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

Takashi Yamano and T.S. Jayne

Tegemeo Institute / Egerton University
Michigan State University

January 28, 2003

Implications for Programs

- Target widowed (female-headed) households
- AIDS-education programs aimed at high-income men
- Re-consider calls for low-input ag. technology
- Programs to overcome gender barriers to women’s participation in selected crops
- Invest in long-term economic growth
Objectives

1. To Estimate Impact of Adult Death on:
   • Household Composition
   • Agricultural Production
   • Non-farm income
   • Assets

2. Programmatic Implications

Data

• Two-year Panel (1997, 2000)
• Nationwide survey – 22 districts
• 1,422 / 1,500 households revisited

• Focus-group (post-analysis) discussion
Adult Mortality Rates - Men

HIV-Negative Adult Mortality Rates vs. Those Observed in Kenya, Zambia, Rwanda
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

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 hh's incur less of an economic shock
Finding 3: Gender Effects of Mortality on Crop Cultivation

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

Finding 4: Effects of Farm Production Sensitive to Gender, Position in HH

- Death of Male hh-head $\rightarrow$ 45-68% reduction in value of crop output
- Death of Female head/spouse $\rightarrow$ less dramatic but still negative
- Why Effects of Male Head Death are Greater?
  - High frequency of females leaving after male hh-head dies
  - Loss of female ag. labor to care giving
  - Loss of higher-return crops
  - Widows may face uncertain land rights
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)

Finding 6: Loss of Off-Farm Income

- Death of Female Head/Spouse: 
  -$438 per year (not significant)
- Death of Male Head
  -$193 (highly significant)
Effects of Adult Death – Rwanda
(% of households noting effect)

- 59% -- reduced agricultural labor
- 37% -- reduced income
- 18% -- drew off savings
- 16% -- increased debt
- 38% -- deterioration in quality of food
- Effects on children: school dis-enrollment, send away to relatives, less supervision
- Effects of morbidity similar to those of mortality

Zambia: Un-afflicted vs. Afflicted Households
(median values)

<table>
<thead>
<tr>
<th></th>
<th>Male-headed households (no death)</th>
<th>Female-headed households (widowed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landholding size</td>
<td>2.47</td>
<td>1.62</td>
</tr>
<tr>
<td>(hectares)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop production</td>
<td>549,804</td>
<td>339,148</td>
</tr>
<tr>
<td>value (Kw)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household Income</td>
<td>858,864</td>
<td>411,801</td>
</tr>
<tr>
<td>(Kw)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Finding 7: Little Indication that Households are Able to Recover Quickly

- Effects on afflicted households equally severe regardless of when prime-age mortality occurred between 1997 and 2000.

Implications

- Need Special Targeting Assistance to Widowed Households due to Male Adult Mortality
- More secure land rights for women
- Need to Overcome Gender Barriers to Women’s Participation in Training Programs for Cash Crops
Implication - 2

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

Implication - 3

- Not Clear that Focus Should be Put on Low-Input Ag. Tech
  - Adult Mortality also depletes capital and land
- What Provides Higher Returns?
  - Less intensive cultivation of available land vs.
    more intensive cultivation of smaller fields, rent out the rest
Implication - 4

• Economic Growth Improves Capacity for Households / Communities to Adjust to Prime-Age Death
• Need to Maintain Critical Investments in
  – Agricultural Technology
  – Market Development
  – Democracy and Governance
  – Education

Implications - 5

• However, Programs Needed to Mitigate Long-Term Drag on Economic Development
  – AIDS orphans
  – Primary school enrollment decline
  – Loss of inter-generational knowledge transfer
  – Lower productivity of businesses
• Balance needed between
  – Investing in Long-Term Productivity
  vs.
  – Making It Possible for People to Contribute to the Future