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WIDOWHOOD AND ASSET INHERITANCE IN SUB-SAHARAN AFRICA: EMPIRICAL EVIDENCE FROM 15 COUNTRIES

Amber Peterman
Poverty, Health and Nutrition Division
International Food Policy Research Institute (IFPRI)

CPRC/ODI ROUNDTABLE:
INHERITANCE AND THE INTERGENERATIONAL TRANSMISSION OF POVERTY

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Motivation: Lack of empirical evidence on widowhood and asset inheritance

Widows in sub-Saharan Africa (SSA) are perceived to face wide-spread discrimination in asset and property inheritance following the death of a spouse, leading to poverty for themselves and their children. However, there is little large-sample empirical research [using an economic development framework] directly supporting this claim.

Objectives

1. To provide empirical population-level evidence surrounding the magnitude of inheritance issues for widows in SSA (15 countries).

2. To provide empirical evidence, within a specific region [Kagera]in northwestern Tanzania, on dynamics and welfare effects of these inheritances.

3. Suggest future research directions and promising policies and programs to ameliorate inheritance inequities among women and widows in particular in SSA.

What we know: Widows and asset inheritance

Large-scale surveys related to prime-age adult mortality:

- Kenya: Panel from 1997 - 2000 of approximately 1,400 rural households finds that the death of a prime-age adult male results in the reduction of farm assets and small livestock, while the death of a prime-age adult female results in the reduction of only small livestock. (Yamano and Jayne 2004).

- Mozambique: Panel from 2002 – 2005 of 4,058 households finds that there are significant reductions in total landholding both for deaths of adult females and males (19 percent and 20 respectively), however, large differences by gender are found for changes in livestock holdings in households experiencing male deaths (34 percent reduction) while none were found for households experiencing female deaths (Mather and Donovan 2008).

- Zambia: Population-level panel data from 2001 - 2004 of over 5,000 households finds the number of widow-headed households rose from 9.4 to 12.3 percent of the sample over the panel period and that on average these households controlled 35 percent less land than before their husband's death (Chapoto, Jayne, and Mason 2010).

What we know: Widows and asset inheritance, continued.

Technical reports focused on HIV, land rights and policy:

- Namibia: Among 282 households who had experienced the death of a household member between 1996 to 2001, 52 percent reported losing cattle, 38 percent report losing farm equipment and 31 percent report losing small stock (AIMS 2003).

- Uganda: Among 100 households, 39 percent of households who experienced the death of a head reported reduction in productive land (NAADS 2003).

- Uganda (Luwero and Tororo): In an evaluation of support services for children affected by AIDS, approximately 29 percent of 204 widows surveyed had had property taken away from them when their husbands died (Gilborn et al. 2001).

- Uganda (Mukono): Of 115 widows surveyed between 2005 and 2007, 41 percent (47 widows) have experienced property grabbing, and this percentage increases to 51 percent (59 widows) including attempts/threats of property grabbing (IJM 2008).

Objective 1: Levels of asset inheritance by widows in SSA

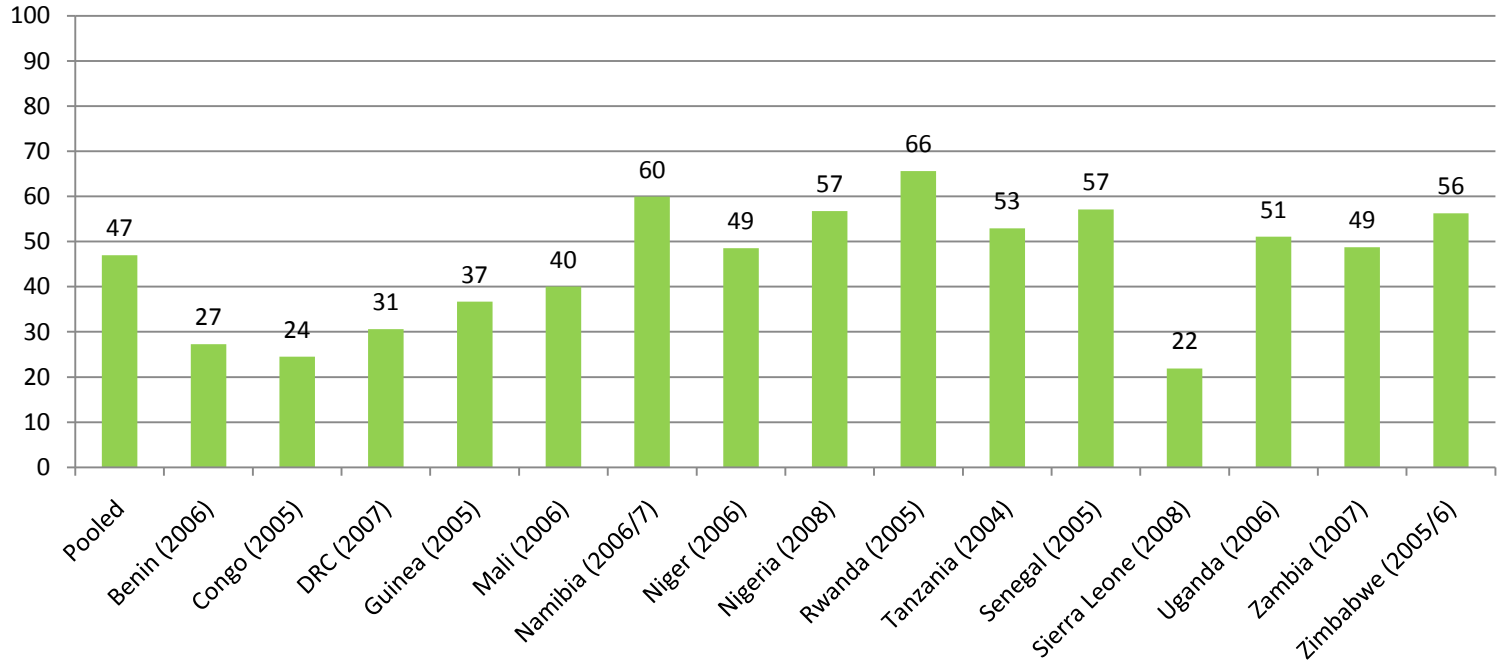
Data and Measures: Nationally representative data from 15 Demographic and Health Surveys among women ages 15 – 49: Benin (2006), Congo/Brazzeville (2005), Democratic Republic of Congo (2007), Guinea (2005), Mali (2006), Namibia (2006/7), Niger (2006), Nigeria (2008), Rwanda (2005), Senegal (2005), Sierra Leone (2008), Tanzania (2004), Uganda (2006), Zambia (2007) and Zimbabwe (2005/6).

- Inherited any assets: *"Did you receive any of your late husband's assets or valuables?"* Response categories are Yes/No.
- Inherited the majority of assets: *"To whom did most of your late husband's property go?"* Response categories are: 1) widow or widow's children, 2) other wife (i.e. co-wife in polygamous union), 3) spouse's children or family, 4) other relative or person and 5) spouse had no property.

Methods: Descriptive and bivariate associations with three sets of background factors:

1. Cultural and demographic factors (age groups, ethnicity, Muslim religion, any children, total fertility rate and polygamous union);
2. Economic factors (education levels and wealth quintiles);
3. Locational factors (region of residence and urbanicity).

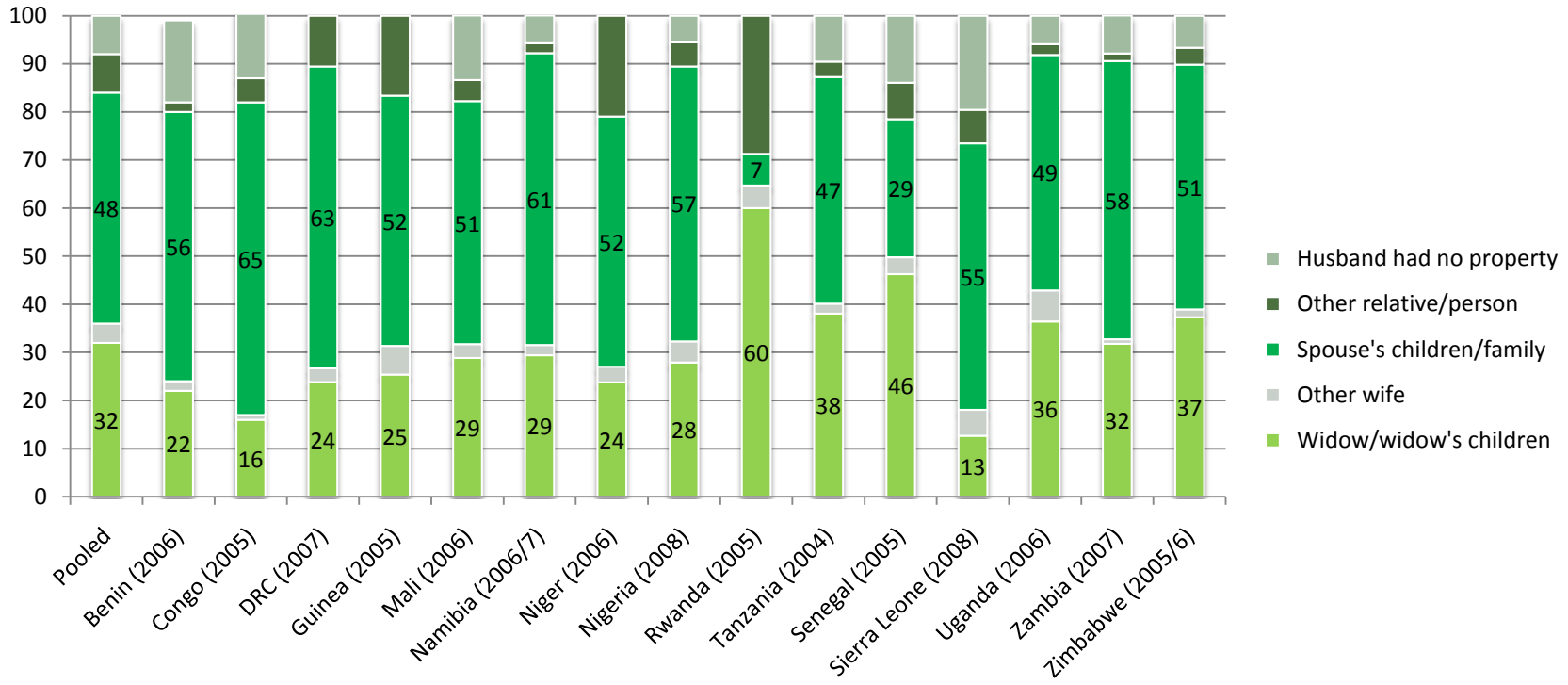
Objective 1: Results, Do widows report inheriting any assets?



	Pooled	Benin	Congo	DRC	Guinea	Mali	Namibia	Niger	Nigeria	Rwanda	Tanz	Senegal	SL	Uganda	Zambia	Zim
Ever widowed (% full sample)	5.03	4.31	3.33	3.98	7.29	4.73	3.22	4.12	3.88	7.19	4.30	4.13	7.91	6.36	7.12	9.06
Sample size ever widowed	8725	727	226	412	555	637	343	370	1283	779	426	611	563	546	484	763

Source: Cross country DHS, mean values are weighted using nationally-representative weights among widows ages 15 to 49.

Objective 1: Results, Who inherits the majority of assets?



Source: Cross country DHS, mean values are weighted using nationally-representative weights among widows ages 15 to 49.

Objective 1: Results, bivariate associations with 'any inheritance'

A. Cultural and demographic	Pooled sample	Benin (2006)	Congo (2005)	DRC (2007)	Guinea (2005)	Mali (2006)	Namibia (2006/7)	Niger (2006)	Nigeria (2008)	Rwanda (2005)	Tanz (2004)	Senegal (2005)	SL (2008)	Uganda (2006)	Zambia (2007)	Zim (2005/6)
Age groups (in years)																
15 to 29 (=1)	0.38	0.16	0.12	0.30	0.41	0.37	0.44	0.34	0.50	0.31	0.47	0.52	0.14	0.41	0.48	0.44
30 to 34 (=1)	0.44	0.23	0.30	0.23	0.30	0.30	0.70	0.52	0.53	0.50	0.58	0.59	0.19	0.50	0.51	0.53
35 to 39 (=1)	0.45	0.26	0.14	0.23	0.32	0.40	0.67	0.53	0.53	0.64	0.40	0.53	0.22	0.53	0.53	0.57
40 to 44 (=1)	0.51	0.26	0.25	0.41	0.44	0.37	0.53	0.62	0.57	0.77	0.55	0.54	0.29	0.60	0.52	0.59
45 and above (=1)	0.51	0.34	0.34	0.32	0.36	0.49	0.62	0.42	0.62	0..79	0.60	0.65	0.21	0.49	0.40	0.67
p-value	***0.000***	***0.022***	*0.079*	*0.292*	*0.250*	*0.076*	*0.071*	***0.022***	*0.078*	***0.000***	*0.105*	*0.400*	*0.235*	*0.199*	*0.396*	***0.003***
Muslim religion (=1)	0.46	0.27	0.00	0.02	0.41	0.42	0.00	0.49	0.66	0.61	0.55	0.58	0.20	0.53	0.00	0.43
p-value	*0.121*	*0.996*	***0.000***	***0.000***	***0.000***	***0.001***	--	*0.509*	***0.000***	*0.711*	*0.681*	*0.446*	*0.130*	*0.841*	***0.000***	*0.621*
Ethnicity (varies, p-value)	--	***0.006***	*0.083*	***0.048***	***0.001***	***0.040***	--	*0.936*	***0.000***	--	--	*0.310*	***0.010***	--	*0.068*	--
Any children (=1)	0.48	0.28	0.25	0.30	0.37	0.42	0.60	0.50	0.57	0.67	0.53	0.59	0.21	0.53	0.49	0.57
p-value	***0.000***	*0.100*	*0.915*	*0.638*	*0.624*	*0.079*	*0.713*	*0.074*	*0.069*	***0.000***	*0.924*	***0.035***	*0.296*	***0.004***	*0.950*	*0.132*
Total fertility rate (p-value)	***0.001***	*0.072*	*0.543*	*0.631*	*0.444*	*0.763*	*0.224*	*0.675*	*0.065*	***0.000***	*0.748*	*0.596*	*0.571*	***0.007***	*0.384*	*0.533*
Polygamous union (=1)	0.40	0.20	0.32	0.27	0.36	0.36	0.12	0.64	0.51	0.53	0.45	0.58	0.16	0.42	0.30	0.40
p-value	***0.000***	***0.000***	*0.419*	*0.616*	*0.873*	*0.182*	***0.000***	***0.000***	***0.014***	***0.016***	*0.138*	*0.749*	***0.009***	***0.044***	***0.007***	*0.078*
B. Economic																
Education levels																
No schooling (=1)	0.43	0.27	0.28	0.34	0.36	0.39	0.39	0.48	0.60	0.69	0.54	0.56	0.21	0.46	0.47	0.38
Primary (=1)	0.50	0.23	0.29	0.28	0.41	0.39	0.60	0.44	0.52	0.63	0.52	0.60	0.20	0.54	0.44	0.54
Secondary or above (=1)	0.54	0.37	0.21	0.32	0.46	0.58	0.67	0.80	0.58	0.70	0.54	0.68	0.29	0.55	0.63	0.62
p-value	***0.000***	*0.285*	*0.596*	*0.702*	*0.603*	*0.177*	***0.005***	***0.016***	*0.087*	*0.193*	*0.979*	*0.656*	*0.498*	*0.282*	***0.004***	***0.003***
Wealth quintiles																
First quintile (=1)	0.43	0.27	0.20	0.40	0.32	0.23	0.47	0.47	0.58	0.70	0.50	0.52	0.21	0.44	0.44	0.43
Second quintile (=1)	0.45	0.34	0.21	0.18	0.35	0.37	0.69	0.40	0.58	0.64	0.50	0.50	0.24	0.55	0.34	0.44
Third quintile (=1)	0.45	0.29	0.30	0.19	0.32	0.39	0.53	0.55	0.52	0.64	0.57	0.62	0.16	0.50	0.44	0.46
Fourth quintile (=1)	0.49	0.20	0.28	0.39	0.41	0.50	0.72	0.50	0.55	0.63	0.61	0.62	0.21	0.42	0.54	0.63
Fifth quintile (=1)	0.55	0.24	0.25	0.34	0.46	0.50	0.76	0.52	0.66	0.66	0.44	0.57	0.28	0.71	0.61	0.78
p-value	***0.000***	*0.115*	*0.844*	***0.013***	*0.255*	***0.000***	***0.006***	*0.644*	*0.134*	*0.675*	*0.409*	*0.258*	*0.493*	***0.002***	***0.004***	***0.000***
C. Locational																
Urbanicity (=1)	0.50	0.23	0.25	0.35	0.45	0.51	0.66	0.48	0.59	0.63	0.50	0.60	0.24	0.51	0.56	0.73
p-value	***0.001***	*0.067*	*0.827*	*0.295*	***0.035***	***0.018***	*0.186*	*0.908*	*0.363*	*0.428*	*0.521*	*0.340*	*0.457*	*0.974*	***0.003***	***0.000***
Region (varies, p-value)	--	***0.003***	*0.586*	***0.007***	***0.000***	***0.004***	***0.015***	*0.140*	***0.000***	*0.077*	*0.818*	***0.020***	***0.010***	***0.000***	***0.044***	***0.000***

Objective 2: Welfare effects of inheritances in Kagera

Data and Measures: Round 1 (1991) and Round 5 (2004) of the Kagera Health and Development Survey , a longitudinal survey of approximately 900 households in 51 communities of the Kagera region in northwestern Tanzania. Collected to study the effects of prime-age adult mortality on household welfare by the World Bank and collaborating institutions.

- Any inheritance: a) *"Was [NAME]'s death associated with any inheritances?"*

  b)*"In the past 10 years were there any inheritances received by anyone in the household?,"*

- Value of inheritance: *"What was the total value of the inheritance received by you or any other member of your household?"* asked for cash, in-kind and land.

Methods: Multivariate individual-level fixed effects regression modeling the change in inheritance on change in 1) per capita household consumption, 2) value of household asset stocks among households with women ages ≥ 15 in the baseline.

$$\Delta \textbf{\textit{HH Welfare Y}}_{j,1991\text{-}2004} = \beta_0 + \beta_1 * \Delta \textbf{\textit{HH Inheritance}}_{j1991\text{-}2004} + \beta_2 * \Delta \textbf{\textit{Widow}}_{i\ ,1991\text{-}2004} + \beta_3 * \Delta \boldsymbol{X}_{i\ ,1991\text{-}2004} + \beta_4 * \Delta \boldsymbol{X}_{j,\ 1991\text{-}2004} + \Delta \varepsilon_{i\ 1991\text{-}2004}$$

Kagera Region

- Population ~2 million, primarily rural (Uganda north, Rwanda and Burundi west, Lake Victoria east).
- Hub for long-range overland transport, affected by influx of refugees from Rwanda and Burundi conflicts in the early 1990s.
- Largely agricultural (banana, coffee, maize, sorghum and tobacco).
- Patralinal clan system (Haya, and Nyambo tribes in the north and the Subi, Sukuma, Zinza and Hagaza in the south).
- Increases in women's property and inheritance rights due to the gender provisions in the Land Acts 1999.

Objective 2: Summary of regression results for the effect of inheritance on welfare status in Kagera (sample women age>=15 in 1991 survey)

	Log per capita consumption (ln tsh)			Log value of household asset stocks (ln tsh)		
	(A1) Cross-section	(A2) Cross-section with com-FE	(A3) Panel with ind-FE	(B1) Cross-section	(B2) Cross-section with com-FE	(B3) Panel with ind-FE
	(2004)	(2004)	(1991-2004)	(2004)	(2004)	(1991-2004)
Log of inheritance value (ln tsh)	0.0266	0.0253	0.0461	0.140	0.137	0.0955
	(0.0130)**	(0.0113)**	(0.0179)***	(0.0369)***	(0.0402)***	(0.0544)*
Widow (=1)	-0.154	-0.186	-0.0674	-0.744	-0.688	-0.835
	(0.0453)***	(0.0445)***	(0.0642)	(0.142)***	(0.126)***	(0.174)***
Sample size (N)	946	946	1859	946	946	1859
R-squared	0.424	0.397	0.112	0.315	0.285	0.213

Note: OLS regressions, coefficients reported with robust standard errors in ( )'s. *** p<0.01, ** p<0.05, * p<0.1
Also included but not reported are seasonal indicators found in Table A2. All values in Tsh are in 1,000's of Tanzanian shillings and deflated to baseline (1991) nominal values using the methodology described in section IIIc and footnote 14.

Objective 2: Summary of regression results for the effect of inheritance on welfare status in Kagera by widowhood status (sample women age>=15 in 1991 survey)

Panel A: Log per capita consumption (ln tsh)

	Cross-section		Cross-section with com-FE		Panel with ind-FE	
	(A1)	(A2)	(B1)	(B2)	(C1)	(C2)
	Ever widowed	Never widowed	Ever widowed	Never widowed	Ever widowed	Never widowed
	(2004)	(2004)	(2004)	(2004)	(1991-2004)	(1991-2004)
Log of inheritance value (ln tsh)	0.0485	0.0148	0.0408	0.0167	0.0751	0.0301
	(0.0218)**	(0.015)	(0.0216)*	(0.016)	(0.0253)***	(0.023)
Sample size (N)	295	651	295	651	573	1286
R-squared	0.375	0.458	0.371	0.455	0.079	0.138

Panel B: Log value of household asset stocks (ln tsh)

Log of inheritance value (ln tsh)	0.174	0.114	0.173	0.119	0.132	0.0652
	(0.0689)**	(0.0406)***	(0.0671)***	(0.0509)**	(0.085)	(0.070)
Sample size (N)	295	651	295	651	573	1286
R-squared	0.308	0.332	0.307	0.331	0.177	0.252

Summary of Findings

- Across the 15 DHS countries, less than half of widows report inheriting any assets (**47 percent**, ranging from 22 percent in Sierra Leone to 66 percent in Rwanda).
- Report of inheriting the majority of assets is lower (**32 percent** ranging from 13 percent in Sierra Leone to 60 percent in Rwanda). In *all* countries except Rwanda and Senegal, the spouses' family is reported to inherit the majority of assets.
- Bivariate analysis across the 15 countries generally supports the hypotheses that older, wealthier, more educated women have a better chance of protecting assets from dispossession.
- Value of asset inheritances is significant in determining changes in household consumption and asset stocks across models in data from the Kagera region.
- The relationship for inheritances and welfare are particularly strong for land inheritance and within a sub-sample of households in which widows reside.

Policy and research implications

More empirical evidence is needed…

- The DHS should be expanded to ask asset inheritance questions to women who have experienced divorce and separation, to older women and to solicit information on timing of marriage or death of spouse. Questions should focus on specific disaggregation of assets into types and be included in countries in Northern Africa, Asia and South America.
- Impact evaluation of innovative programs should be undertaken to assess the most effective and efficient ways of protecting women's property rights: Will writing in Zambia, Land titling in Ethiopia, Grass roots paralegals in Uganda.
- Large scale empirical research on linkages between widowhood and economic welfare, welfare of children, orphans and how divorced/separated women differ from widows is needed—and how these dynamics are changing over time.

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Working draft, Comments welcome!

a.peterman@cgiar.org

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Table 4: Descriptive statistics on poverty measures, inheritance and marital status in Kagera (sample women age>=15 in 1991 survey)

	(A) Full sample	(B) Full sample	(C) Ever widowed women	(D) Never widowed women	(E) p-value (C) = (D)
Welfare measures	(1991)	(2004)	(2004)	(2004)	
Per capita consumption	164.52	210.69	202.50	214.40	*0.3554*
	[115.86]	[183.33]	[151.17]	[196.17]	
Value of household asset stocks	693.62	2289.16	3039.89	1948.96	*0.3146*
	[3758.29]	[15447.88]	[25825.46]	[6700.81]	
Inheritance measures					
Any inheritance (=1)	--	0.065	0.061	0.066	*0.7705*
Total value of inheritance	--	59.32	88.02	46.31	*0.4807*
	--	[842.11]	[993.36]	[764.28]	
Value of cash inheritance	--	4.08	2.79	4.66	*0.7923*
	--	[101.08]	[47.69]	[117.58]	
Value of in-kind inheritance	--	21.09	32.58	15.88	*0.5329*
	--	[381.20]	[481.76]	[325.89]	
Value of land inheritance	--	34.16	52.65	25.77	*0.3472*
	--	[407.24]	[537.86]	[331.72]	
Marital status					
Widow (=1)	0.151	0.290	0.929	0.000	--
Never married (=1)	0.279	0.043	0.000	0.390	--
Separated/divorced (=1)	0.088	0.109	0.020	0.149	--
Union (=1)	0.481	0.558	0.051	0.538	--
Sample size (N)	946	946	295	651	

Mean values reported with standard deviations where appropriate below in [ ]'s. All values are logged in analysis to account for skewed distributions and are reported as unlogged for presentation only.

Note: All poverty and inheritance measures calculated at the household level, reported in 1,000's of Tanzanian shillings and deflated to baseline (1991) nominal values using the methodology described in section IIIc and footnote 14.

Table A2: Descriptive statistics on control variables used in Kagera regression analysis (sample women age>=15 in 1991 survey)

	(A) Full sample	(B) Full sample	(C) Ever widowed women	(D) Never widowed women
Control variable	(1991)	(2004)	(2004)	(2004)
Age (in years)	33.76	46.30	60.58	39.83
	[16.43]	[16.89]	[16.31]	[12.66]
Education levels				
No schooling (omitted = 1)	0.29	0.32	0.51	0.23
Incomplete primary schooling (=1)	0.32	0.22	0.26	0.20
Complete primary schooling (=1)	0.36	0.41	0.19	0.51
Secondary or above schooling (=1)	0.04	0.05	0.04	0.06
Religious affiliation of household head				
Catholic religion (omitted =1)	0.57	0.58	0.56	0.58
Muslim (=1)	0.13	0.12	0.13	0.12
Christian or other religion (=1)	0.29	0.30	0.31	0.29
Tribe affiliation of household head				
Haya tribe (omitted =1)	0.60	0.61	0.70	0.57
Nyambo tribe (=1)	0.13	0.12	0.09	0.13
Hangaza tribe (=1)	0.11	0.12	0.08	0.13
Other tribe (=1)	0.16	0.15	0.12	0.17
Season of interview				
Interviewed Masikara rain season (omitted =1)	0.18	0.56	0.64	0.52
Interviewed Vulani rain season (=1)	0.67	0.29	0.27	0.30
Interviewed Kiangazi season (=1)	0.15	0.15	0.09	0.18
Household size (members)	5.50	5.63	4.82	6.00
	[2.93]	[2.98]	[2.53]	[3.10]
Sample size (N)	946	946	295	651

Mean values reported with standard deviations where appropriate below in [ ]'s.