Policy Relevance

Increasingly economic programmes and policy evaluations in Tanzania take into account the distribution of poverty across communities and regions and the extent that poverty has been reduced. For example, the Rural Development Strategy in Tanzania stipulates that poor areas should be given top priority in improving rural road network. Also since the adoption of the Poverty Reduction Strategy in Tanzania virtually every policy effort is geared to, and evaluated by the extent to which it contributes to, poverty alleviation. While the 1990/91 and 2000 Household Budget Surveys provide rich data for guiding and evaluating policy; it matters a lot how the data are used in informing policy. A poverty profile that this study proposes to build allows for rigorous tests for sensitivities and robustness, and thus should offer results that can be used in policy with reasonable level confidence.

Methodology

In tackling the three main research questions of this study the following methodology is proposed.

First, with respect to testing the sensitivity of poverty profile to different equivalent scales we will tackle this as follows. We will attempt to estimate, using the HBS data from Tanzania, the scale economies of households (how much consumption of a household changes as household size changes). An
approach proposed by Lanjouw and Ravallion (1995) will be used to generate household scales for Tanzania. The Male Adult Equivalent Scales will be based on the WHO (1985) and also Collier et al (1990). The two approaches use scientifically determined nutritional requirements by age and gender, and we will try to see if our results depend on the particular requirements that we adopt. The scales that will be used will be the combination of scientifically determined nutritional requirements by age and gender and the economies of scales that we will estimate from the data.

Second, in analysing the sensitivity of poverty ordering to the changes in the poverty line within what may be considered to be a reasonable range, a stochastic dominance test will be used with respect to the FGT (Head Count, Poverty Gap and Distributionally sensitive poverty index) poverty indices. The stochastic dominance together with the corresponding tests for robustness will follow Duclos and Makdissi (1999). Statistical programmes for this are available (e.g. STATA and DAD) and the literature on stochastic dominance is now abound, including Lambert (2001) and Deaton (1997) quite accessible books.

Third, in conducting a multidimensional analysis of poverty, particularly in ranking the different regions and communities in Tanzania by a multidimensional poverty. Some normative criteria will be used to determine indicators of well-being that will be used here. The Poverty Reduction Strategic Paper of Tanzania will inform the choice of indicators. Then the approach proposed and used by Duclos, Sahn and Younger(1999) will be used.

Data Requirements and Sources

Household Budget Survey data from Tanzania for the years 1990/91 and 2000 will be used. These will be purchased from the National Bureau of Statistics of Tanzania.

Dissemination Strategy

Work in progress and the final report of this study will be presented in the newly revived Department of Economic Seminar Series at the University of Dar es Salaam, a forum that has of late attracted some policy makers to participate. Also presentations will be made at the Planning Commission and the National Bureau of Statistics of Tanzania. Ultimately we intend to develop our results into a journal paper.

Key References


Prior Training and Experience of Team Members

The C.V of each member of the research team is attached. The following is the summary of training and experiences of the team members.
**Dr. Adolf F. Mkenda- the Team Leader**

Dr. Mkenda has attended a PhD courses in **Poverty and Development** for Nordic PhD Students at the University of Copenhagen (lecturers included Prof. Thorbecke, James Foster and Lionel Demery), in 2000. He also attended a PhD course in **Empirical Welfare** at the University of Gothenburg, Sweden, conducted by Prof. Esfandiar Maasoumi of the University of Texas. He wrote his PhD thesis on **Fishery Resources and Welfare in Rural Zanzibar**, in which, among others, he employed stochastic dominance tests in analysing poverty in rural Zanzibar. He has, together with Prof. Henk Folmer submitted a paper on Poverty in Rural Zanzibar to **World Development** and is currently working on another paper with Prof. Folmer on Multivariate Analysis of Poverty in Zanzibar in which ordered logit regression analysis is employed. Dr. Mkenda will offer lectures in microeconomics at a PhD level in the newly established AERC supported PhD by coursework and thesis programme for Sub-Saharan Africa. He also coordinate econometrics course at an MA level and Quantitative analysis for undergraduate students. Dr. Mkenda has done a course in STATA programming and has experience in working with household budget survey data, having worked with the 1990/91 Zanzibar household budget survey data. He has just completed a study funded by REPOA (Research on Poverty Alleviation) on poverty, a copy of which is attached as a separate attachment.

**Dr. Eliab G. Luvanda-team member**

Dr. Luvanda has worked with REPOA (Research on Poverty Alleviation) in developing poverty profile in Dar es Salaam. He also participated in developing a poverty baseline in Tanzania (in collaboration with Oxford Policy Management (UK)). He is competent in a number of computer-based software. He has been teaching, among others, mathematics at both the undergraduate and graduate levels. He will be teaching quantitative analysis in the newly established PhD program for Sub Saharan Africa.

**Dr. Longinus Rutasitara- team member**

Dr. Longinus Rutasitara, the current head of department, economics department, university of Dar es Salaam, has written on poverty and development in Tanzania, including a final report on **Economic Policy and Rural Poverty in Tanzania** submitted to the REPOA (Research on Poverty Alleviation). He attended an AERC organised training workshop on Poverty in Kampala in 1997. He also attended an IDF-World Bank funded training in microeconomics and poverty (1997) at the university of Dar es Salaam. He also received training in the use of STATA for social analysis.
Mr. Alexis Naho - team member

Mr. Naho is currently working on his PhD thesis on *Macroeconomic Adjustment, Income Distribution, and Poverty in Tanzania*. In which he is employing, among others, a computable general equilibrium technique. He has also presented a final REPOA funded study on Food Poverty in Tanzania: A profile for the year 1991/92, a copy of which is attached to our submission. Mr. Naho has also written a paper on the Determinant of Food Poverty in Dar es Salaam, mimeo, 2002. He has an extensive experience in working with household budget surveys; he has used Tanzania’s 1990/91 HBS in his study and he is already working on the 2002 HBS.

Expected Capacity Building for Researchers and their Institutions

The team of researchers that proposes to undertake this study are all affiliated to the University of Dar es Salaam. Drs Mkenda and Rutasitara are members of economics department, faculty of arts and social sciences, university of Dar es Salaam. Dr. Luvanda and Mr. Naho are members of economic research bureau, faculty of arts and social sciences, university of Dar es Salaam. The four of us are determined to make the university of Dar es Salaam a centre for welfare economics in Tanzania through teaching and research. In that effort, the department of economics has just won a tender (from the Vice-President’s office, directorate of poverty alleviation) to offer short-term training in poverty analysis to civil servants and other interested people. We are also contemplating of expanding the teaching of welfare economics at the university so that graduate from our university are better equipped with requisite technique for poverty analysis and other aspects of human welfare with sufficient rigor. We have also improved the teaching of microeconometrics at the graduate level in a bid to encourage more graduate students to work on household budget survey data. Dr. Mkenda coordinates econometrics course at MA level, which he teaches with Dr. Luvanda.

The teaming up together for this proposal is part of this effort, and one of us (Dr. Rutasitara) is now the head of economics department. We believe the exposure and possibility of forging network with other researchers in the field will contribute in building our university in rigorous analysis of poverty and that it will make it possible for us to improve the rigor and quality of our work.