HIV/AIDS and the Agricultural Sector: Anticipating the Consequences

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Major Research & Policy Question:

• If Donors Provided an Additional $1 billion to Combat AIDS, how should it be allocated:
  – To ARV treatment?
  – To improved nutrition programs?
  – To agricultural & rural development?
  – To investment in vaccines?
  – To community-driven development programs?
Outline

- PART I: what do we know about how households respond to prime-age death
- PART II: consideration of “response strategies” to improve resistance / resilience

Characteristics of MSU household surveys

<table>
<thead>
<tr>
<th>Country</th>
<th>Sample size</th>
<th>Year(s) of surveys</th>
<th>Panel or cross-sectional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>n=1422, n=1266</td>
<td>1997, 2000, 2002</td>
<td>Panel</td>
</tr>
<tr>
<td>Malawi</td>
<td>n=420, n=372</td>
<td>1990, 2002</td>
<td>Panel</td>
</tr>
<tr>
<td>Mozambique</td>
<td>n=4908</td>
<td>2002</td>
<td>Cross-sectional</td>
</tr>
<tr>
<td>Rwanda</td>
<td>n=1395</td>
<td>2002</td>
<td>Cross-sectional</td>
</tr>
<tr>
<td>Zambia</td>
<td>n=6922</td>
<td>2001, 2004</td>
<td>Panel</td>
</tr>
</tbody>
</table>
Finding #1

Afflicted households/individuals are not random

- Early 1990s: positively correlated with income, wealth, education, mobility
- Still the case in some countries (e.g., Zambia)
- Recent evidence in other countries: increasingly concentrated among the poor (e.g., Kenya, South Africa)


<table>
<thead>
<tr>
<th></th>
<th>Deceased prime-age males</th>
<th>Deceased prime-age females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poorest 25%</td>
<td>17.0</td>
<td>22.7</td>
</tr>
<tr>
<td>2nd quartile</td>
<td>20.9</td>
<td>20.4</td>
</tr>
<tr>
<td>3rd quartile</td>
<td>32.2</td>
<td>29.6</td>
</tr>
<tr>
<td>Wealthiest 25%</td>
<td>29.9</td>
<td>27.3</td>
</tr>
</tbody>
</table>
Finding 2: 60% of PA mortality is women

Prevalence of PA mortality, by sex and income, Zambia, 2001-2004

Finding 3: Certain factors affect the magnitude of impacts on households

• Strong evidence that impacts depend on:
  - Initial level of household vulnerability (assets, wealth)
  - Sex of the deceased
  - Position in household of deceased
  - Ability of household to attract new members
  - Characteristics of adults remaining in household (e.g., skills, education level)
Finding 4: For afflicted households, cash constraints often become the limiting factor in crop production

- Drawing non-resident members back to the farm can sever off-farm income sources
  - Kenya: death of head or spouse associated with $120 and $260 per year reduction in off-farm income

Finding 5: Effects Most Severe on the Poor

- Very few significant effects detected among households in top half of asset distribution
- Effects on ag production and non-farm income were larger and more highly significant among the poor
Finding 6: Spread of AIDS is co-factored with:

- Nutritional status
- Quality of basic health services
  - STDs and parasites increase susceptibility
- Extreme poverty leading to risky behavior
- Male violence, alcoholism

Finding 7: HIV Prevalence Rates generally lower than what we thought they were 10 years ago:

<table>
<thead>
<tr>
<th>Country</th>
<th>2001 estimates</th>
<th>2004 estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zimbabwe</td>
<td>33.9</td>
<td>24.6</td>
</tr>
<tr>
<td>Zambia</td>
<td>21.6</td>
<td>16.5</td>
</tr>
<tr>
<td>Kenya</td>
<td>15.1</td>
<td>6.7</td>
</tr>
</tbody>
</table>
HIV Prevalence Rates – 2001 estimates

Projected Population in the 7 Most Highly Affected Countries, “With AIDS” vs. No-AIDS Scenario, by Sex and Age Group, 2025.
Implications - I

- Agricultural production and income growth in Southern Africa will be adversely affected
  - Much smaller effects in West Africa
- Increased vulnerability in the region
  - Increased need for emergency response from international community
- Less purchasing power
  - Commercial food import demand likely to decline
- ARV treatment
  - Likelihood of mutation
  - Only 5% of HIV+ people in Southern Africa will have access even after PEPFAR is in full swing
**Need for appropriate balance between:**

- Investing in long-term productivity growth (education, infrastructure, markets, agricultural productivity, health) vs
- Targeted assistance to affected HHs
- Poverty and HIV/AIDS are mutually reinforcing → hence pro-poor productivity growth is crucial
- Resources are scarce: which investments provide greatest benefits?

**Concluding Thought:**

- The international community is responding, but we must be prepared to adopt new responses as we learn more about how to effectively combat the disease and its effects