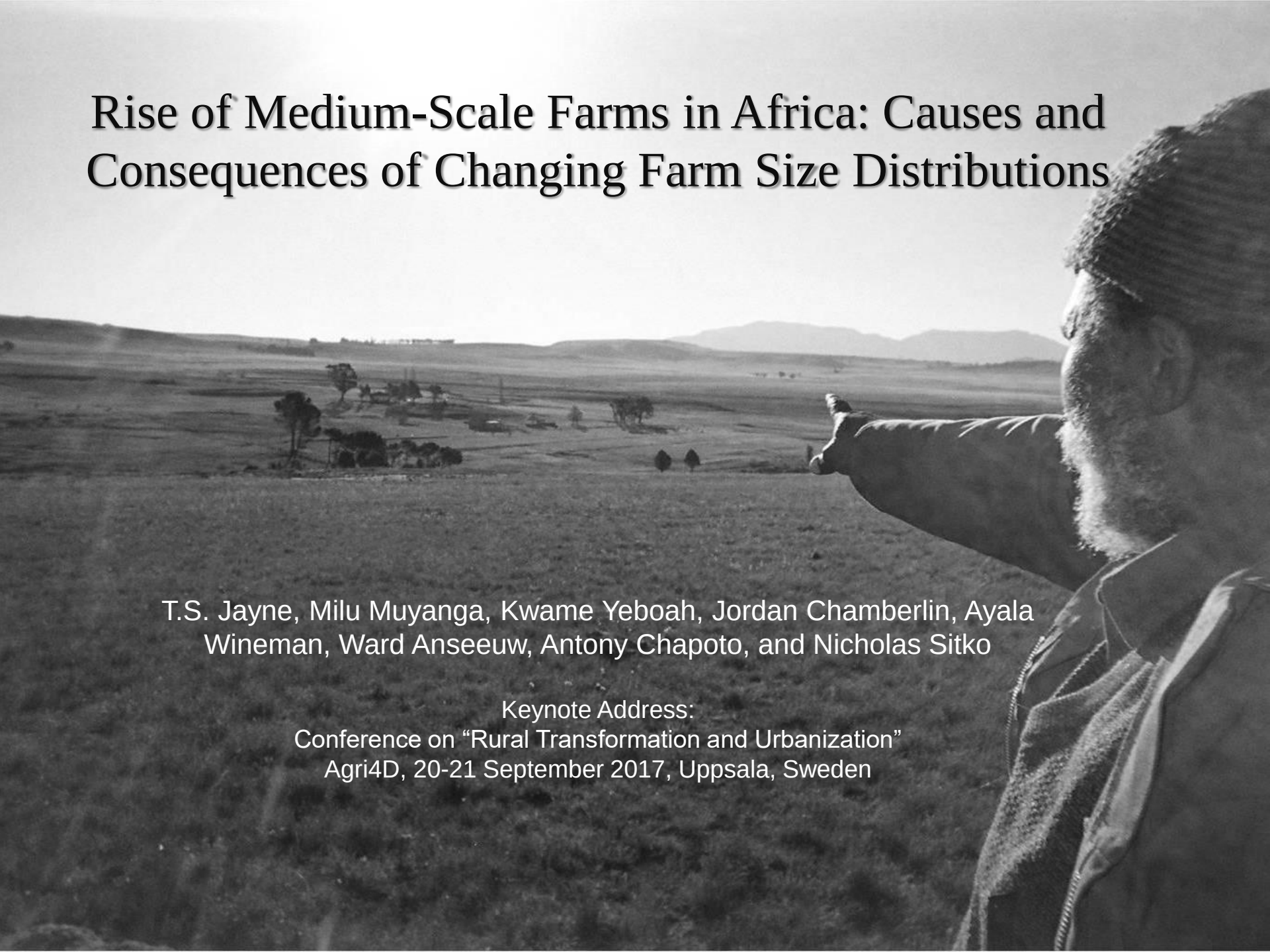
Rise of Medium-Scale Farms in Africa: Causes and Consequences of Changing Farm Size Distributions



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INNOVATION LAB FOR FOOD SECURITY POLICY

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Outline

1. Document how rapidly farm structure is changing
2. Causes
3. Consequences
4. Implications

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Changes in farm structure in Tanzania (2008-2012), LSMS/National Panel Surveys

Farm size	Number of farms (% of total)		% growth in number of farms between initial and latest year	% of total operated land on farms between 0-100 ha	
	2008	2012		2008	2012
0 – 5 ha	5,454,961 (92.8)	6,151,035 (91.4)	12.8	62.4	56.3
5 – 10 ha	300,511 (5.1)	406,947 (6.0)	35.4	15.9	18.0
10 – 20 ha	77,668 (1.3)	109,960 (1.6)	41.6	7.9	9.7
20 – 100 ha	45,700 (0.7)	64,588 (0.9)	41.3	13.8	16.0
Total	5,878,840 (100%)	6,732,530 (100%)	14.5	100.0	100.0

- 6.1%

+ 6.1%

Changes in farm structure in Ghana (1992-2013)

Ghana	Number of farms		% growth in number of farms	% of total cultivated area	
	1992	2013		1992	2013
0-2 ha	1,458,540	1,582,034	8.5	25.1	14.2
2-5 ha	578,890	998,651	72.5	35.6	31.3
5-10 ha	116,800	320,411	174.3	17.2	22.8
10-20 ha	38,690	117,722	204.3	11.0	16.1
20-100 ha	18,980	37,421	97.2	11.1	12.2
>100 ha	--	1,740	-	--	3.5
Total	**2,211,900**	**3,057,978**	**38.3**	**100**	**100**

51.1%

Source: Ghana GLSS Surveys, 1992, 2013, Jayne et al., 2016, using data from Ghana GLSS Surveys I and IV.

Changes in farm structure in Zambia (2001-2012)

Farm size category	Number of farms		% growth in number of farms	% of total cultivated area	
	2001	2012		2001	2012
0 – 2 ha	638,118	748,771	17.3	34.1	16.2
2 – 5 ha	159,039	418,544	163.2	45	31.7
5 – 10 ha	20,832	165,129	692.6	14.3	25.0
10 – 20 ha	2,352	53,454	2272.7	6.6	15.0
20 – 100 ha	--	13,839	na	--	12.1
Total	**820,341**	**1,399,737**		**100**	**100**

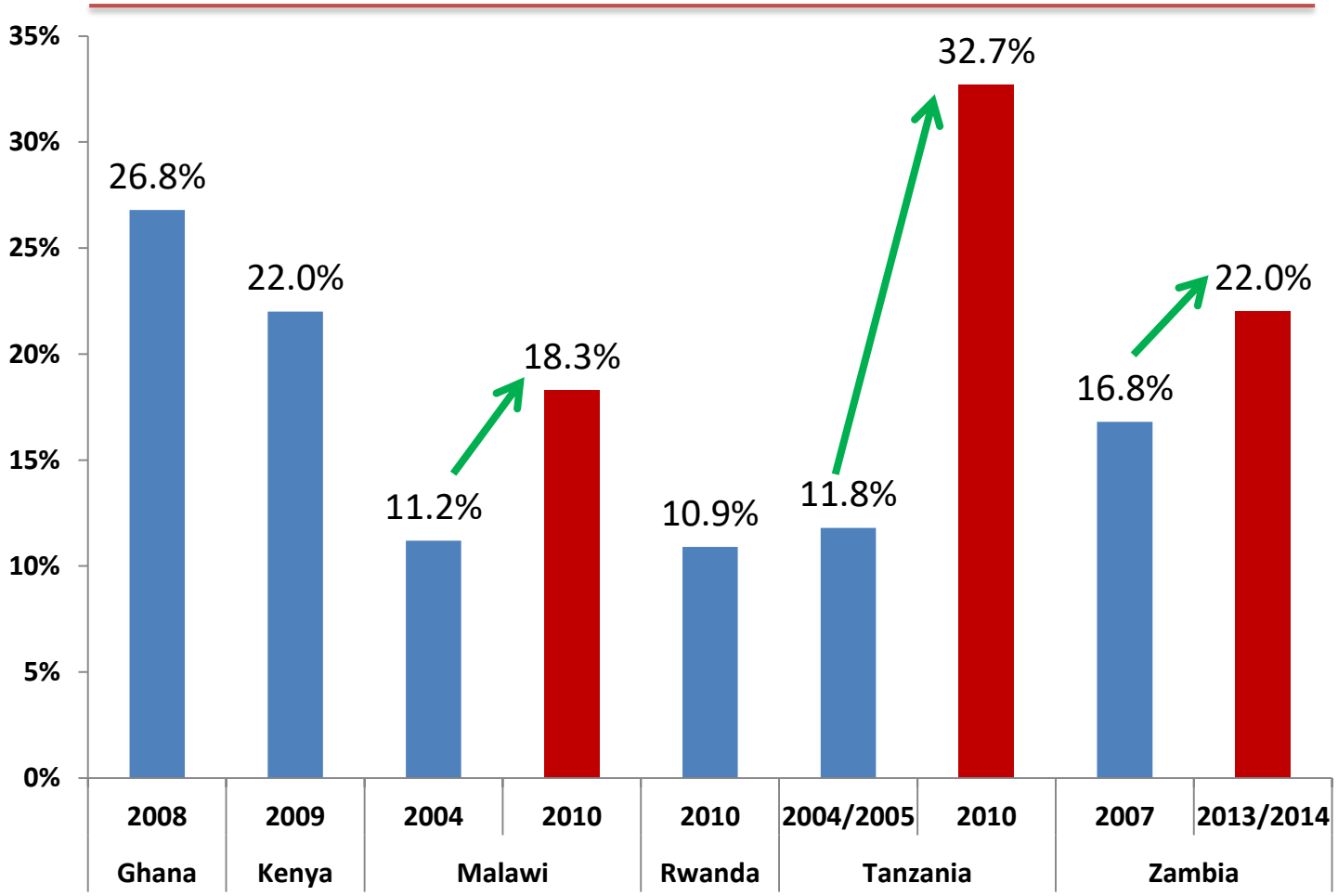
52.1%

Source: Zambia MAL Crop Forecast Surveys, 2001 and 2012

Changes in farm size distributions: Summary

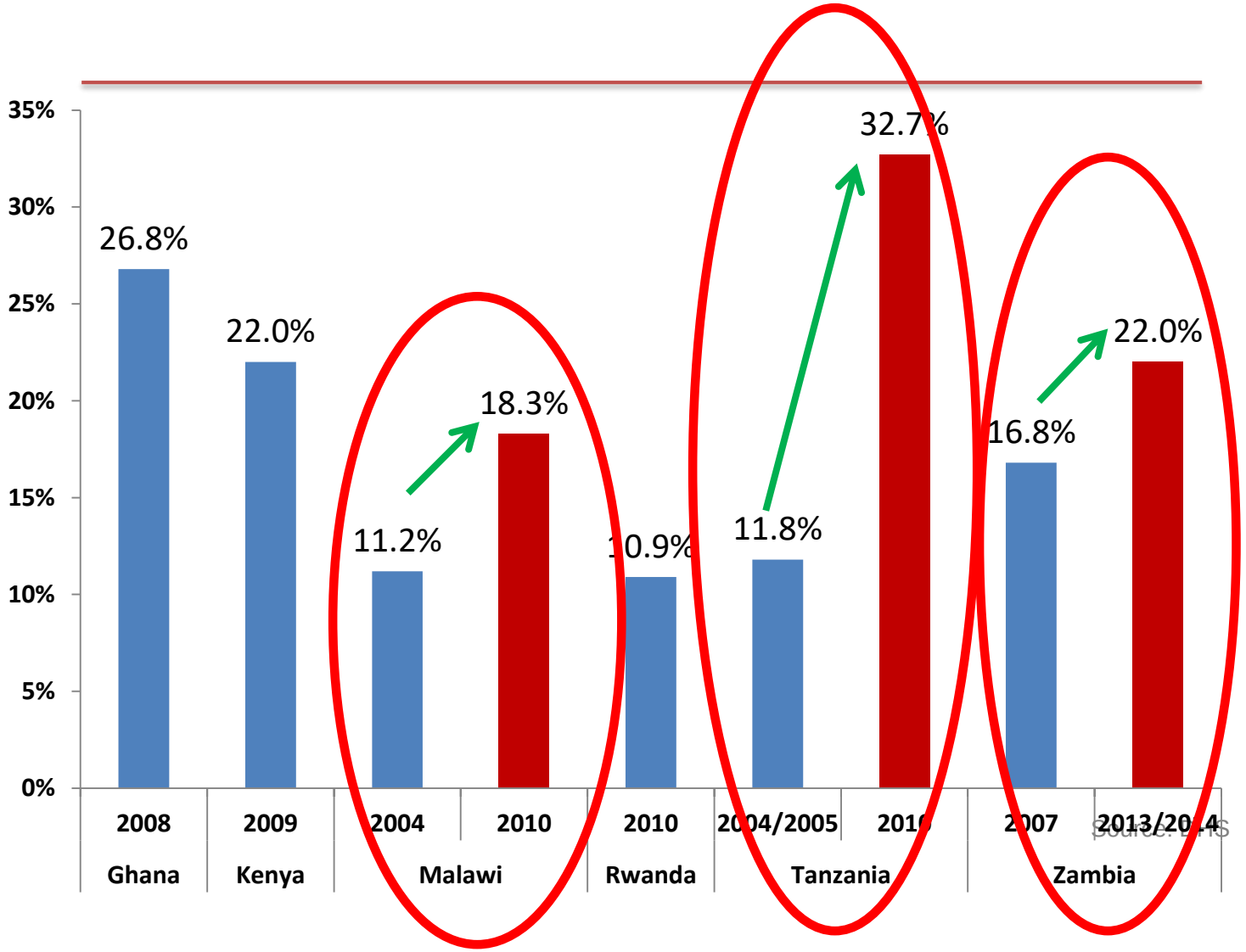
1. Number of small farms growing slowly
2. Number of medium-scale farms growing rapidly
3. Share of area under small farms declining
4. Share of area under medium-scale growing, and currently over 40% of farm holdings (> 25% of cultivated area)

% of National Landholdings held by Urban Households



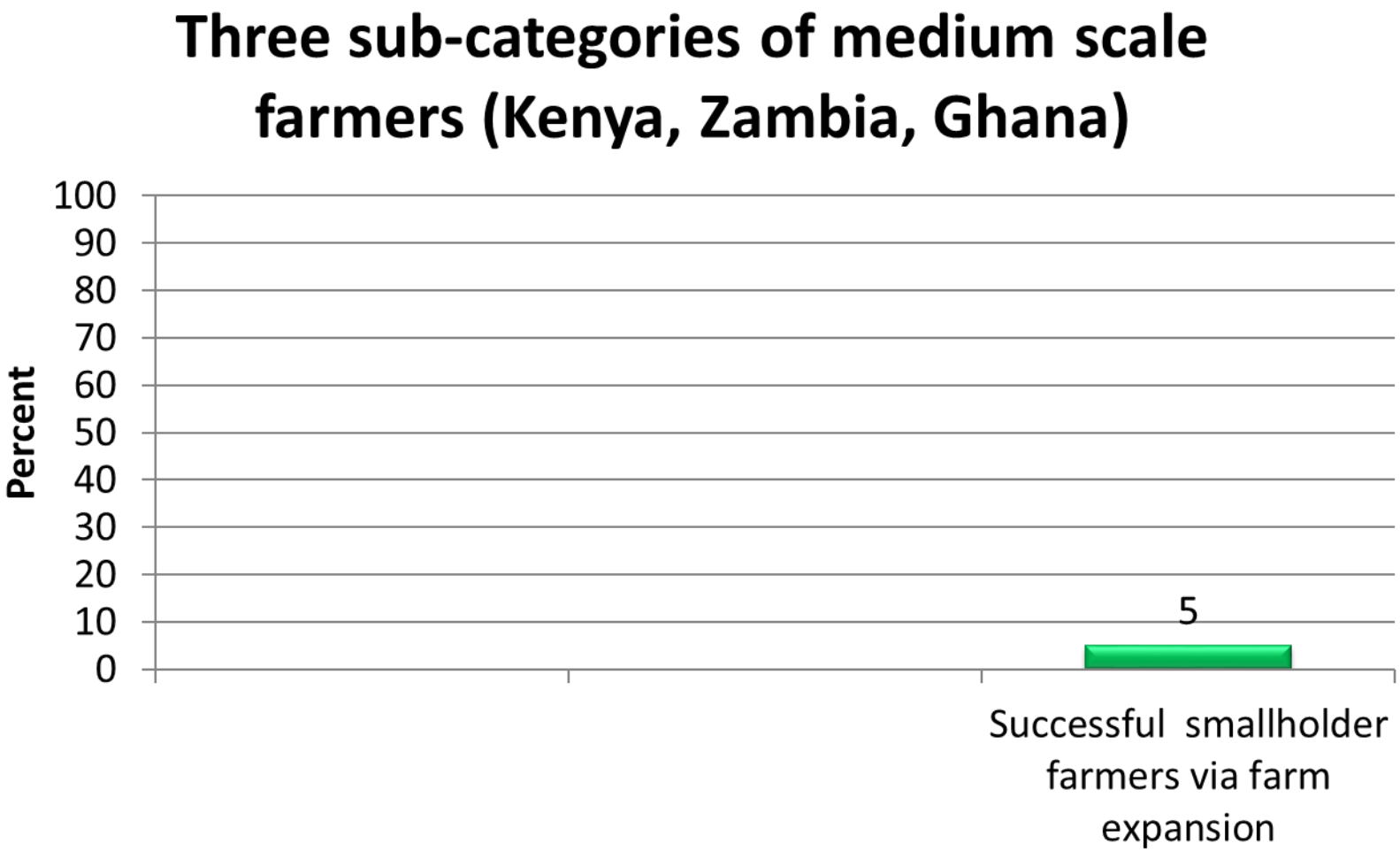
Source: Demographic and Health Surveys, various years between 2004-2014.

% of National Landholdings held by Urban Households



Characteristics of “emergent farmers”

Rise of the medium-scale farmers



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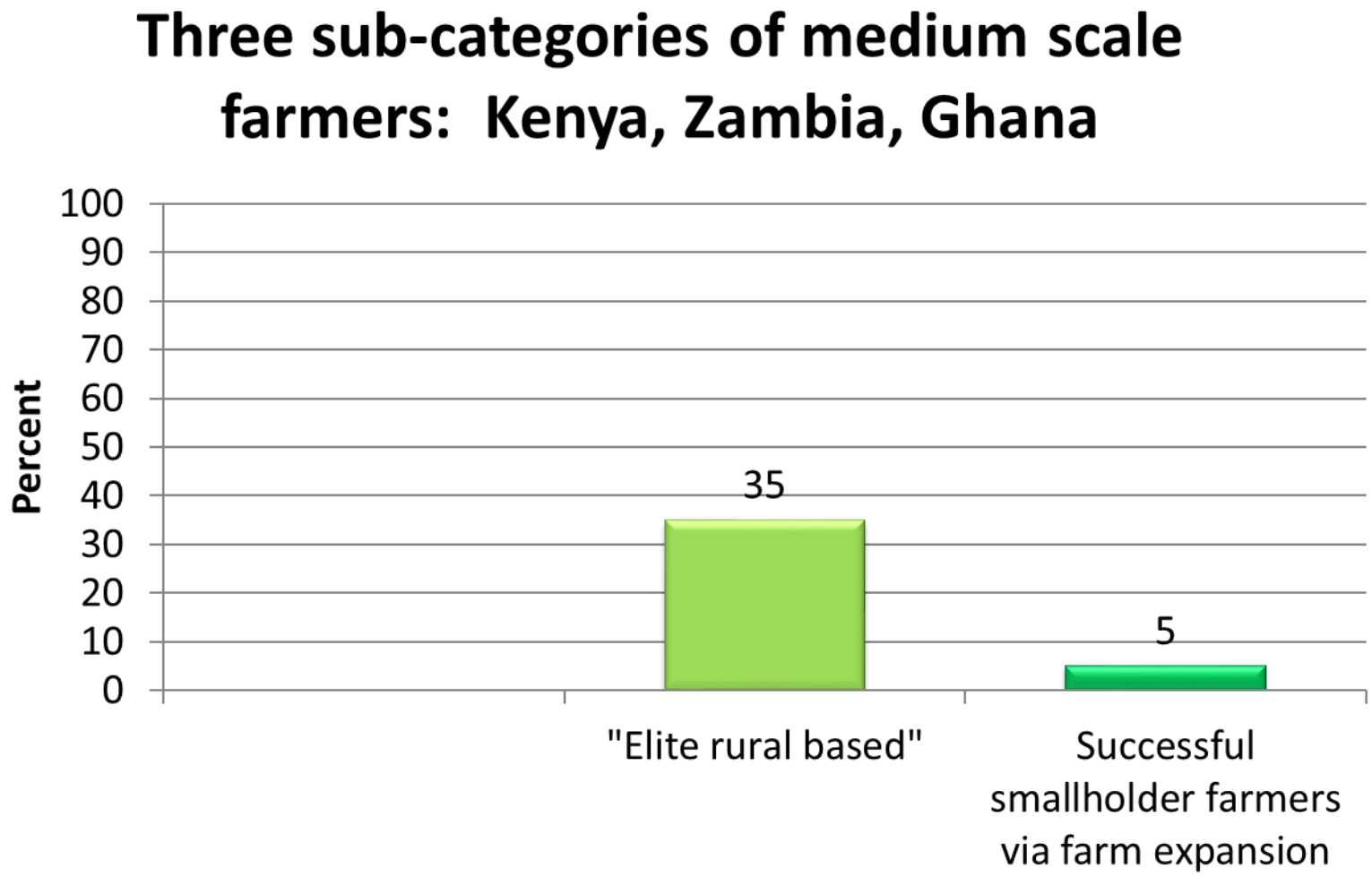
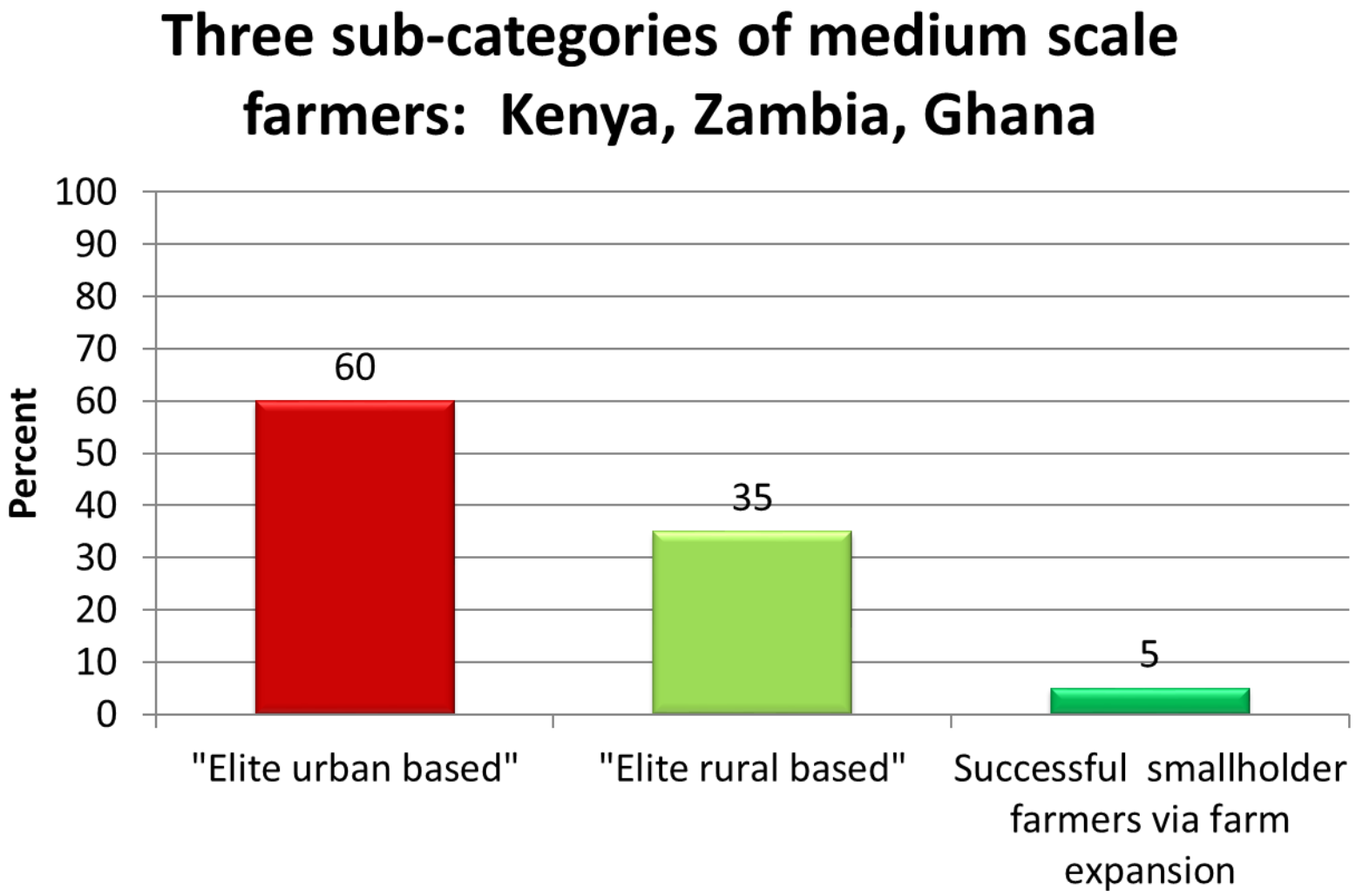


Rise of the medium-scale farmers



Type 1: Urban-based investor farmer

	Mode of entry to medium-scale farming status: acquire farm using non-farm income	
	Zambia	Kenya
	(n=164)	(n=180)
% of cases	58	60
% men	91.4	80
Year of birth	1960	1947
Years of education of head	11	12.7
Have held a job other than farmer (%)	100	83.3
Formerly /currently employed by the public sector (%)	59.6	56.7
Current landholding size (ha)	74.9	50.1
% of land currently under cultivation	24.7	46.6
Decade when land was acquired		
1969 or earlier	1.1	6
1970-79	5.1	18
1980-89	7.4	20
1990-99	23.8	32
2000 or later	63.4	25

Source: MSU, UP, and ReNAPRI Retrospective Life History Surveys, 2015

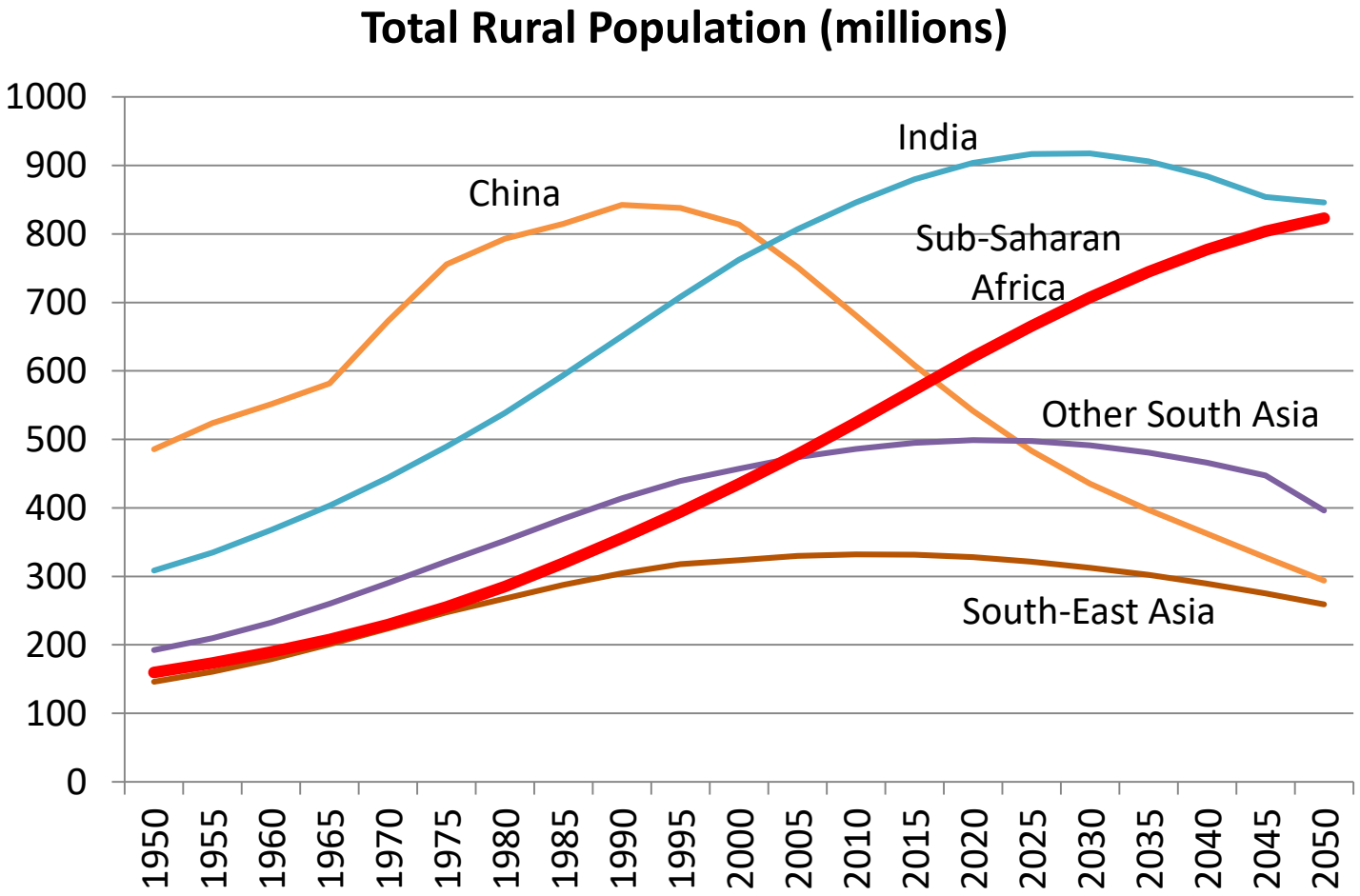
Outline

1. Document how rapidly farm structure is changing
2. **Causes of changing farm structure**
3. Consequences of changing farm structure
4. Implications for policy and strategy

Causes of changing farm size distributions

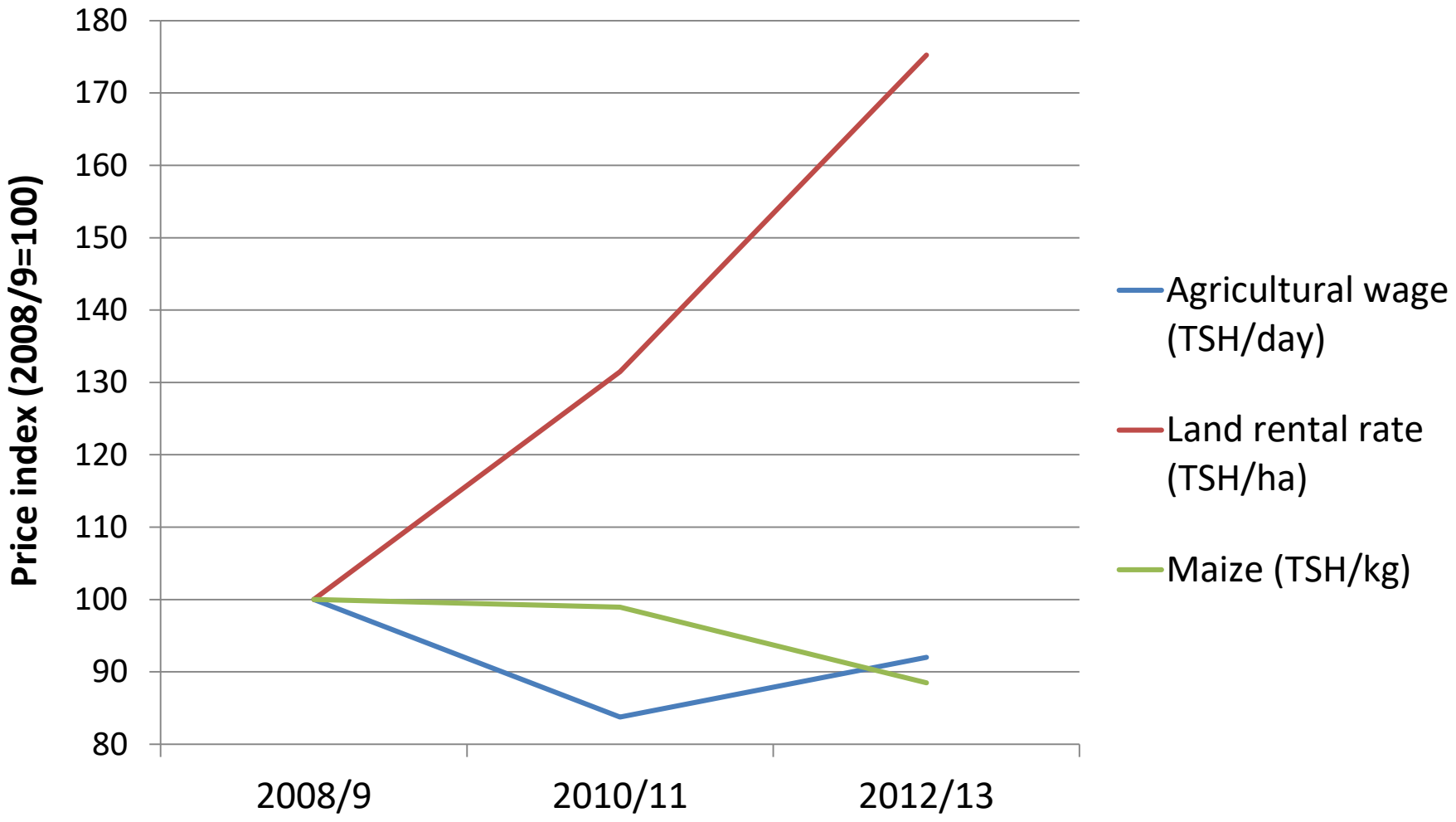
1. Rise in world food prices – heightened investor interest in farmland
2. Urban farmer capture of land policy / farm lobbies
3. Rapid population growth
   - Fragmentation/subdivision in areas of favorable mkt access
   - Land inheritance declining
   - rising land scarcity → land markets → rising land prices
   - Rising challenges of youth access to land → migration

Sub-Saharan Africa: only region of world where rural population continues to rise past 2050

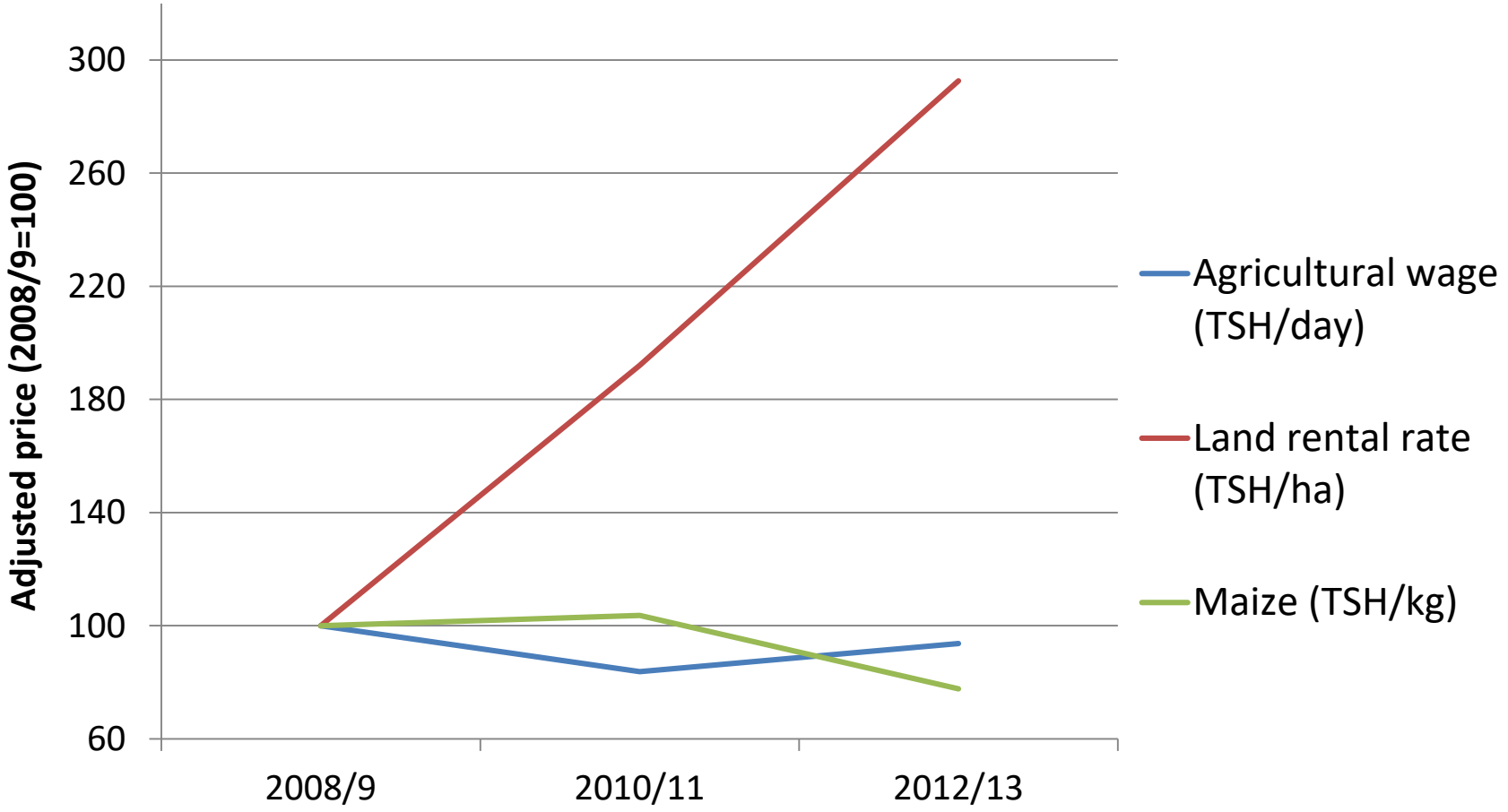


Source: UN 2013

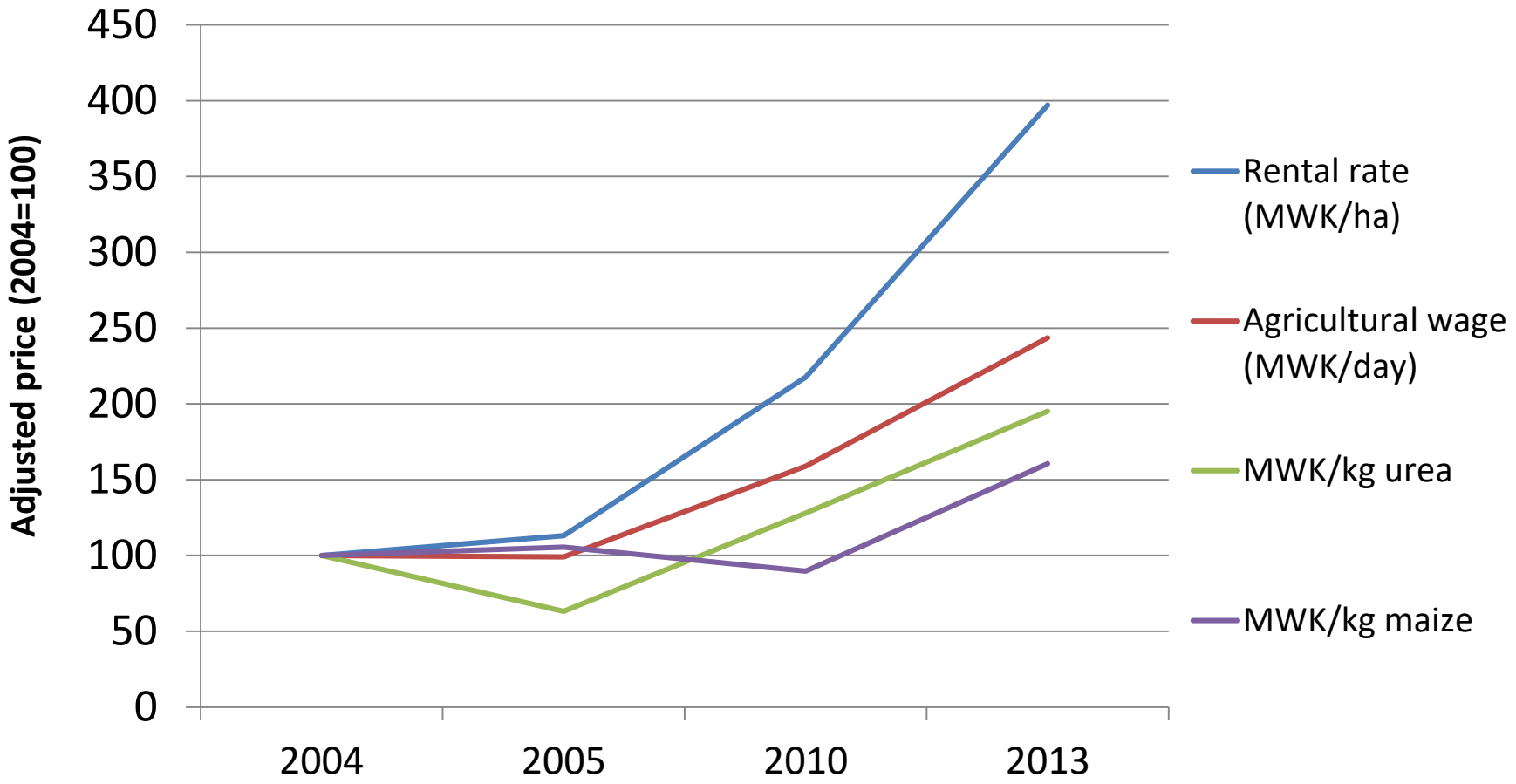
Output and factor price indices, northern Tanzania



Output and factor price indices, western Tanzania



Output and factor price indices, rural Malawi, 2004-2013



Sources: IHS for land and wages; FEWSNET for urea and maize

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Ghana	Number of farms		% growth in number of farms	% of total cultivated area	
	1992	2013		1992	2013
0-2 ha	1,458,540	1,725,024	18.3	25.1	12.5
2-5 ha	578,890	957,722	65.4	35.6	24.1
5-10 ha	116,800	256,620	119.7	17.2	14.6
10-20 ha	38,690	110,076	184.5	11.0	12.0
20-100 ha	18,980	46,143	143.1	11.1	11.7
>100 ha	--	6,958	388.6*	--	25.0
Total	**2,211,900**	**3,102,543**		**100**	**100**

Source: Ghana GLSS Surveys, 1992, 2013

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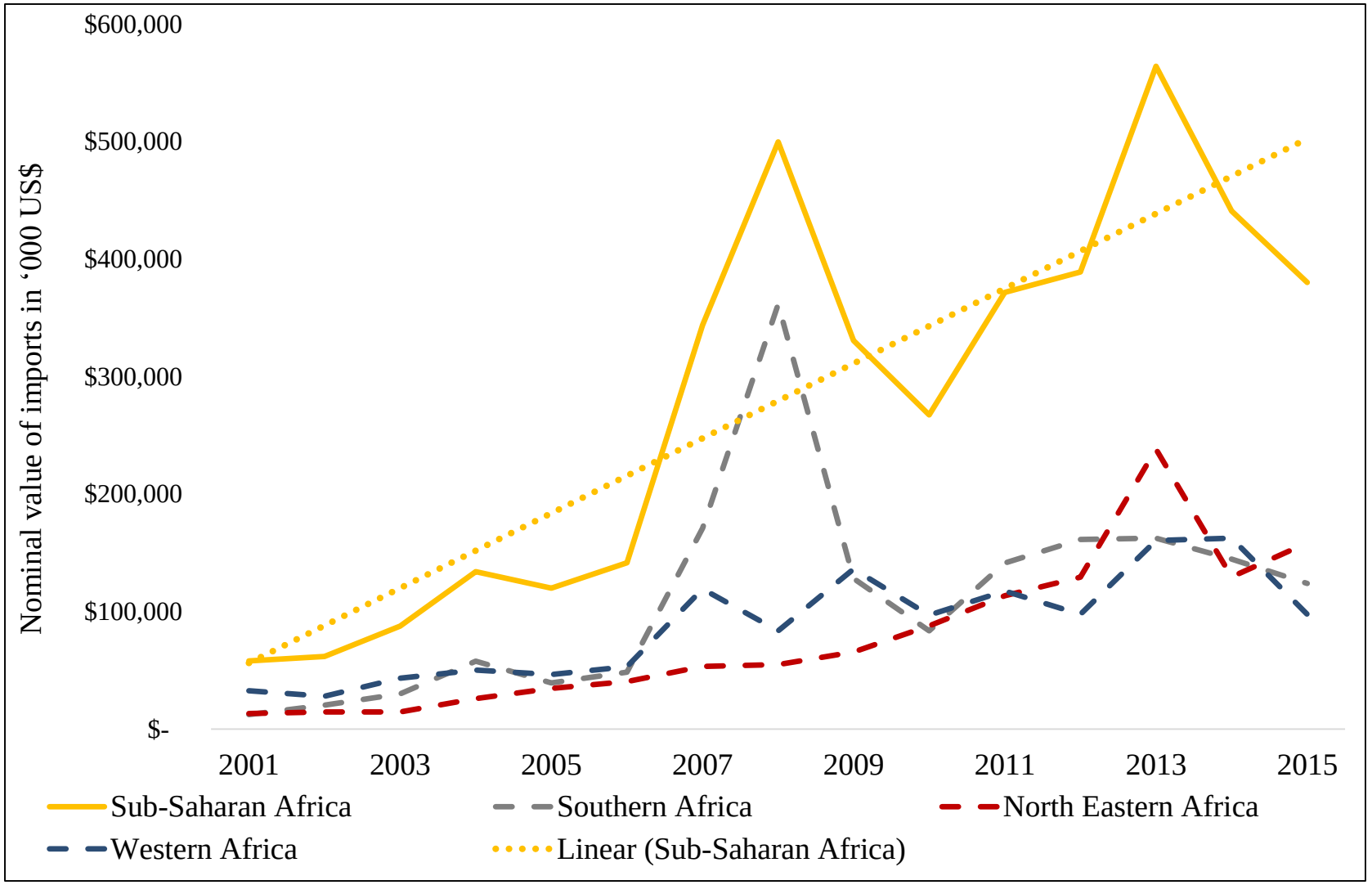
Consequences of changing farm size distributions

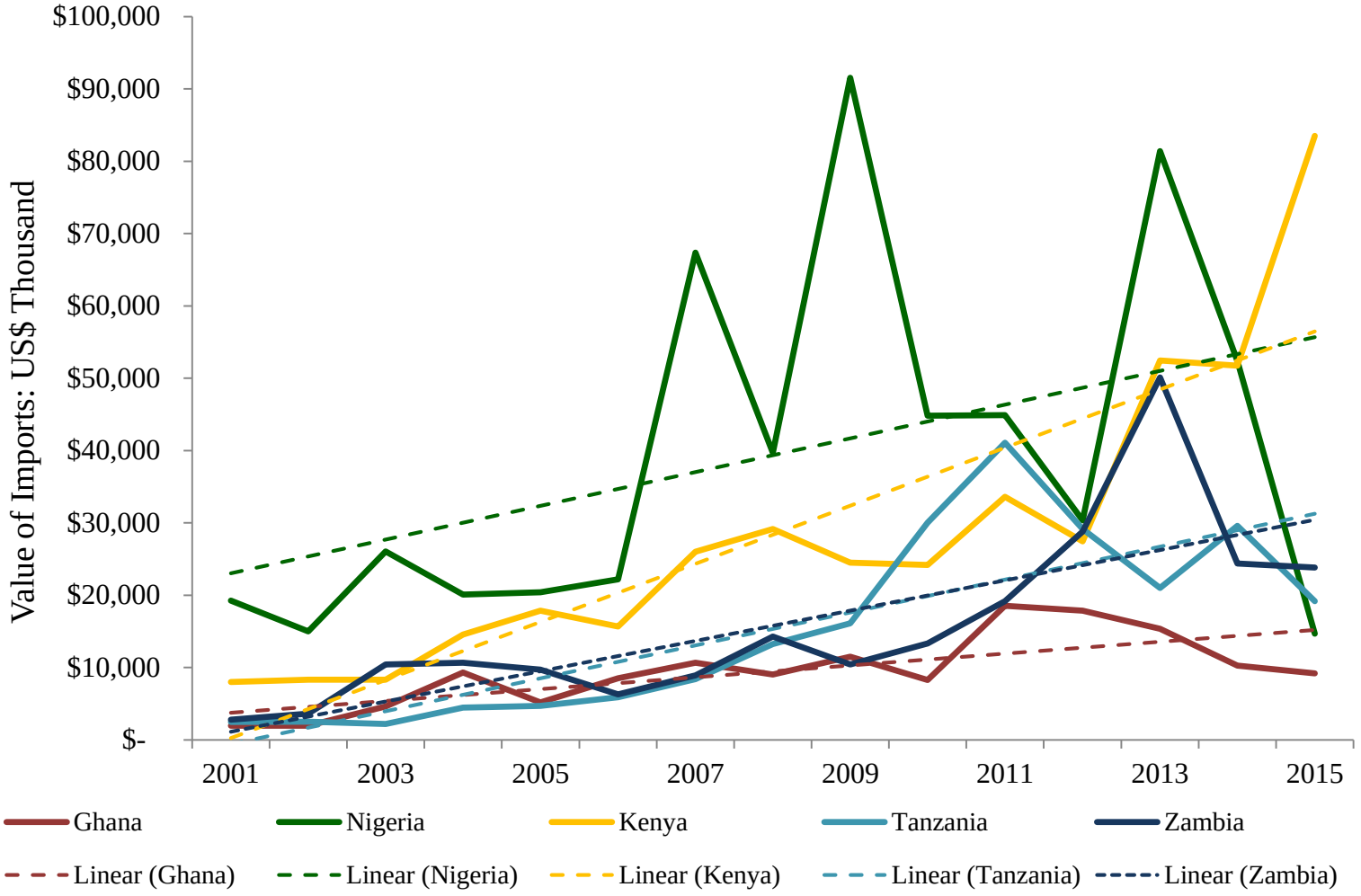
1. Rising use of mechanization
2. More capital using / labor-saving forms of agricultural production
3. Arable land less fully utilized, but better land mgt
4. Some displacement
5. Rising land prices → straining youth access to land
6. Multiplier effects of ag growth are changing

Nominal value of tractor imports to Sub-Saharan Africa (excluding South Africa), 2001-2015



Source: vanderWesthuisen, forthcoming

Nominal value of tractor imports in selective Sub-Saharan African countries (2001-2015)



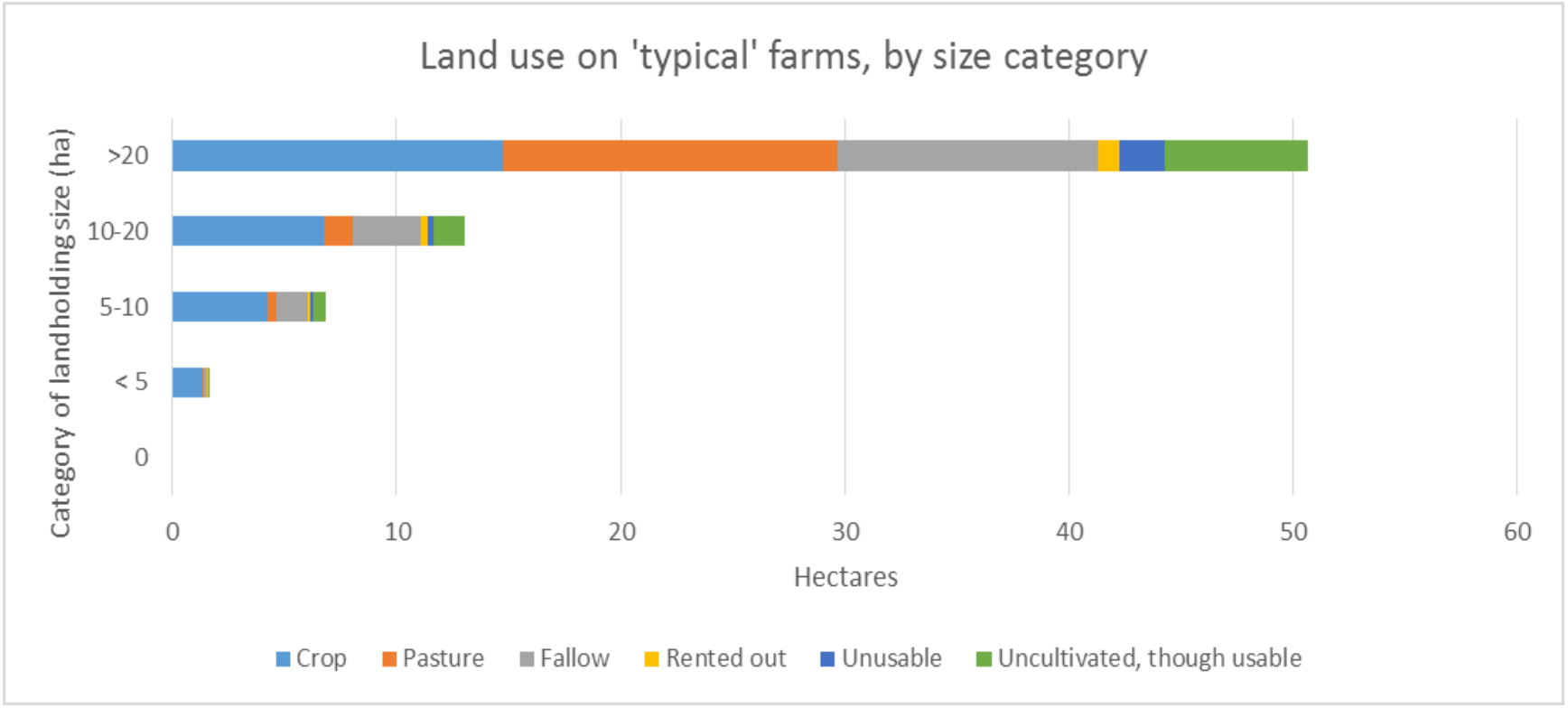
Source: vanderWesthuisen, forthcoming

GINI coefficients in farm landholding

	Period	Movement in Gini coefficient:
Ghana (cult. area) (GLSS)	1992 → 2013	0.54 → 0.70
Kenya (cult. area) (KIHBS)	1994 → 2006	0.51 → 0.55
Tanzania (landholdings) (LSMS)	2008 → 2012	0.63 → 0.69
Tanzania (area controlled) (ASCS)	2008	0.89
Zambia (landholding) (CFS)	2001 → 2012	0.42 → 0.49

Source: Jayne et al. 2014 (JIA)

Average land area allocated to each land use, by category of landholding size



Source: Agricultural Sample Census, 2008

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Summary of main findings:

1. Important changes in the distribution of farm sizes
   - Decline in share of farmland under 5 hectare farms
   - Rise of medium-scale farms
2. Rising inequality of farmland distribution
3. Growing land scarcity driven by middle/high income urban people seeking to acquire land – not just for land
   - speculation, housing/properties, farming
   - Rise of new towns converting formerly remote land into valued property
4. Results derived during a decade of very high food prices

Implications for policy

1. The "transition" issue
   - How to transform African economies from current situation to more diversified and productive economies
2. Agricultural productivity growth will be the cornerstone of any comprehensive youth livelihoods strategy:
   - Ag productivity growth influences
     - pace of labor force exit out of farming
     - Labor productivity in broader economy

Implications for policy (cont.)

3. Ag sector policies must anticipate and respond to
   - rising land prices, decline of inheritance, market as increasingly important mode of acquiring land
   - Resources needed for youth to succeed in farming (access to land, finance)
   - Distinguish between “trying to keep youth in agriculture” vs. “giving youth viable choices”

Major research issues to guide agricultural policy:

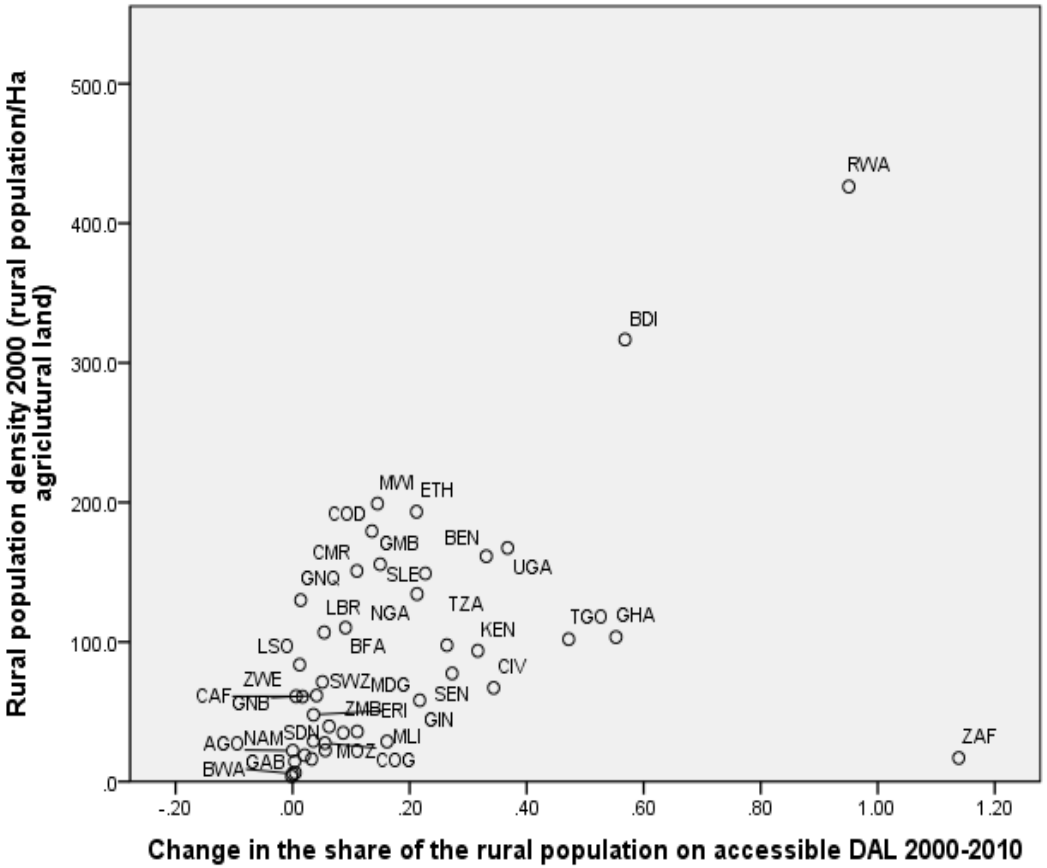
1. Productivity differences between small and medium-scale farms – limited evidence
   - but reasons to believe that capitalized and educated MS farms will be more productive
   - Main implications for pace of transformation may pertain more to general equilibrium effects on employment and wages in broader economy
2. Are there positive or negative 'spillover' effects?

Major challenges/research issues for land policies: How to effectively

1. Strengthen land use planning to identify surplus agricultural land that can be allocated to investors without displacing local people
2. Encourage access to unutilized land to those who can raise ag productivity
3. Provide stronger land rights for women: While many African countries have new laws recognizing gender equality, implementation is weak, especially given continued dominance of customary practices, which tend to discriminate against women

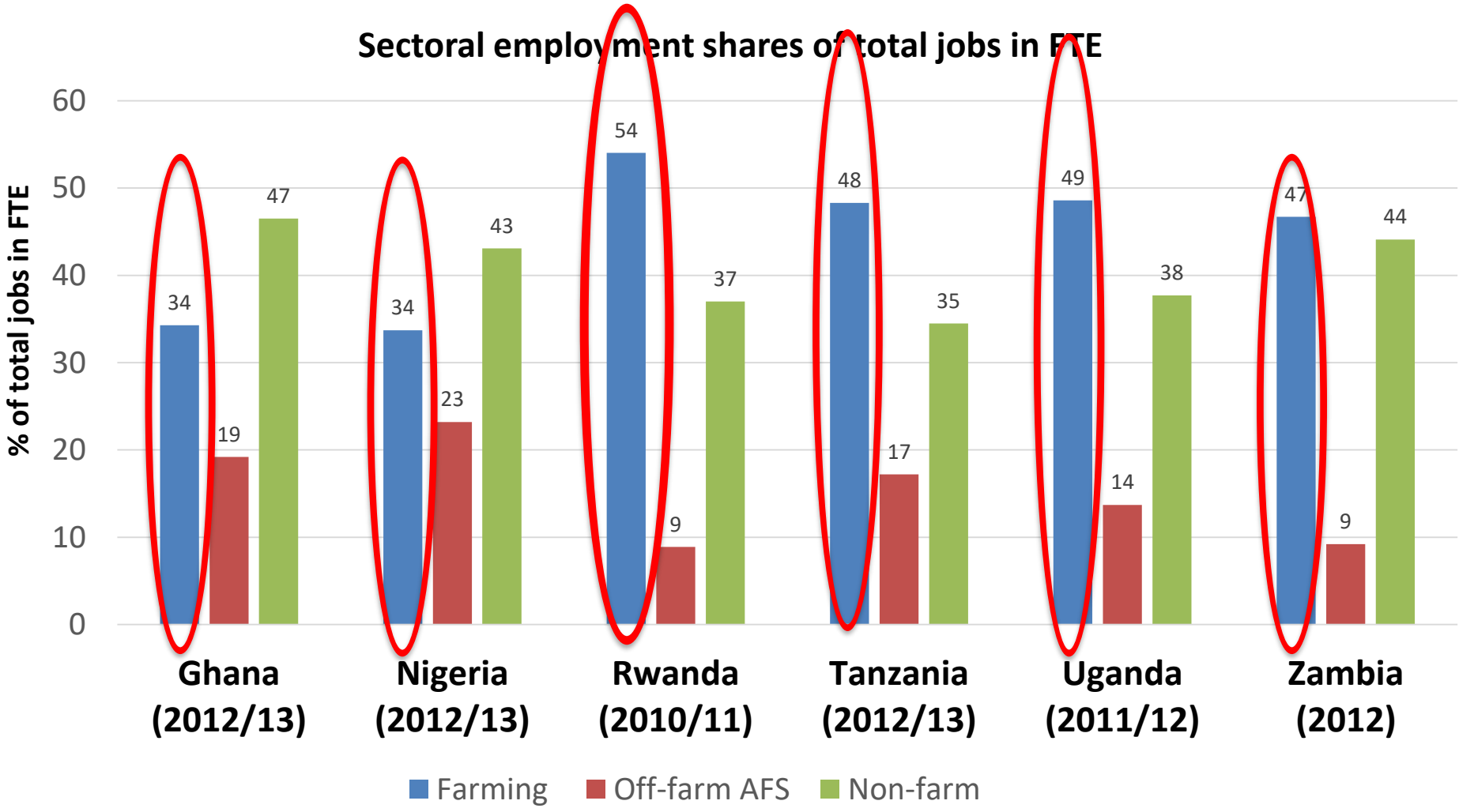
Thank You

Relationship between % of rural population on degrading agricultural land and pop density



- Roughly 28% of rural population in SSA live on degrading agricultural land.
- 43 million additional people living on DAL between 2000-2010

Farming remains largest single employer of workforce



Farming remains largest single employer of workforce