

# Widows' land security in the era of HIV/AIDS: Panel survey evidence from Zambia

African Livelihoods Conference, 25 February 2011  
Department of Anthropology, University of Rochester

Antony Chapoto, T. S. Jayne, & Nicole M. Mason  
Michigan State University  
Department of Agricultural, Food, & Resource Economics

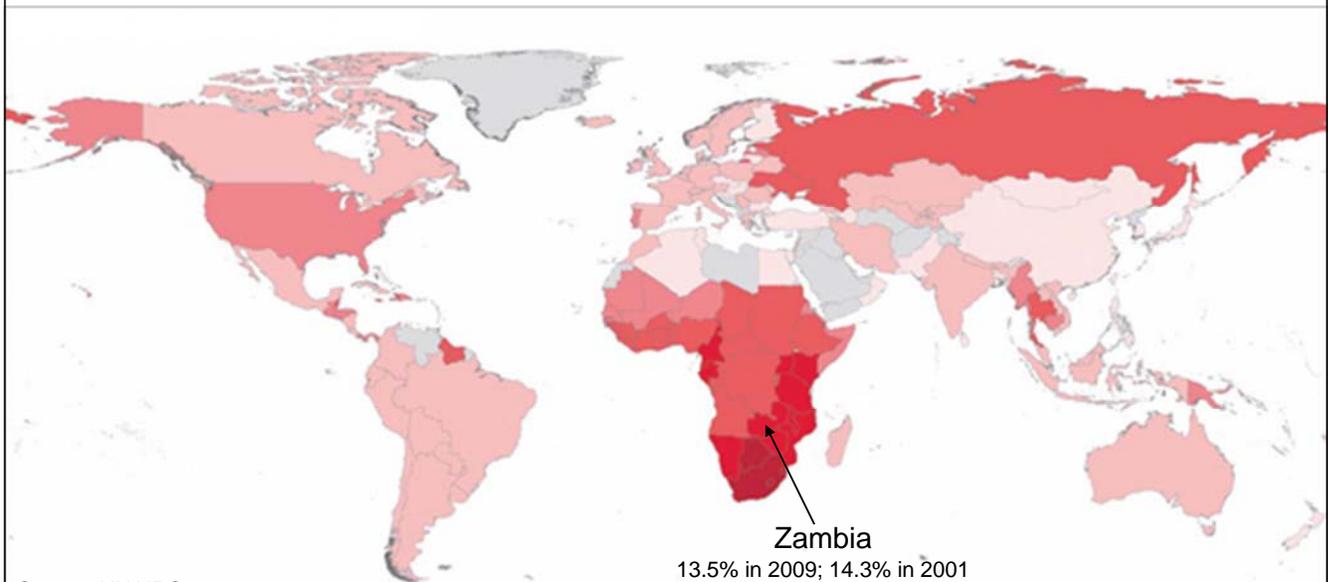
masonn@msu.edu



MICHIGAN STATE  
UNIVERSITY



## HIV prevalence rates, 2009 (ages 15 to 49)



■ No data   ■ <0.1%   ■ 0.1%–<0.5%   ■ 0.5%–<1.0%   ■ 1.0%–<5.0%   ■ 5.0%–<15.0%   ■ 15.0%–28.0%

- The HIV/AIDS pandemic has substantially increased the number of widow-headed HHs in Africa
  - Zambia: 9% of rural HHs widow-headed in 2001, 12% in 2004

# HIV/AIDS & widows' access to land

2

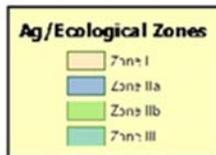
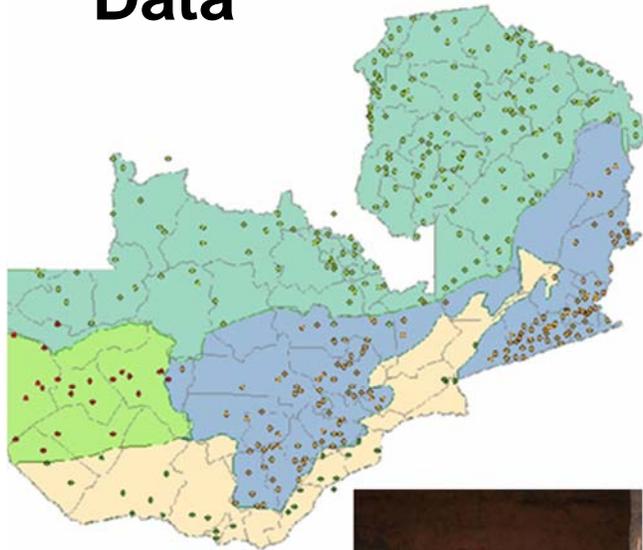
- Many narratives & qualitative studies suggest that widows have difficulty retaining access to land after the HIV/AIDS-related death of their husbands
- *Knowledge gaps:*
  - How widespread is this problem of women losing access to land after the death of their husbands?
  - If it is widespread, what are the implications for rural poverty reduction and livelihood strategies?
  - Sub-issues:
    - % of widows that lose access to land after the HIV/AIDS-related death of their husbands?
    - Lose all or part of their access to land?
    - Characteristics that influence loss of access to land?

## Conference themes

3

1. **Examination of the flows of information, money, and resources that shape the diversified livelihood approaches of Africans**
2. Discussion of the dual narratives of increased connectivity and/or eroded social relations that spring from diversified livelihoods
3. **Methodological approaches and challenges for understanding livelihoods in Africa**
4. Unique understandings on how historical social-ecological conditions guide current livelihoods strategies

# Data



- Nationally-representative panel survey data of smallholder farm HHs in Zambia
  - 6,922 HHs in May 2001; 5,342 (77%) re-interviewed in May 2004
  - 1999/2000 & 2002/03 crop years
  - Demographics, farm & non-farm activities, assets, deaths, kinship ties
- Disease-related prime-age death used as proxy for HIV/AIDS-related death
  - Prime-age (PA) = ages 15-59

## Methods: Econometrics/Regression Analysis

5

### Step 1: Propensity score matching to identify appropriate set of comparison households

- **“Treated” HHs = widow-headed HHs** (incurred disease-related PA male head death between 2001 and 2004)
- **Comparison HHs = HHs not experiencing a PA death** between 2001 and 2004 with similar characteristics to treated HHs in 2001 (have similar propensity score)

Sample size	5,432 (unmatched) 5,046 (matched)
% of HHs with PA male head death (widow-headed)	1.8%
% of HHs with other PA death (not widow-headed)	8.0%

## Methods (cont.)

6

### Step 2: Difference-in-difference estimator on matched sample (identified in Step 1)

- Regress change in access to land between 2001 and 2004 on:
  - a) Dummy var. =1 for widow-headed HHs; =0 otherwise
  - b) Characteristics of the widow, the HH head, the HH, and the district in 2001
  - c) Interaction of (a) and (b)
- → Gives effect of being widow-headed on the change in access to land between 2001 and 2004, and how this effect varies across widow-headed HHs with different characteristics
- “Land access”: cultivated + fallow

## Factors hypothesized to influence widow's ability to retain access to land

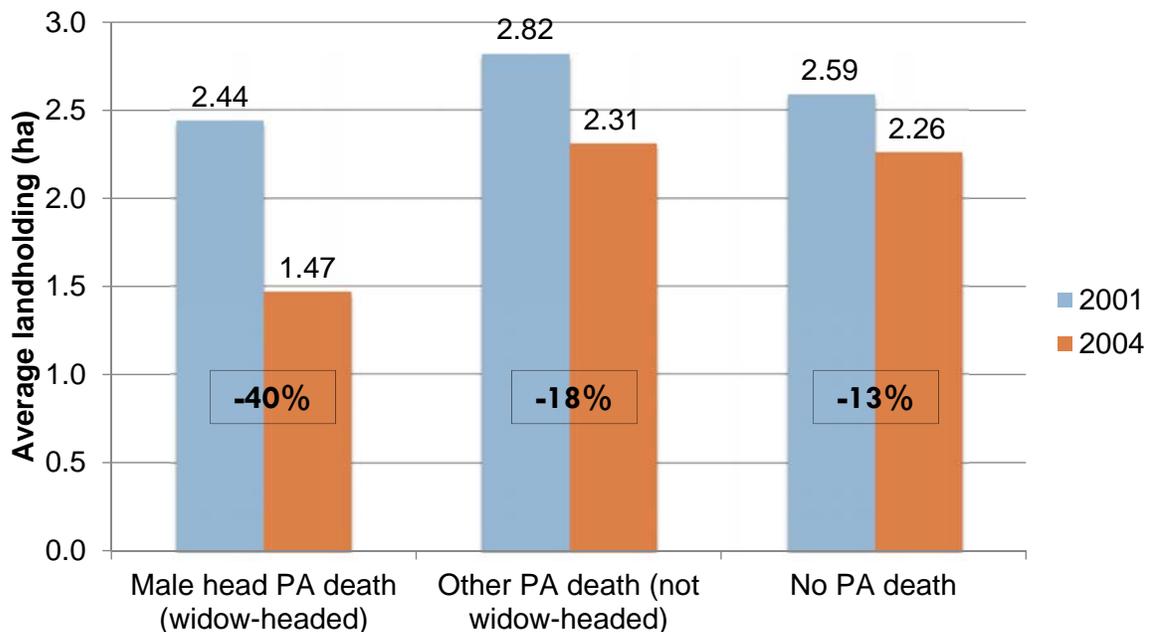
7

- Widow characteristics:
  - Age
  - Level of education
  - Related to village chief/headman?
- Initial HH characteristics:
  - Wealth status (value of assets)
  - HH composition (# of children, adult males and females in various age groups)
  - Deceased husband related to village chief/headman?
  - # of years since household settled in the community
- Main ethnic group in district matrilineal or patrilineal?

## Descriptive results

**Average landholding size declined between 2001 & 2004 but declined most among households becoming widow-headed**

8



## Descriptive results (cont.)

**Widow-headed households were:**

9

- **Least** likely to **increase** their landholding size
- **Most** likely to **reduce** their landholding size
- **Most** likely to suffer a **greater than 50% decline** in landholding size

Household type	% HHs increased landholding size	% HHs decreased landholding size	% HHs with >50% decline in landholding size
No PA death	46% ↑	50% ↓	24%
Other PA death (not widow-headed)	41% ↑	53% ↓	24%
Male head PA death (widow-headed)	26% ↑	67% ↓	30%

- No change or increase in landholding size for 1/3 of widow-headed HHs → loss of land far from universal

## Econometric results

10

### □ Widow characteristics:

- **Age of widow:** To some extent, older widows are protected against loss of land compared to younger widows
  - 50-year old widow: -37%
  - 36-year old widow: -45%
- **Widows related to village chief/headman** experience less severe decline in landholding size
  - Related: -14%
  - Not related: -60%
  - Deceased husband's being related to headman has no stat. sig. impact.
- **Level of education of widow:** Not stat. sig.

## Econometric results (cont.)

11

### □ Initial HH & district characteristics:

- **Wealth status of HH:** Initially relatively wealthy HHs lose proportionately more land than initially poorer HHs
  - 90<sup>th</sup> percentile of assets (relatively wealthy): -71%
  - 25<sup>th</sup> percentile of assets (relatively poor): -37%
- **# of children ages 6-14 in HH:** Widowed HHs with more children in this age group lose proportionately more land
  - 5 children: -55%
  - 2.3 children: -37%
- **# of PA males, females in HH:** Not stat. sig.
- **# of years since HH settled in community & district matrilineal** not stat. sig.

# Conclusion

12

- The view that widows and their dependents face greater livelihood risks in the era of HIV/AIDS is supported by these findings based on nationally-representative panel survey data from Zambia
- Efforts to safeguard widows' rights to land through land tenure innovations involving community authorities may be an important component of social protection, poverty alleviation, and HIV/AIDS mitigation strategies

# Thank you! Questions?

13



Nicole Mason, [masonn@msu.edu](mailto:masonn@msu.edu)