

The Economic Impact, and Mitigation Strategies, of Premature Adult Mortality Among Rural Agricultural Households in Malawi

A Summary of Proposed Research, By: Edward P. Mazhangara

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PROBLEM: HIV/AIDS is a health tragedy that affects much more than the direct victim. The sickness and death of one household member undermine the productive capacity of the entire household through the potential loss of cash income, labor time, knowledge and skills. The most promising public policy and private strategy responses to HIV/AIDS depend upon which of these impacts are most serious. Should credit programs be developed to replace lost remittances in order to provide working capital for farm production? Should agricultural extension programs be targeted at women in order to compensate for lost knowledge by deceased male farmers? Should agricultural technologies be redesigned to be labor saving given all the deaths from HIV/AIDS? The answers to questions like these on how to mitigate the economic effects of HIV/AIDS and other related illnesses on survivors in rural households depend upon how household economic resources are being affected most seriously. These are empirical questions in need of study.

METHOD: Studying the impact of HIV/AIDS presents some challenges of measurement and how to identify households with members who died from HIV/AIDS for the survey. First, HIV/AIDS per se does not kill but weakens a person's immune systems, making them more vulnerable to opportune infectious diseases. Second, knowing for certain that a person died of AIDS is not possible without autopsy or accessing detailed medical records, which would either be more costly to undertake, or violate individual privacy. Using self-reported cause of illness or death is also more likely to underestimate the magnitude of the epidemic because of underreporting due to the stigma surrounding the epidemic. Third, in Malawi, malaria by itself or on an AIDS victim is a very important cause of death that cannot be ignored. The best way around these identification and measurement problems in this study is to use premature (15-59 years) adult death as an indicator, and work in geographical areas of high and low HIV incidence identified by medical/health officials.

To date, only a few studies have assessed the household-level impacts of labor and cash income losses. Even fewer have separated farm- from non-farm effects on household incomes. None has separated the effect of labor loss from that of knowledge loss. Likewise, few past studies -- and none in Malawi -- have evaluated the rural economic impacts of premature adult death using panel data that can analytically separate the effects of adult mortality from simultaneous but unrelated phenomena that bear on rural household incomes. In Malawi, policymakers have come to realize that the economic health of the smallholder-farming sector is being severely eroded by AIDS induced loss of knowledge and skills. This research is designed both to analyze the impacts of premature adult death on rural non-farm income and to recommend ameliorative policies and strategies.

UNDERSTANDING IMPACTS IN ORDER TO UNDERSTAND BEST RESPONSES: The impact of premature adult mortality in rural Malawi will be estimated using a two-period farm household longitudinal survey data set composed of two benchmark survey data sets, one collected by Melinda Smale of CIMMYT in 1989 and the Malawi's Integrated Household Survey conducted in 1997-98. Follow-up surveys will be conducted on the same 420 rural Malawian CIMMYT survey households and a sub sample of 1000 households

from the Integrated Household Survey in 2001-2002 as part of this dissertation research. Econometric models of the effects on production, income, and enterprise mixes by rural households will be estimated using statistical methods that control for differences among households not due to adult mortality.

ANALYTICAL APPROACH BY OBJECTIVE: Using the survey data to compare the economic performance over time of households with and without premature adult mortality, the following analytical objectives and procedures are planned.

Objective 1: Impact of premature adult mortality on Agricultural Production.

Volume of Agricultural Output and Household Income: Taking into account the variety of factors that normally influence the level of agricultural output (including prices, assets, labor, working capital, experience, education, etc.), the relative effects of education, farming experience, and extension training loss will be compared with the effects of labor loss on total household agricultural production and income.

Enterprise composition: Agricultural enterprises will be categorized according to the relative levels of labor and capital that they require. The effect of adult mortality will be assessed on observed changes over time in relative capital (or labor) intensity of agricultural and non-agricultural enterprise mixes.

Objective 2: Evaluate the effect of premature adult mortality on technology adoption

Agricultural productivity growth depends in part upon evolving adoption of new, productivity-enhancing technologies, such as fertilizer, high yielding varieties (HYV), or tillage techniques. The effect of adult mortality on adoption of these new technologies over time will be assessed using a statistical model that includes among the explanatory variables both the economic assets mentioned above as well as potentially influential sociological variables such as gender of the surviving household head.

Objective 3: Impact of premature adult mortality on Rural Household Income

Prior research has revealed that non-farm income contributes importantly to household income in many smallholder settings, but especially in southern Africa. The determinants of rural non-farm income of respondent households will be assessed to see whether adult mortality plays a significant role when controlling for the many other relevant variables, such as household members' individual capabilities, household assets, community characteristics, and regional traits.

ANTICIPATED OUTCOMES: The study is expected to yield the following empirically based outcomes: (1) Estimated magnitudes of impacts of premature adult mortality-induced loss in knowledge, time and working capital on agricultural production and household income in rural Malawi; (2) Recommendations on policy and other intervention strategies to mitigate impact of adult death from HIV/AIDS and related illness on rural farm households; (3) Research experience, insights and outreach materials in this important area among Malawian cooperators.