

Measuring the Effects of Prime-Age Adult Mortality on Rural Households in Kenya

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Current Understanding of HIV/AIDS on Rural Households

- Micro-level foundation for understanding the effects of AIDS
 - Remains very weak
- Macro-level studies
 - only as accurate as their underlying assumptions about household behavioral responses

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Objectives

1. To Estimate Impact of Adult Death on:
 - Household Composition
 - Agricultural Production
 - Non-farm income
 - Assets
2. To identify strategies for agricultural research, health policy, and NGO targeting

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Data - I

- Two-year panel (1997 and 2000)
 - 22 districts (excluded pastoral areas)
 - 1,422 / 1,500 households revisited
 - attrition rate: 5.2%
 - Kisesa/Tanz study (Urassa et al) found 42% of households “dissolved” within one year after death of male head-of-hh

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Data - II

- 9,177 individuals in 1997
 - Of these, 6,856 were identified in 2000
 - 145 passed away (1.6%)
- 2,357 new members between 1997 → 2000
 - 55 passed away (2.3%)

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Data - III

- 200 cases of mortality
 - 160 > age 15
 - 9 accidents/violence
- 151 disease-related deaths
 - 76 were in “prime-age” range
 - 15-49 years for women
 - 20-54 years for men

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“Difference-in-Difference” Approach

	1997	2000	Difference
Households not afflicted	x_1	x_2	$) x$
Afflicted households	y_1	y_2	$) y$
difference			$) y -) x$

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Estimation Model

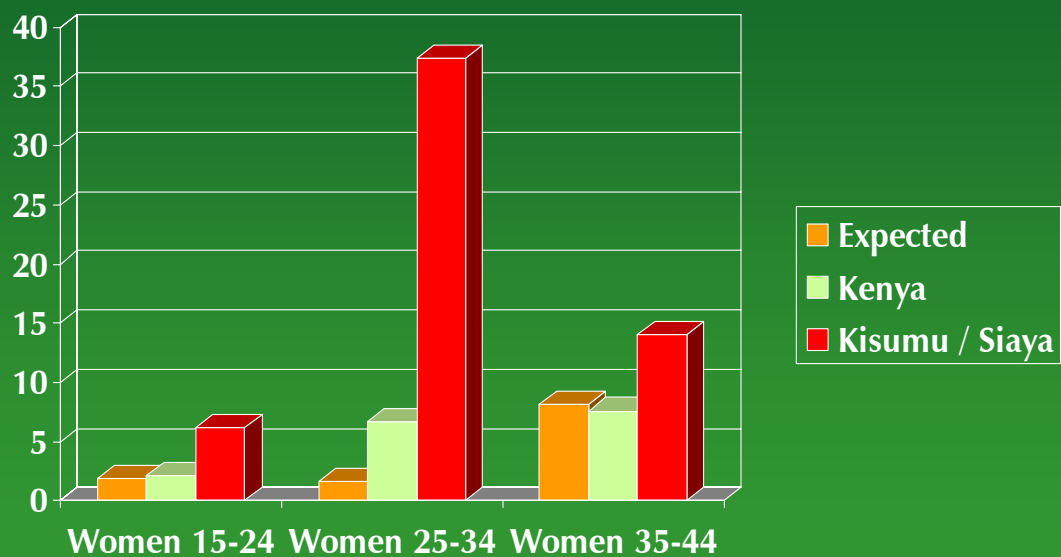
$$) Y_i = D_i^M * M + D_i^F * F + D_i^E * E + V \$ +) e_i$$

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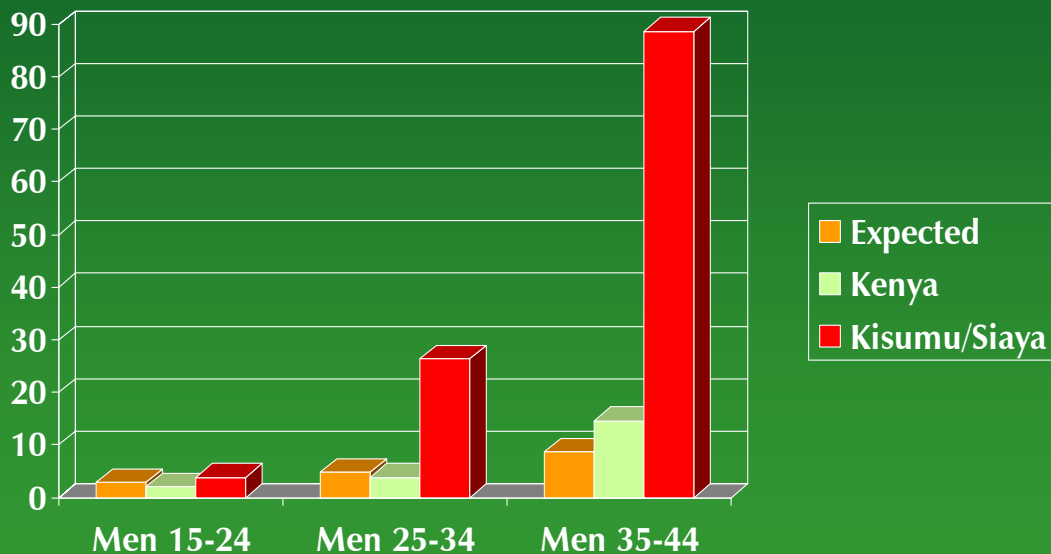
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Adult Mortality Rates - Women



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Adult Mortality Rates - Men



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Finding 1: Important Gender Differences in Prevalence of Adult Death

- Afflicted Men
 - 49% were in highest income quartile
 - About half were household heads
- Afflicted Women
 - Not correlated with income
 - Likely to be daughters in households
- However, many NGOs target low-income people (e.g., ag. wage laborers)
- IMPLICATION: Campaigns Need to Also Target High-Income, High-Status Men

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Finding 2: Effect on *Household Composition* *Depends on Who Dies*

- Head-of-household death → - 1.5 members
 - Older daughters more likely to leave
 - In 60% of these cases: marriage
 - Major loss in adult labor
- Female head/spouse death → - 2.1 members
 - Young boys and girls leave the household
- Death of other adults → hh often gained new adult member; these hhs incur less of an economic shock

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Finding 3: Gender Effects of Mortality on Crop Cultivation

- Death of male head → - 0.9 acre to sugarcane, horticultural crops
- Death of female head → - 1.8 acre to cereals, tubers

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Finding 4: Effects of Farm Production Sensitive to Specification of “Prime-Age,” Gender, Position in HH

- Death of Male hh-head → 68% reduction in value of crop output
- Death of Female head/spouse → less dramatic but still negative effects
- Why Male Head Effects on Ag are Greater?
 - High frequency of females leaving after male hh-head dies
 - Loss of female ag. labor to caregiving
 - Loss of higher-return crops
- Insignificant effects in case of death of other hh member

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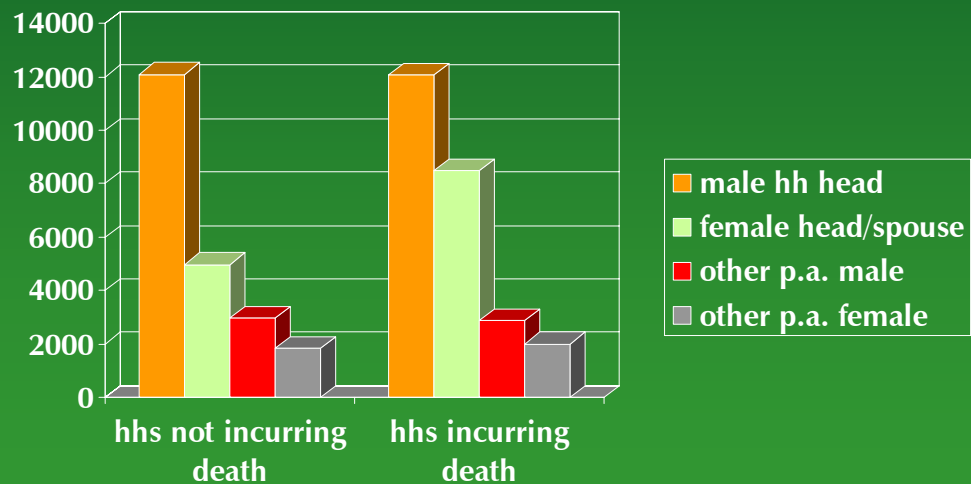
Finding 5: Greatest decline in farm assets among hhs suffering male hh-head mortality

- Mainly sell off small animals and farm equipment
- Cattle assets actually increase after male head dies (bride dowry from daughters leaving)

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Finding 6: Loss of non-farm income greatest among households losing female spouse

1997 off-farm income (Ksh)



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Finding 7: Little Indication that Households are Able to Recover Quickly

- Economic status of afflicted hhs is equally severe regardless of when male and female head mortality occurred between 1997 and 2000.

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Implications

- Need Special Targeting Assistance to Households Incurring Prime-Age Male Head of Household Mortality
- Need to Overcome Gender Barriers to Women's Participation in Training Programs for Cash Crops

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Implications - 2

- Access to concessional credit may reduce need for newly single female-headed hhs to sell off productive assets or resort to risky activity to survive

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Implication - 3

- Widow Inheritance, common in Nyanza Province, needs more public campaign attention.
- Targeting strategies aimed at young widows may reduce economic need for widow inheritance and associated risky behaviors

Implication - 4

- For many households, prime-age death increases demand for labor-saving ag. tech
- For severely land constrained households, this may not be so
- More study needed on viability of alternative crop technologies for households facing labor and capital shocks from prime-age death

On-Going Activities

- Working with NGOs to help target assistance to households most affected by adult mortality
- New work on child education