

The Ones Left Behind

Rural households and poverty in Mozambique

after the death of an adult

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Presentation to the
CASID/WID Friday Forum,
International Center MSU November 30, 2007

Presentation

- Introduction: Background on Mozambique
- Objectives of the research
- Methodology: Panel data with econometric analysis
- Results
- Implications

Background

- +/- 55% of population below poverty line
- 62% of women-headed HHs below poverty line
- +70% of population in rural areas
- 75% rural HH income from agriculture
- 2004 Adult HIV prevalence: 16%



Current Research

- Unknown rural HIV prevalence rate
- Labor-intensive agriculture
- Importance of agriculture in rural incomes

What are consequences of HIV/AIDS in rural areas, on agricultural sector?

What criteria can be used to identify potential interventions?



Research Objective

- What are the impacts of HIV/AIDS and other life-threatening diseases on the households directly affected with the loss of adults?

Research Document:

“Impacts of Prime-age Adult Mortality on Rural Household Income, Assets, and Poverty in Mozambique”

by David Mather and Cynthia Donovan



Vocabulary

- “Prime age” (PA) adults
 - 15-59 years of age
- “Affected” Households (HHs)
 - Households that suffered the loss of a PA adult due to illness in the period 2002-2005, as identified by family members
- Panel data (longitudinal)
 - Households interviewed in 2002 were re-interviewed in 2005



Methodology

- Identify panel households (HHs) and adjust the analyses for the attrition of HHs
- Calculate the HH-level changes from TIA 2002 to TIA 2005 for key factors (income, land, livestock, demographics, etc.): Differences at HH level
- Comparing the differences between HHs: use regression analysis on the differences in the differences to determine the impacts of an adult illness death



Anticipated Results

- Impact of a death of at least one prime age adult :
 - Reduced number of adults in HHs
 - Reduced access to land
 - Reduced livestock holdings
 - Reduced income (both agricultural and non-agricultural)
 - Increased poverty level of affected HHs

We anticipate that impacts vary, depending on gender, role of the person in the HH, and region (livelihood systems)

Methodological Challenges

- Adjust the analyses for the attrition of HHs
 - 17% of HHs from TIA 2002 were not available for the panel in 2005
 - Use of Inverse Probability Weighting
- Relatively small number of cases
 - 6% of HHs
 - Data analysis disaggregated only to broad geographic areas (South vs Center North)
- Causal attribution difficult
 - Panel data helps to control for some aspects
 - Not a structural analysis of income and assets
 - Complications of illness effects and observation

TIA 2002 and TIA 2005



MAPA DOS DISTRITOS SELECIONADOS PARA O TIA-2002



Table 1: Households with a death and HIV prevalence rates

Province	HHs with death 2002-2005			HIV/AIDS Prevalence:	
	Male	Female	All	2001	2004
	----- weighted % -----			%	%
Niassa	1.8	2.8	4.7	5.9	11.1
C.Delgado	1.1	2.9	4.0	5.0	8.6
Nampula	1.1	1.2	2.3	7.9	9.2
Zambezia	2.5	2.5	4.4	15.4	18.4
Tete	3.9	1.4	5.3	16.7	16.6
Manica	4.5	2.9	7.3	18.8	19.7
Sofala	7.3	5.7	11.4	18.7	26.5
Inhambane	2.5	5.9	7.7	7.9	11.7
Gaza	6.7	6.1	12.7	19.4	19.9
Maputo					
Province	4.2	5.8	9.2	14.9	20.7
Total	2.9	3.0	5.6	13.0	16.2

Source: TIA panel set, Rural Households only;
Ministry of Health 2005, Rural and Urban Prevalence

Figure 1: Simple change in Number of PA adults in rural HHs, between 2002 and 2005

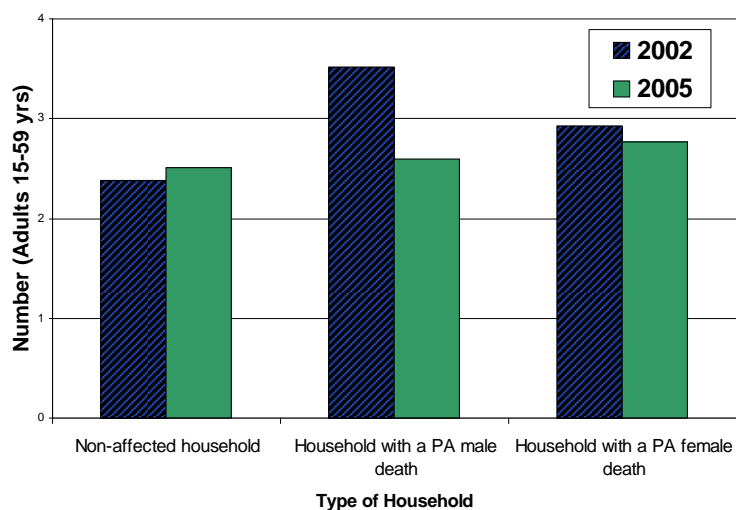


Table 2. Impacts of prime-age adult mortality on rural household number of adults

Covariates	Change in Household Number of Adults	
	National (A)	(B)
<i>Prime-age Adult Mortality¹</i>		
Male adult	-1.049**	
Female adult	-0.254+	
Male heads/spouse		-0.935**
Female heads/spouse		-0.361*
Other adult male		-1.273**
Other adult female		-0.109
2 or more PA deaths	-0.753**	-0.755**
<i>Elderly mortality</i>		
Elderly male	-0.858**	-0.868**
Elderly female	-1.085**	-1.081**
Chronically ill PA male adults (=1)	0.482**	0.480**
Chronically ill PA female adults (=1)	0.104	0.098
Constant	-0.059**	-0.059**
Village X time dummies	Yes	Yes
F-test on PA mortality	0.000	0.000
R-squared	0.21	0.21
Number of observations	4042	4042

Demographic Changes based on Econometric Estimations

- Death of a PA man:
 - Overall loss of adults: 1.05
- Death of a PA woman:
 - Loss of adults: 0.25
- Impact is strongest when head/spouse dies
- Regional effects are variable

Table 3: Impact of a Death on PA Adults across the Nation

	National	
	PA male	PA female
No. of adults	-1.049 ***	-0.254 *
Landholding	-20.5% **	-18.3% *
Livestock	-34.3% **	9.7% ns
Crop income	-41.5% **	-8.0% ns
Non-farm income	-72.9% **	25.7% ns
Total income	-25.2% **	18.4% ns
Total income/AE	3.8% ns	37.4% ns

Table 4: Impact of a Death on PA Adults in the Center and North

	Center/North	
	PA male	PA female
No. of adults	-1.038 ***	-0.318 *
Landholding	-20.2% *	-22.0% *
Livestock	-37.9% **	4.3% ns
Crop income	-49.4% **	-13.5% ns
Non-farm income	-63.4% ns	94.3% ns
Total income	-26.4% **	11.9% ns
Total income/AE	1.6% ns	40.8% ns

Table 5: Impact of a Death on PA Adults in the South

	South	
	PA male	PA female
No. of adults	-1.073 **	-0.135 ns
Landholding	-20.0% ns	-10.8% ns
Livestock	-21.6% ns	17.4% ns
Crop income	-10.9% ns	4.1% ns
Non-farm income	-88.9% **	-54.1% ns
Total income	-21.3% ns	26.1% ns
Total income/AE	9.4% ns	27.3% ns

Land and Livestock

- Land
 - Nationally: -21% w/PA male death; -18% w/PA female death
 - South: Only death of PA male signif. (-)
 - North/Center: Death of PA male head/spouse or death of PA woman not head/spouse
- Livestock
 - South: Death of +1 PA adult, death of PA male (non-head)
 - North/Center: Death of male head/spouse

Income from selected crops

- Cash crops:
 - North/center: Death of Male head/spouse
 - South: Death of elderly female (- impact), Death of +1 adults (+ impact) and death of male head/spouse (+ impact)
- Roots and tubers
 - South: Death of male head/spouse (+ impact)
 - North/Center: Death of female, non-head/spouse (+ impact)

Non-Farm Income

- Nationally: -73% w/PA male death; not signif. w/death PA female
- South: Big hit with PA male death (-89%)
- Center/North: no sig. effect



Total Income and Income per Adult Equivalent

- Total Income:
 - National: -25% w/death PA male; not signif. w/death PA female
 - South: Less w/illness of adults (men or women)
 - North/Center: Death of a male head/spouse or death of +1 adults
- Total Income per Adult Equivalent
 - South: Only sig. w/chronic illness (women and men)
 - North/Center: Death of female head/spouse or death of elderly female

Table 6: Mobility of households above and below the poverty line, from 2002 to 2005

Poverty Categories	Households	
	With at least 1 PA death	With no PA deaths
	(%)	
Stayed Poor	49.7	50.4
Became Poor	18.2	15.3
No longer Poor	21.5	17.1
Stayed Non-poor	12.8	14.9



Implications for Agricultural Policy

- Loss of land and other assets
 - Increased vulnerability
 - Need to ensure women's access to HH assets: land use rights and rights to HH assets
- Loss of adults
 - HH labor loss with longer term effects, especially in HHs with male death
 - Need to develop and diffuse technologies that safe women's labor demand
- Income
 - Increase income opportunities for women



Additional Implications

- Poverty in Mozambique is a general problem in rural areas, not just a problem due to HIV/AIDS
 - Agricultural productivity growth of key staples critical for broad-based poverty reduction
 - Non-farm income sources important, and women generally do not have access to the higher return activities

Acknowledgements

- World Bank for research funds and ideas
- USAID/Maputo for additional funding for preliminary analyses
- MINAG/TIA team for data collection in difficult circumstances
- Jaquelino Massingue, Ellen Payongayong and Margaret Beaver for research support



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