Morbidity and Mortality of Prime Age Adults in Rural Rwanda: Effects on household composition, cropping and food security strategies

C. Donovan (FSRP/MSU), L. Bailey (MSU), E. Mpyisi (FSRP/MSU), et M. Weber (FSRP/MSU)

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Objectives

• To evaluate the characteristics of affected HHs
• To identify the effects and strategies of HH affected by mortality and morbidity
  – Agricultural production
  – Land use
  – Labor
• To analyze implications of HHs status and actions for interventions/programs
Prevalence of mortality and morbidity

- **Deaths: 222 households (15%)**
  - Prime age due to illness: 73 households (4%)
  - Prime age due to other causes: 26 households (2%)
- **Current chronic illness:**
  - PA adult: 124 households (8%)
- **Current chronic illness and a death: 6 hhs (0.4%)**
- **Two PA adults chronically ill: 9 hhs (0.5%)**

Retrospective questions about the last 4 years (for deaths) and about the last 12 months (for chronic illness)
Prime age = 15-60 years

Mortality rates

Per 1,000 person years

<table>
<thead>
<tr>
<th>Age group</th>
<th>Kisesa, Tanzania</th>
<th>Kenya rural</th>
<th>Rwanda rural</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong> 15-24 years</td>
<td>5.3</td>
<td>2.6</td>
<td>4.6</td>
</tr>
<tr>
<td>25-34 years</td>
<td>12.2</td>
<td>3.8</td>
<td>5.3</td>
</tr>
<tr>
<td>35-44 years</td>
<td>17.1</td>
<td>14.6</td>
<td>13.2</td>
</tr>
<tr>
<td><strong>Women</strong> 15-24 years</td>
<td>5.1</td>
<td>2.1</td>
<td>3.9</td>
</tr>
<tr>
<td>25-34 years</td>
<td>11.4</td>
<td>6.7</td>
<td>6.2</td>
</tr>
<tr>
<td>35-44 years</td>
<td>14.8</td>
<td>7.6</td>
<td>5.7</td>
</tr>
</tbody>
</table>
**Population mobility in Rwanda:**

**Feb 2001-March 2002**

**Departures:** 292 PA adults  
**Reasons:**
- Marriage (primarily women): %
- Deaths or illness related: %
- Job (men but increasingly for women in 2002): %

**Arrivals:** 174 PA adults  
**Reasons:**
- Marriage (primarily women): %
- Deaths or illness related: %
- Job (men but increasingly for women in 2002): %

**Are HH with death or chronic illness different from other HH in rural Rwanda?**

<table>
<thead>
<tr>
<th>Detail</th>
<th>All other HHs</th>
<th>Type of hhs with difference</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Area</td>
<td>0.16 ha</td>
<td>HHs w/female Chronic. Ill</td>
<td>0.13</td>
</tr>
<tr>
<td>Dependency ratios</td>
<td>1.22</td>
<td>HHs w/female Chronic. Ill</td>
<td>0.86 but 2.12 when ill dep.</td>
</tr>
<tr>
<td>Sex of Head of HH</td>
<td>30%</td>
<td>HHs w/male who died from ill</td>
<td>20%</td>
</tr>
<tr>
<td>Number of cattle</td>
<td>1.65</td>
<td>HH with ill or deceased female or with ill male</td>
<td>0.52 or less</td>
</tr>
<tr>
<td>Avg. Expenditures</td>
<td>66,500</td>
<td>HHs w/female who died from ill</td>
<td>45,290</td>
</tr>
<tr>
<td>Poverty Quintiles: % on lower two</td>
<td>38%</td>
<td>HHs w/female who died from ill</td>
<td>62%</td>
</tr>
</tbody>
</table>
Figure 1: Rural Deaths Due to Illness, (Percent of National Total, by Province)

- 17 - 18%
- 10-11%
- 6 - 8%
- 3%

Figure 2: Rural Adult Chronic Illness, (Percent of National Total, by Province)

- 34%
- 12-17%
- 4 - 6%
- 1-3%
Characteristics of people affected

- **Those who died due to illness**
  - Equally men and women
  - Older esp. men
  - Head or spouse
  - No new to HH
  - Primary income from nonfarm activity: mainly men
  - Ill long before death

- **Those who are chronically ill**
  - Majority are women
  - Older
  - Most are HH heads or spouses
  - Few new to HH (1%)
  - Primary income from nonfarm: men, no women
  - Unable to work: 5 months avg.

Consequences of effects and strategies

- **Stress on farm labor**
  - Reliance on social networks (shared labor)
  - Hiring/bringing in labor when possible
  - Cultivate less land
  - Possible reduction in labor intensive soil fertility, anti-erosion, productivity measures

- **Assets**
  - Land rental/loaning increase, but constrained by tenure issues
  - Asset sales (land, livestock, particularly during illness)
  - Rely on social networks (loans, gifts) to survive

- **Loss of skills/knowledge**
  - Deaths
  - Children
    - Schooling decline
    - Less time with adults
    - Low transfer of skills
Consequences of effects and strategies (cont.)

- **Change in crop mix?**
  - Not clear in stated strategies
  - Crop production changes are positive, but not as good as most unaffected hhs
    - + sweet potatoes (DDI)
    - + cassava (DDI/Male)
    - + beans (DDI & ILL)
    - + bananas (DDI & ILL)

- **Cash cropping?**
  - Coffee prod (DDI & ILL)
  - Although + coffee area (DDI)
  - Irish potato (DDI & ILL)

**Overall:**
Increased production of basic consumption crops with 2002, with better climate, but not the increases of other hhs
Preliminary Conclusions

- Hhs with illness and death are more likely to be very poor than other other rural Rwandan hhs, but otherwise similar
- Sale of assets is strategy during illness (not as much after death), so interventions needed early (identification problem)
- High numbers of chronically ill women - a potential future disaster, reflecting waves of HIV/AIDS or poor maternal health care?
- Ensuring land and inheritance rights for survivors - household options to avoid greater poverty and dissolution
- Household strategies will vary, so results from one country, one setting may not be applicable (eg. labor issues)

Preliminary Conclusions (cont.)

- Rural households under stress in Rwanda try to maintain labor in agriculture (new labor, hiring, sharing)
- Productivity enhancing inputs & technology fit the needs & strategies, but may be beyond capacity to obtain
- Households depend on the social networks - what happens as HIV/AIDS illness/deaths increase? Role for assistance programs to strengthen social networks?
- Hhs may not be able to afford health care if system based solely on cost recovery
Assistance/prevention

- Agricultural training and extension specifically for women and children
- Encourage labor sharing among households in a community
- Develop/train on labor saving agricultural crops/technologies that are also revenue creating, not just based on subsistence crops
- Develop labor saving for household activities (water, fuel, etc.)
- Productivity: Increase use of inputs and reduce their costs
- Protect extension agents through health training and assist them to inform farmers
- Encourage coordination between extension agents and health workers
- Work to de-stigmatize living with HIV/AIDS, so that interventions can reach hhs before deaths occur

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