

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



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Outline

1. Evidence of changes in farm structure
2. Causes
3. Consequences
4. Comparison of cropping patterns between SS, MS and LS farms
5. Implications

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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

-39%

+91%

Source: Zambia MAL Crop Forecast Surveys, 2001 and 2012

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

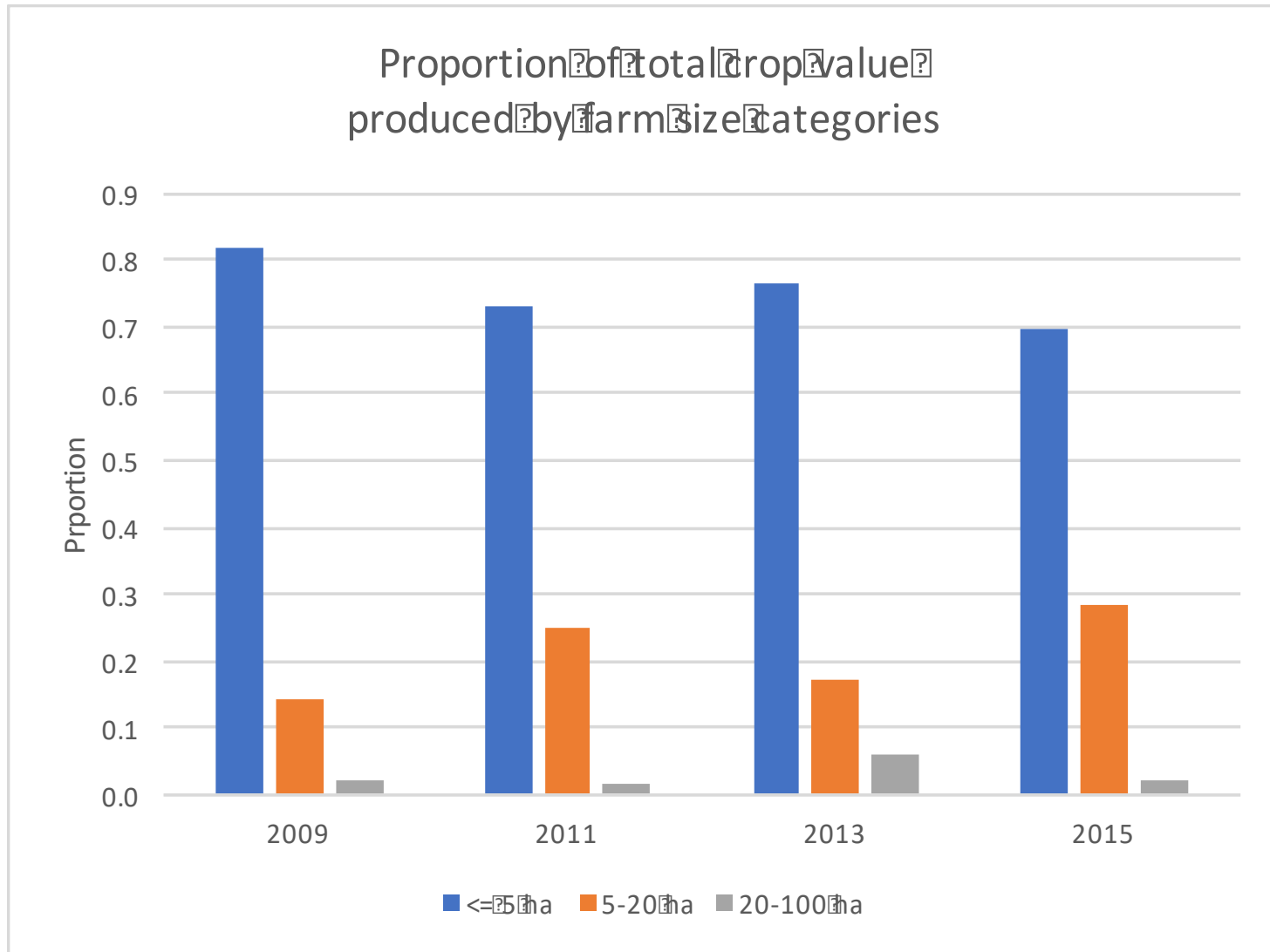
Farm size	Number of farms (% of total)		% growth in number of farms between initial and latest year	% of total operated land on farms between 0-100 ha		
	2008	2012		2008	2012	
0 – 5 ha	5,454,961 (92.8)	6,151,035 (91.4)	12.8	62.4	56.3	- 6.1%
5 – 10 ha	300,511 (5.1)	406,947 (6.0)	35.4	15.9	18.0	
10 – 20 ha	77,668 (1.3)	109,960 (1.6)	41.6	7.9	9.7	+ 6.1%
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	

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% of total farm-land

Medium-scale farms share of total crop value in Tanzania: 14% to 29% in 6 years

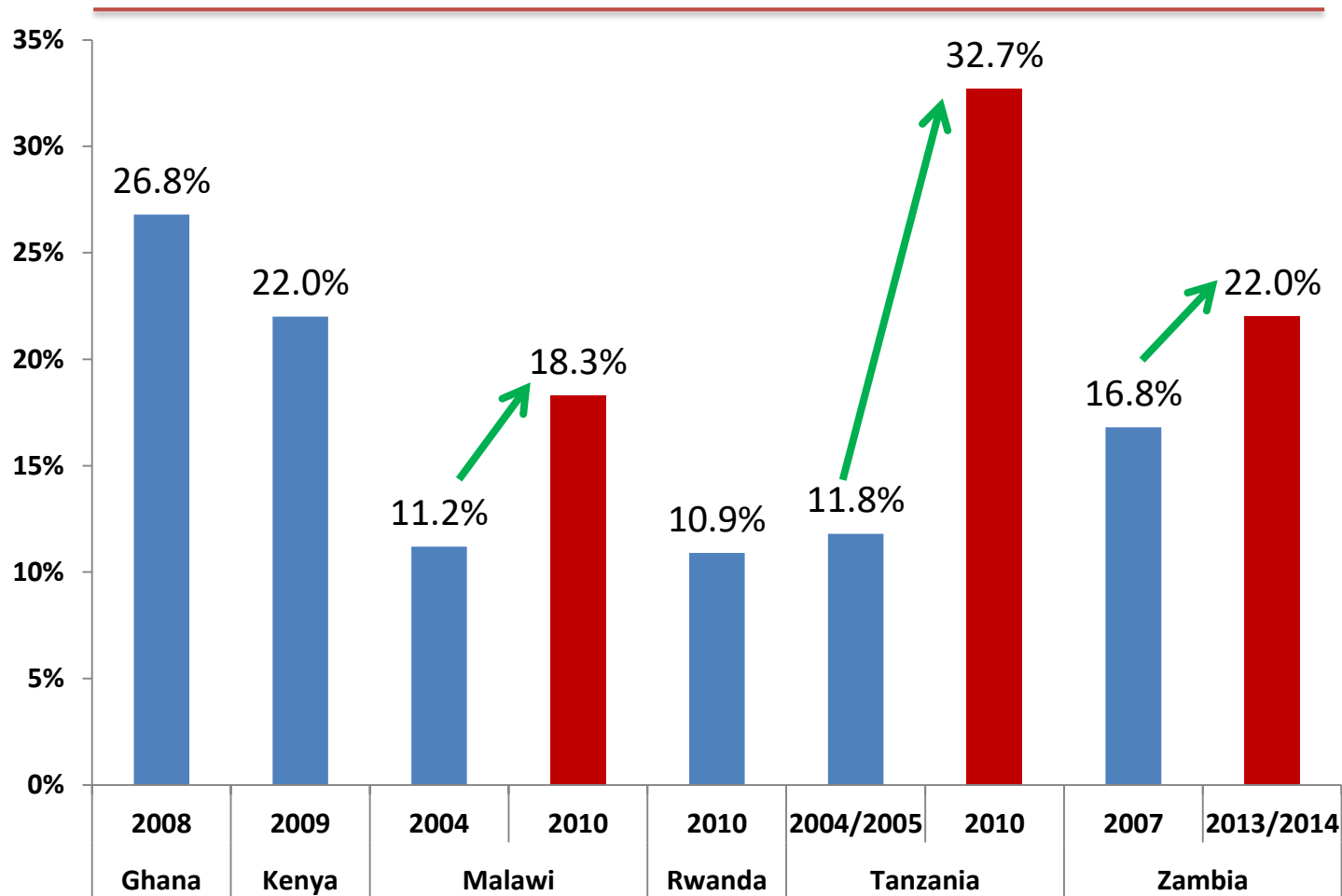


Source: NPS 2009, 2011, 2013, 2015

Changes in farm size distributions: Summary

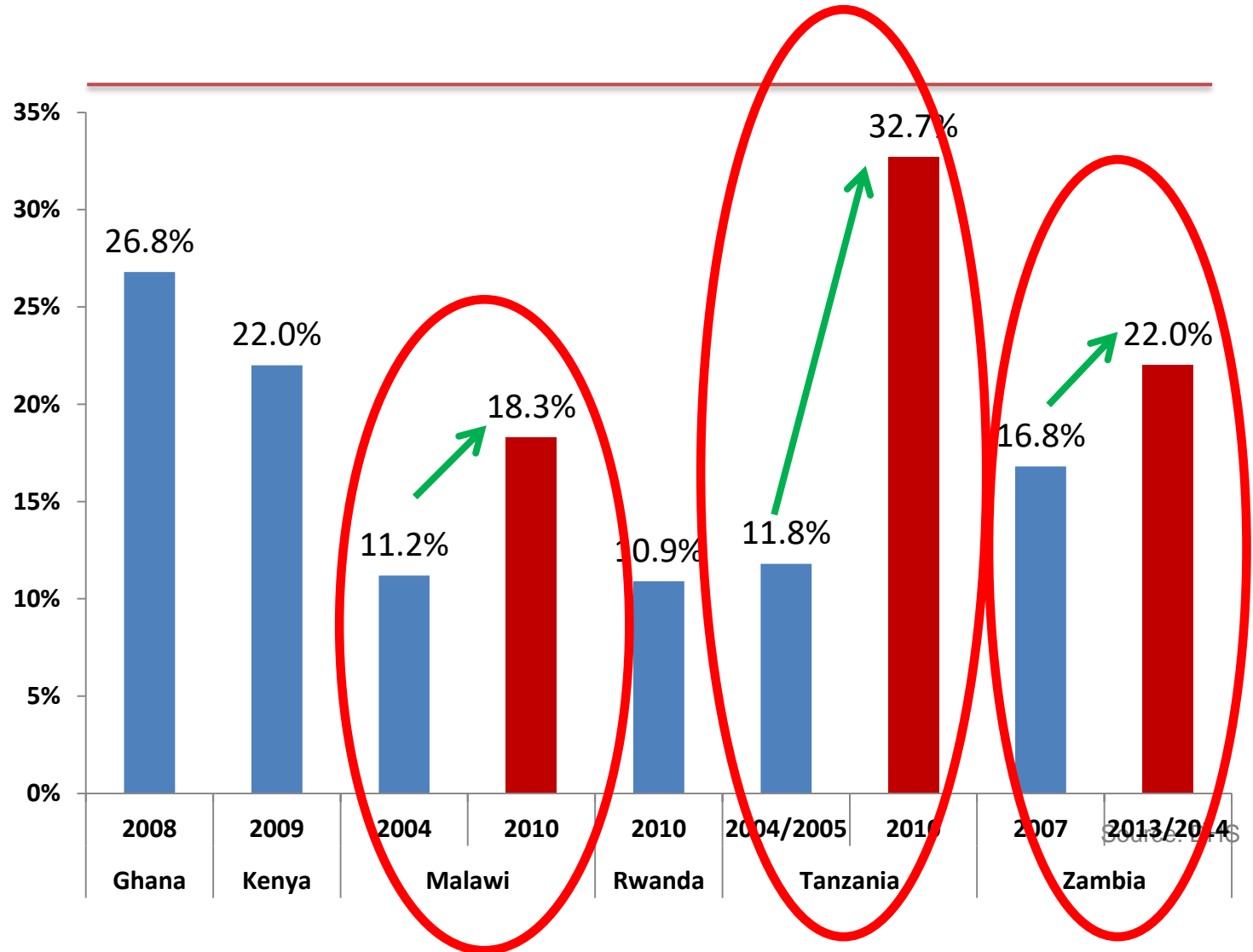
1. Number of small farms growing slowly
2. Number of medium-scale farms growing rapidly
3. Share of area under small farms declining
4. Share of area under medium-scale growing, and currently over 40% of farm holdings (over 25% of cultivated area)

% of National Landholdings held by Urban Households



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

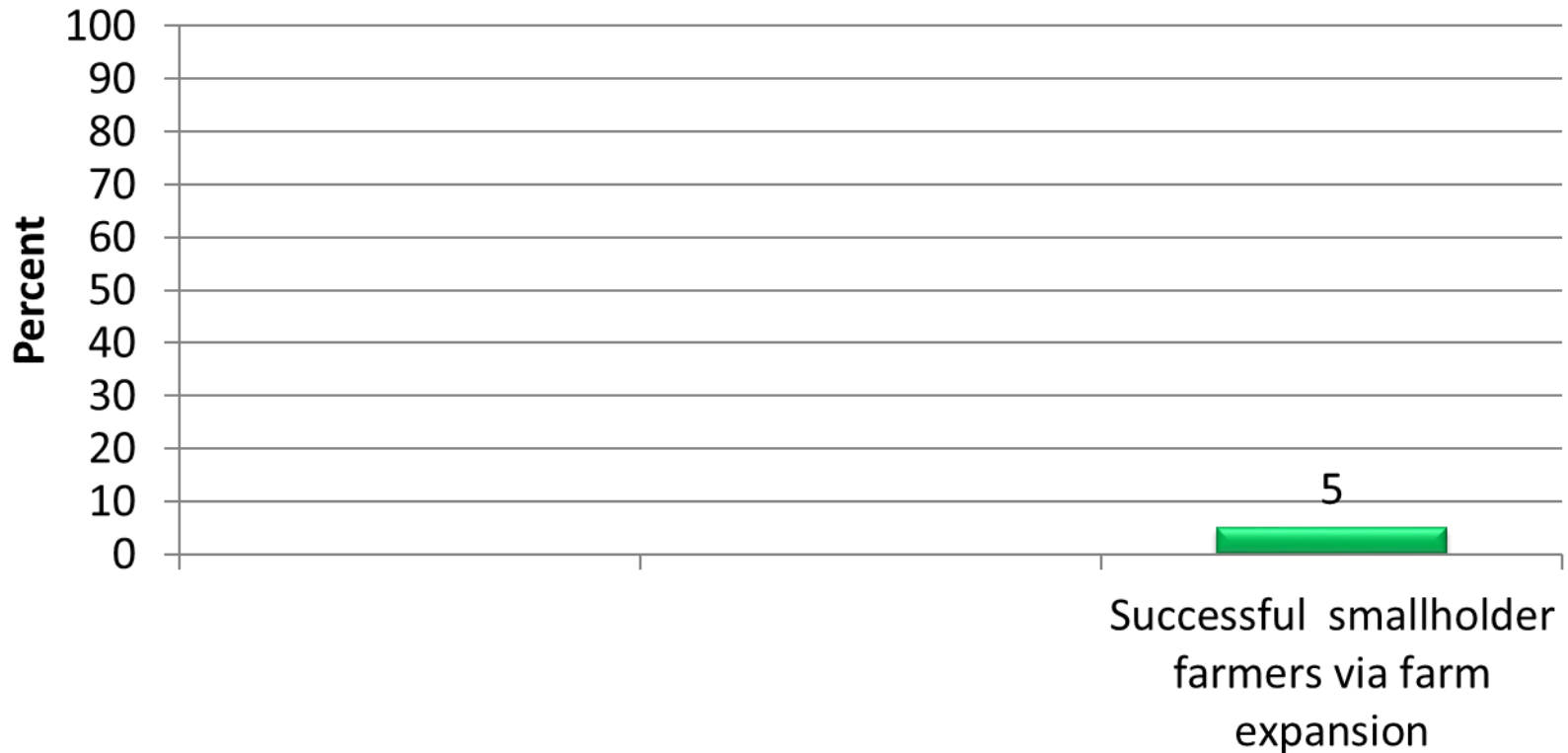
% of National Landholdings held by Urban Households



Characteristics of “emergent farmers”

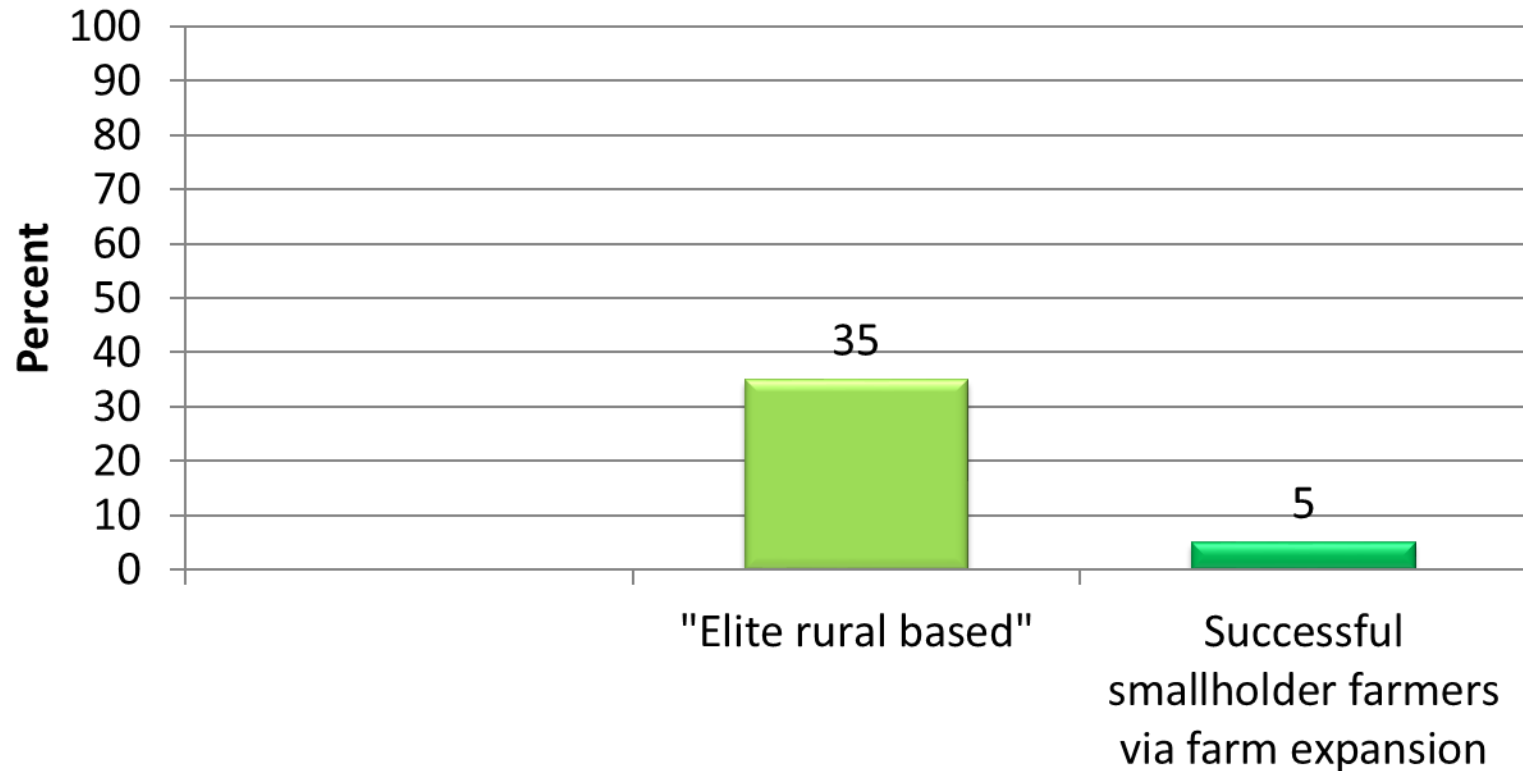
Rise of the medium-scale farmers

Three sub-categories of medium scale farmers (Kenya, Zambia, Ghana)



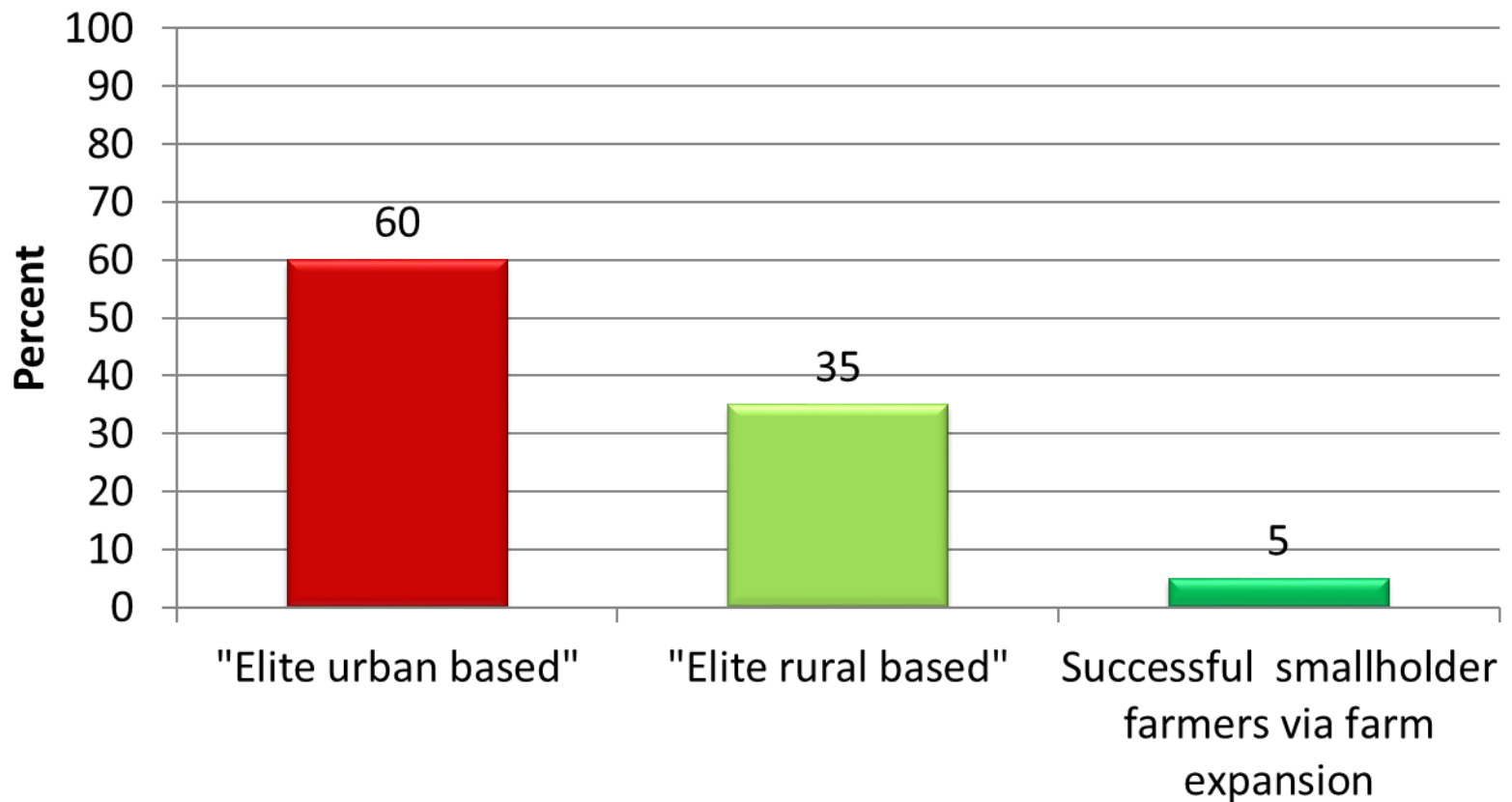
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Three sub-categories of medium scale farmers: Kenya, Zambia, Ghana



Rise of the medium-scale farmers

Three sub-categories of medium scale farmers: Kenya, Zambia, Ghana



Medium-scale investor farmers

	Mode of entry into medium-scale farming: acquired 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

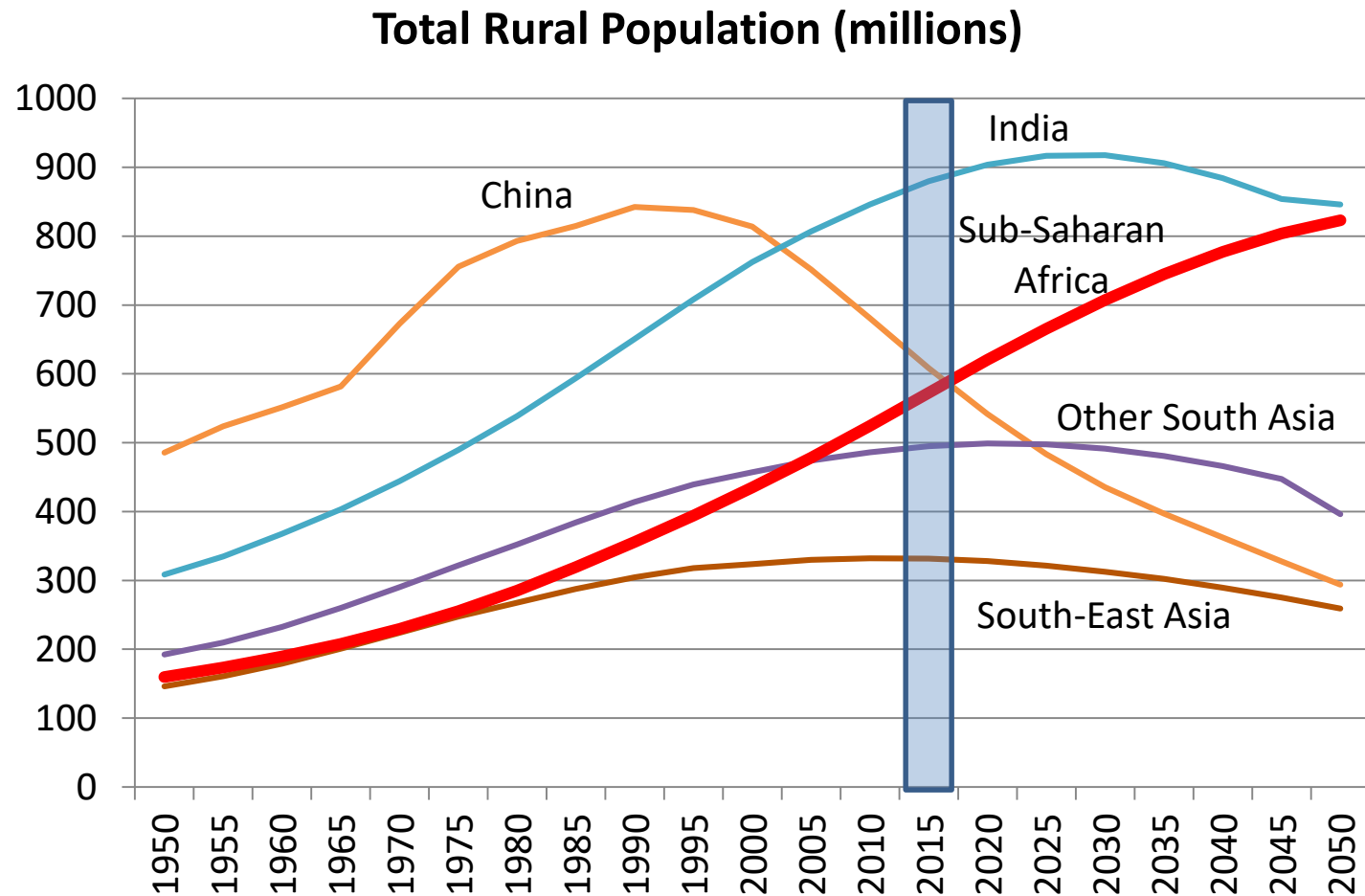
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- 2. Causes of changing farm structure**
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Causes of changing farm size distributions

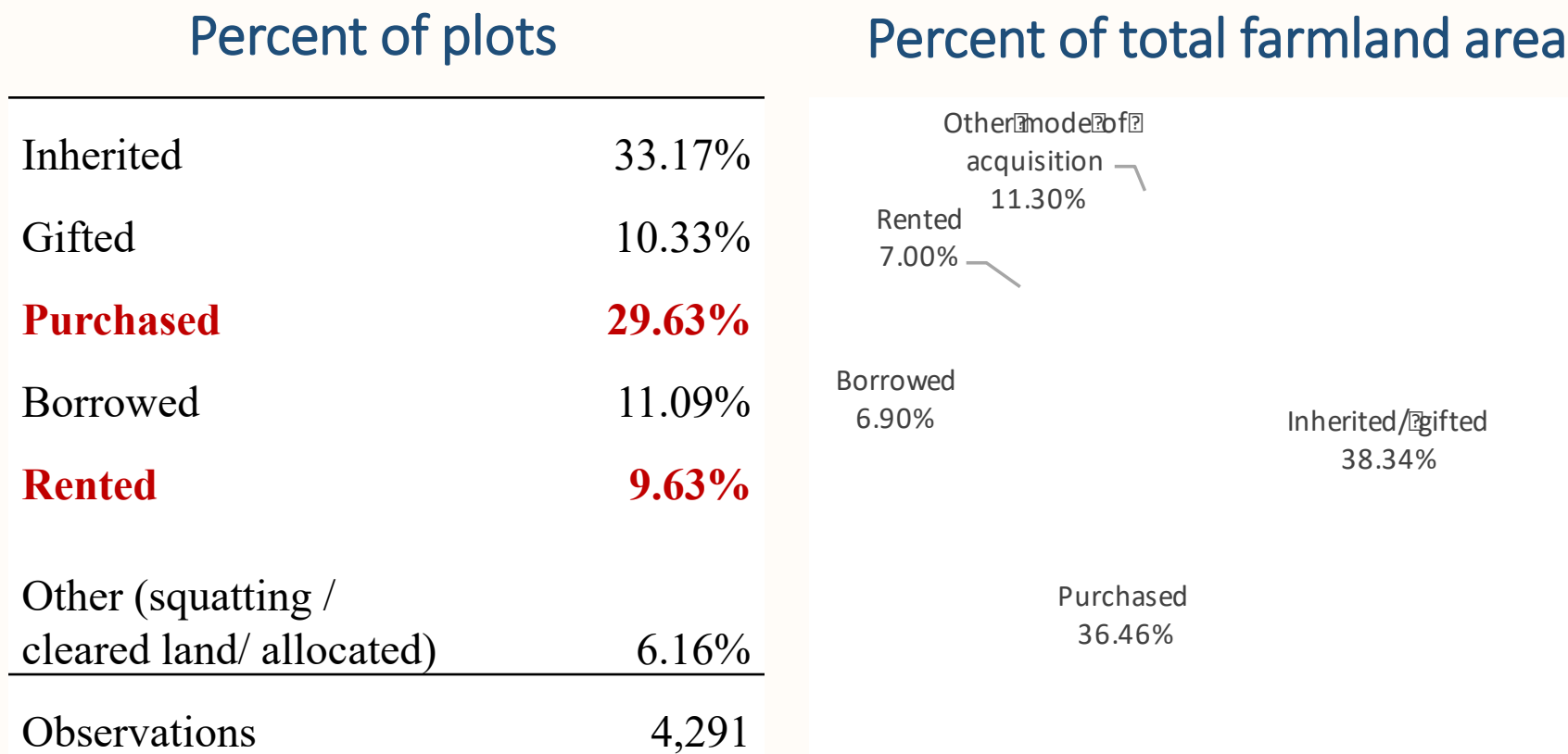
1. Rise in world food prices – heightened investor interest in farmland
2. Urban farmer capture of land policy / farm lobbies
3. Rapid population growth
 - Fragmentation/subdivision in areas of favorable mkt access
 - Land inheritance declining
 - rising land scarcity → rising land prices
 - Rising challenges of youth access to land → outmigration ¹⁹

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



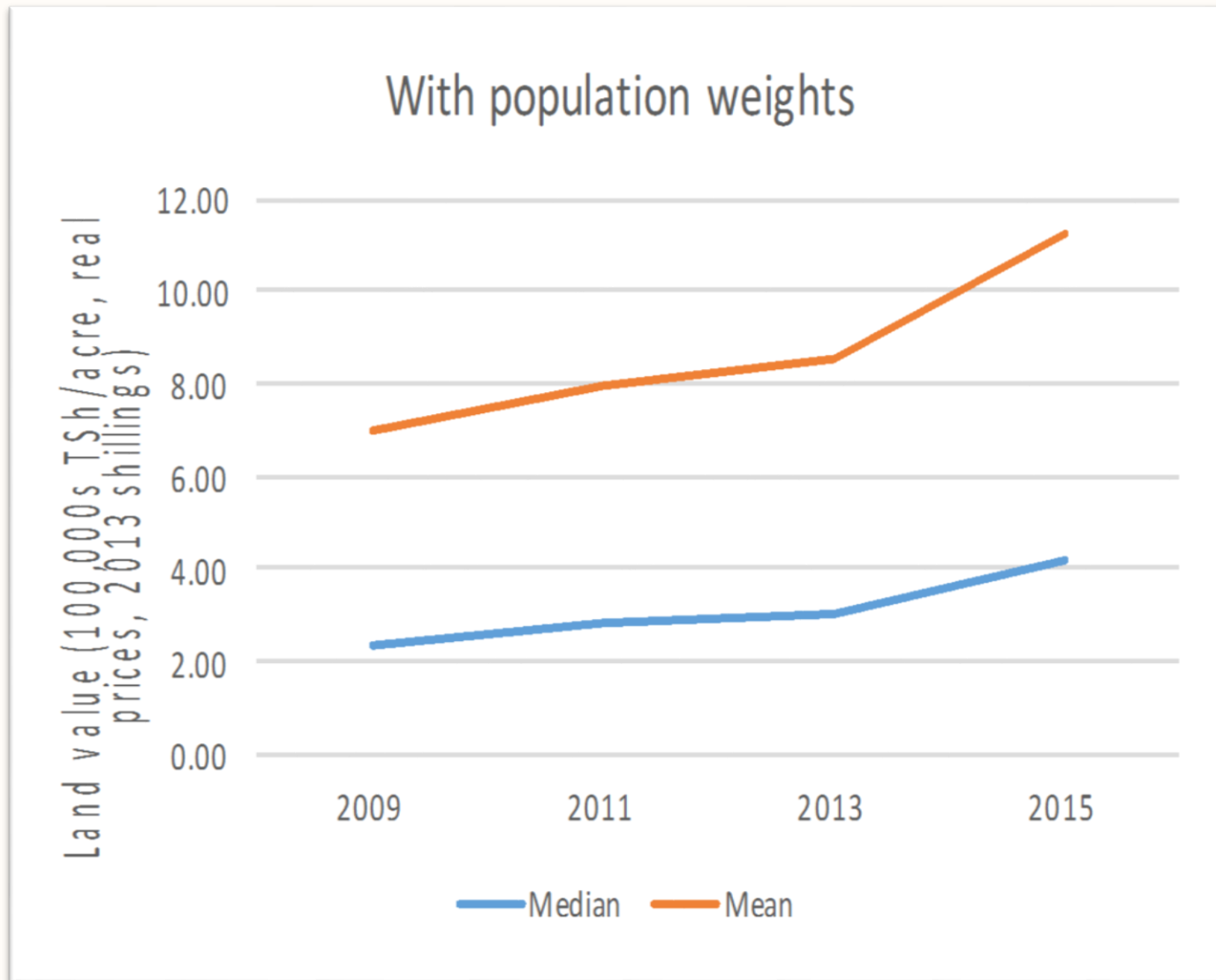
Source: UN 2013

Mode of acquisition of all farm plots in Tanzania



Source: NPS 2014/15

Mean land prices in Tanzania: +53.9% in real terms in 6 years



Source: NPS 2009, 2011, 2013, 2015

Land values across Tanzania, 2009 to 2013

Land value (100,000s TSh/acre, real prices)

2009

Median Mean

PANEL A

Whole country

2.39

6.98

Zone

Western

2.00

3.70

Northern

6.24

15.38

Central

1.20

1.89

Southern Highlands

1.80

5.14

Lake

3.99

8.87

Eastern

2.99

8.82

Southern

1.80

4.94

Zanzibar

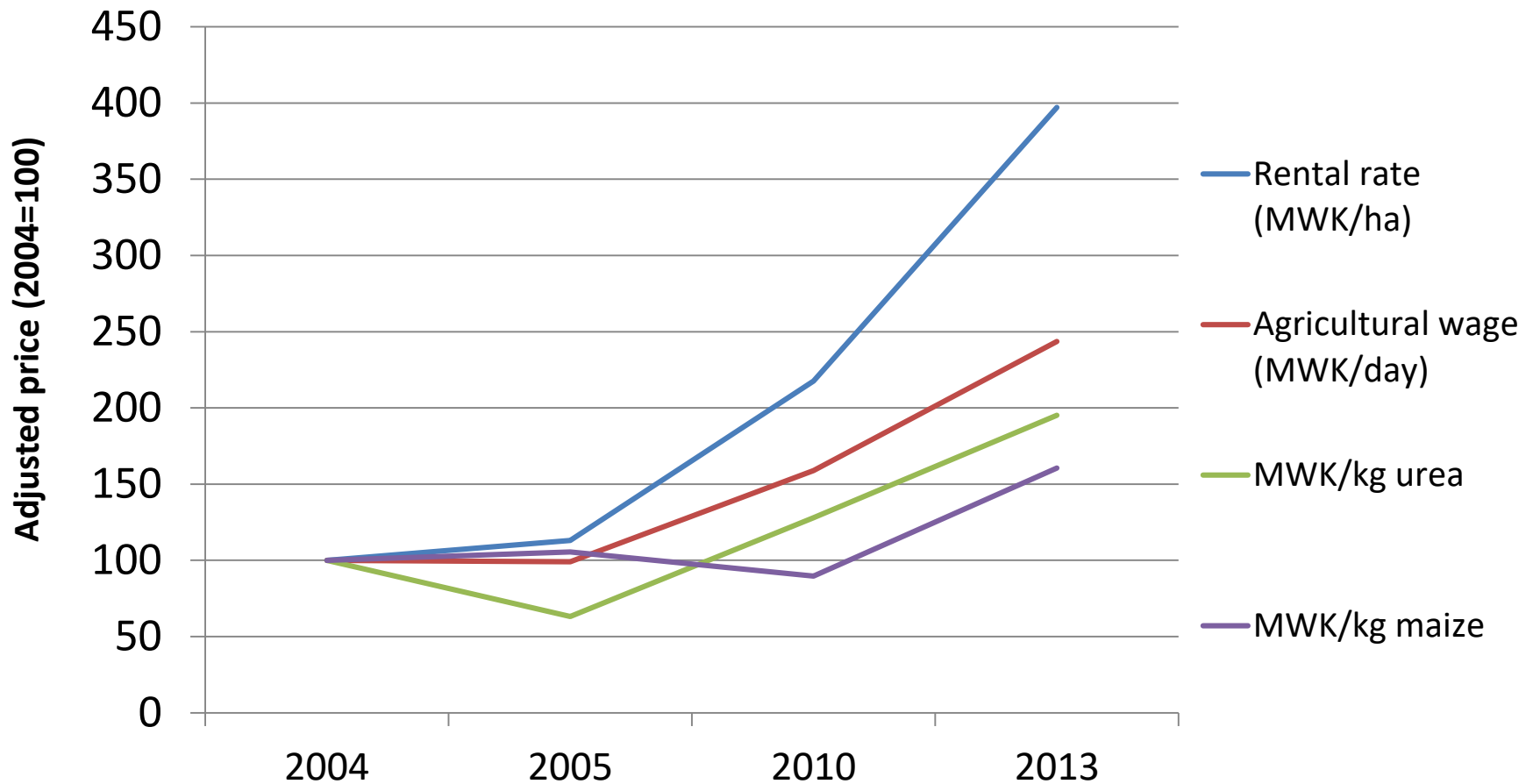
7.48

13.87

Correlates of land values (pooled OLS, cultivated plots)

Dependent variable: $\ln(\text{land value, TSh/ acre, inflation adjusted})$

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



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

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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

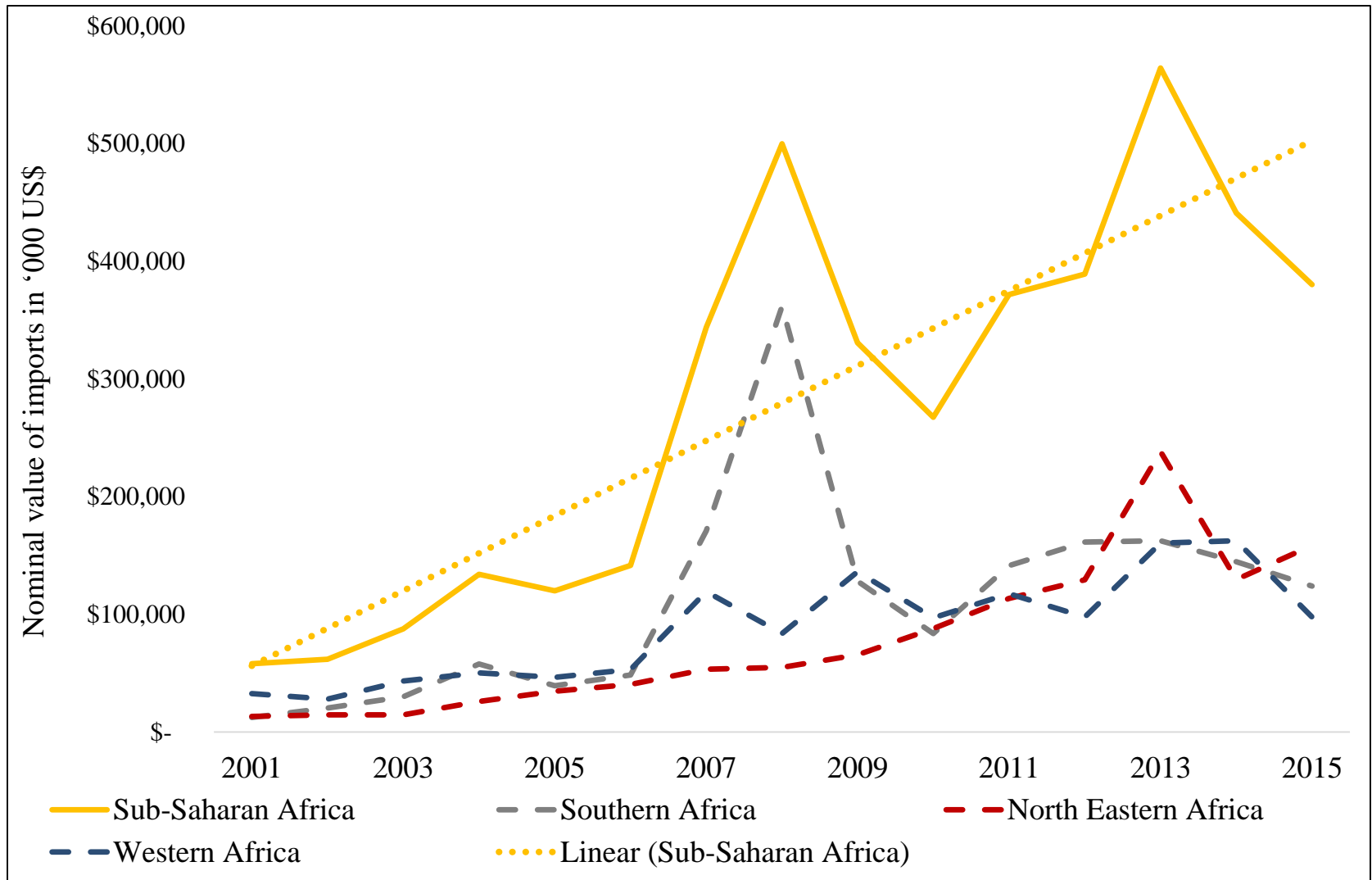
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Consequences of changing farm size distributions

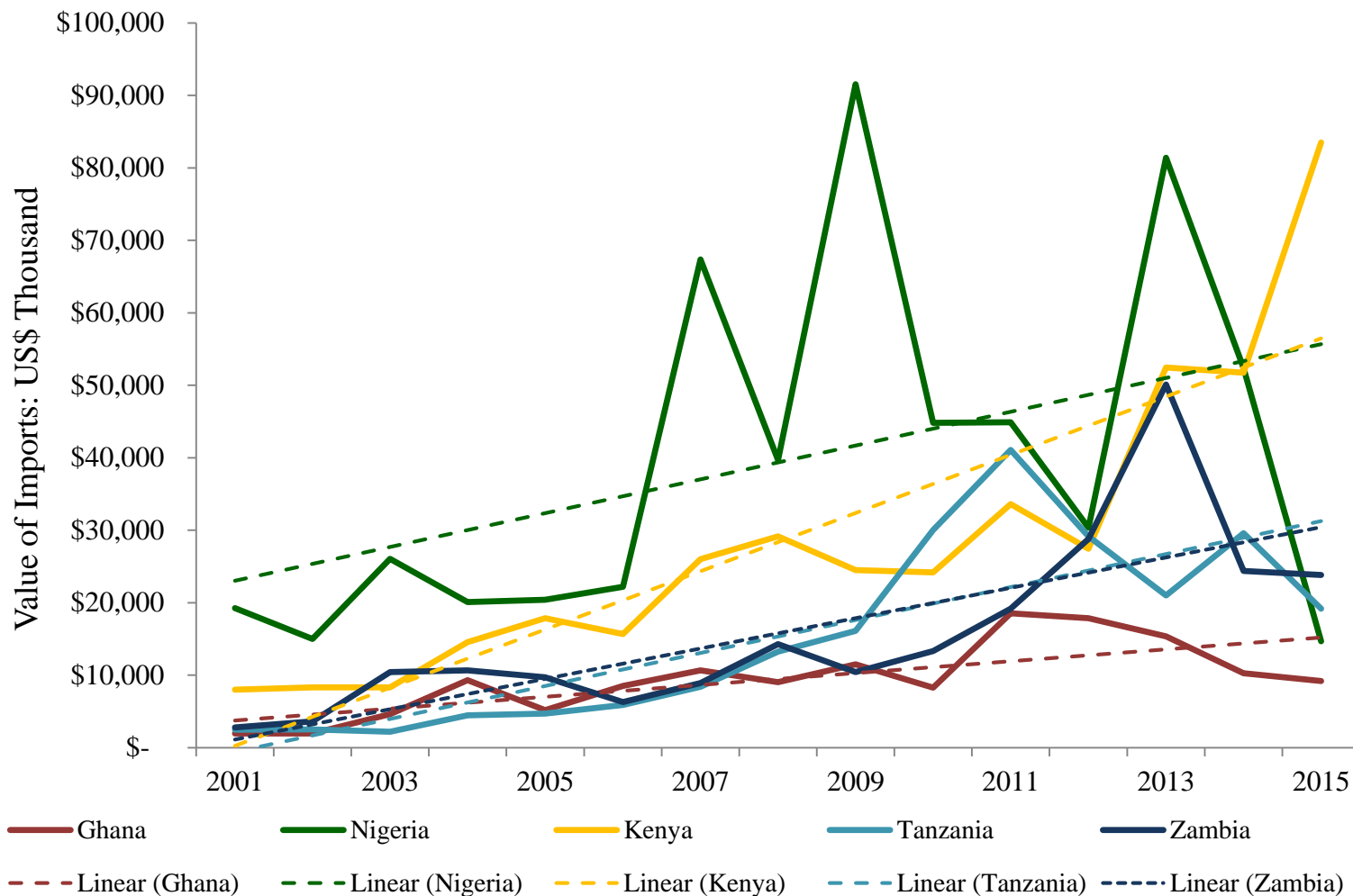
1. Rising use of mechanization
2. Pulling in large-scale commodity traders
3. Greater inequality of farmland distribution
4. Some displacement
5. Rising land prices → straining youth access to land
6. Multiplier effects of ag growth are changing
7. Governments may be losing ability to estimate national output

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)

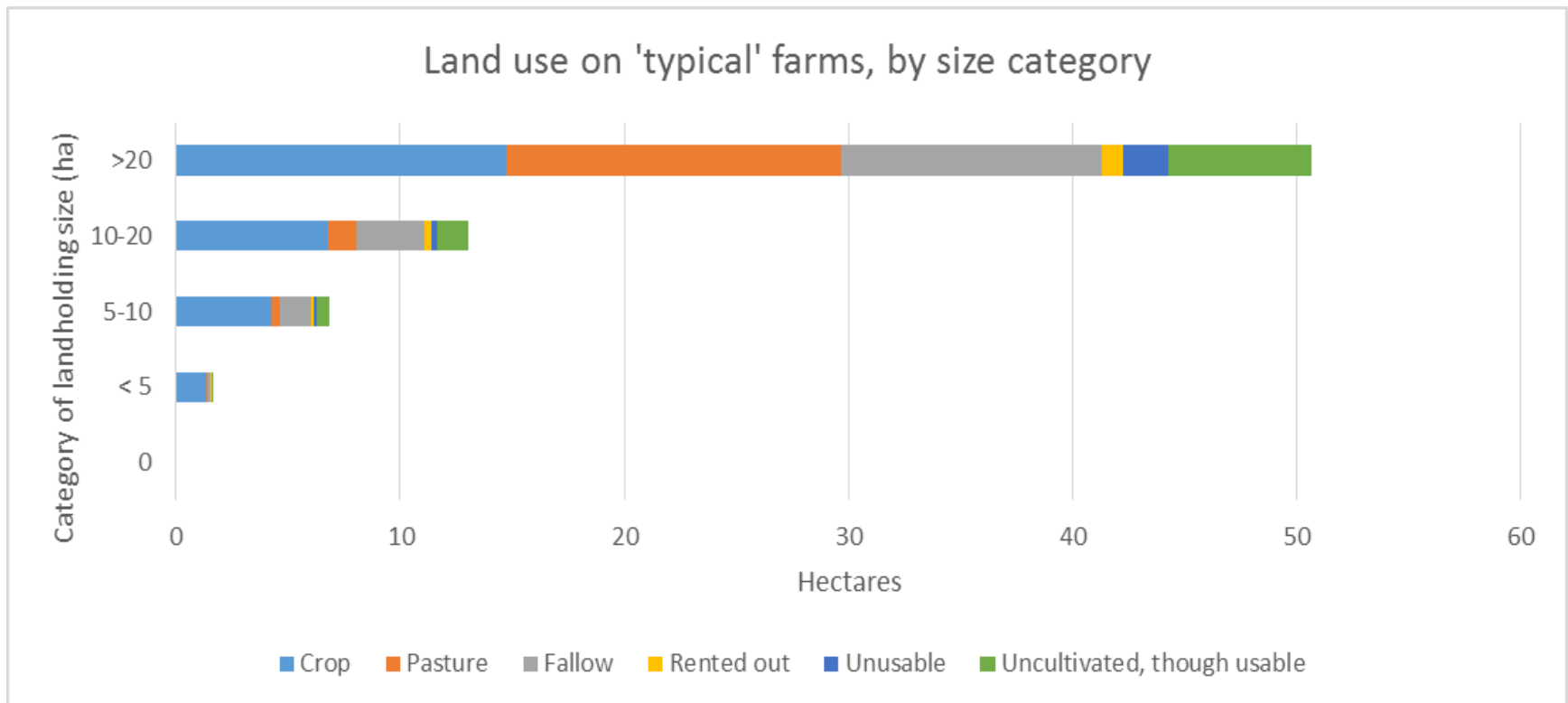
Comparison of farmland owned and land under cultivation in Tanzania: 2008 Agricultural Sample Census Survey vs. 2008 LSMS/NPS Survey

	Farm land controlled			Land under operation		
	LSMS	Ag Sample Census Survey	% difference	LSMS	Ag Sample Census Survey	% difference
By holdings of:	Million hectares			Million hectares		
0-5 ha	8.246	8.595	+4.2	8.117	8.130	+0.002
5-100 ha	3.872	5.861	+51.4	3.816	5.181	+35.8
Over 100 ha	0.809	1.294	+60.0	0.809	0.942	+16.5

Outline

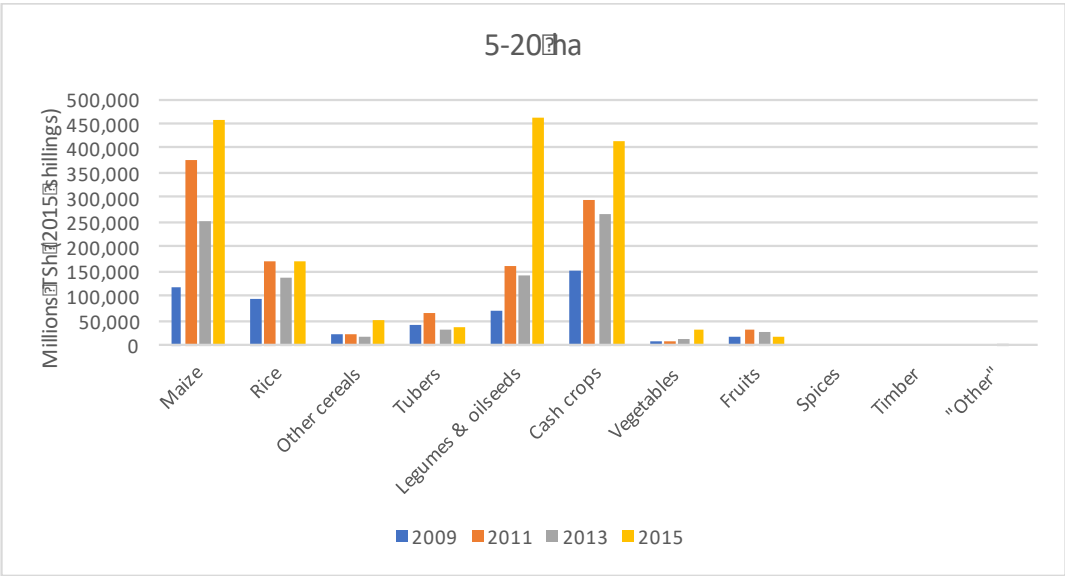
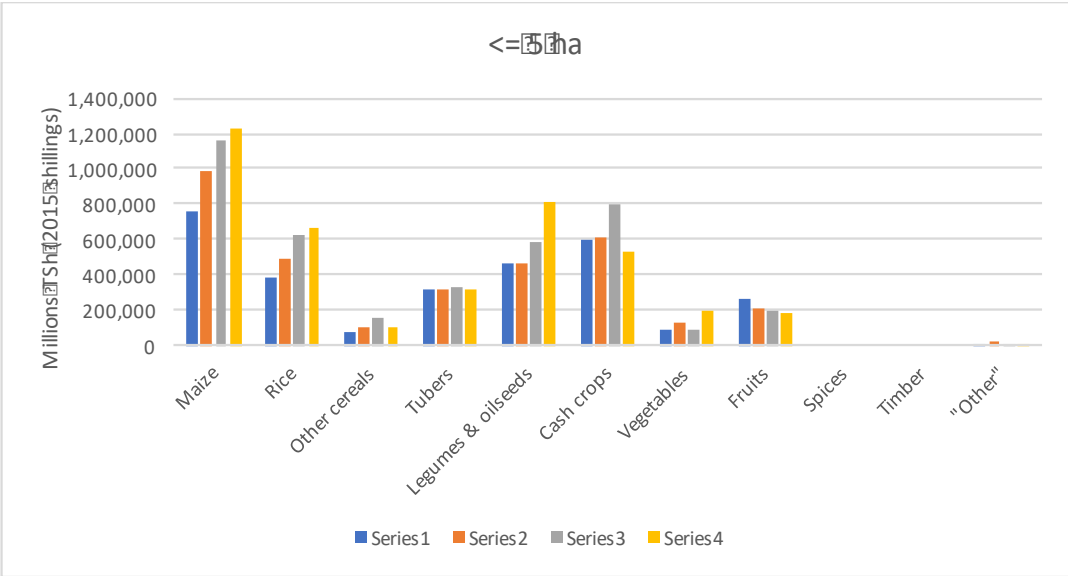
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Average land area allocated to each land use, by category of landholding size



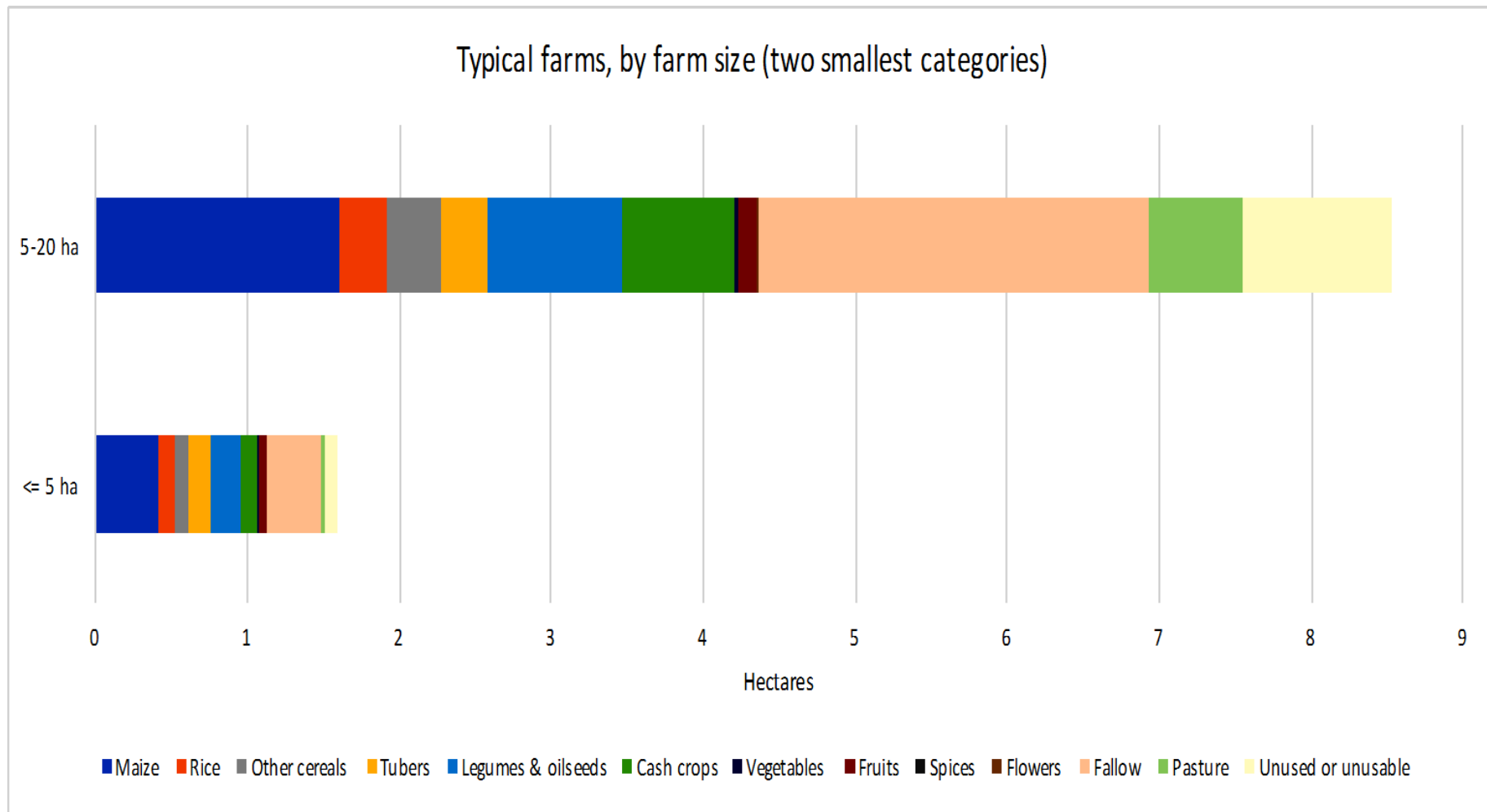
Source: Agricultural Sample Census, 2008

Value of crop production, Tanzania, 2009-2015

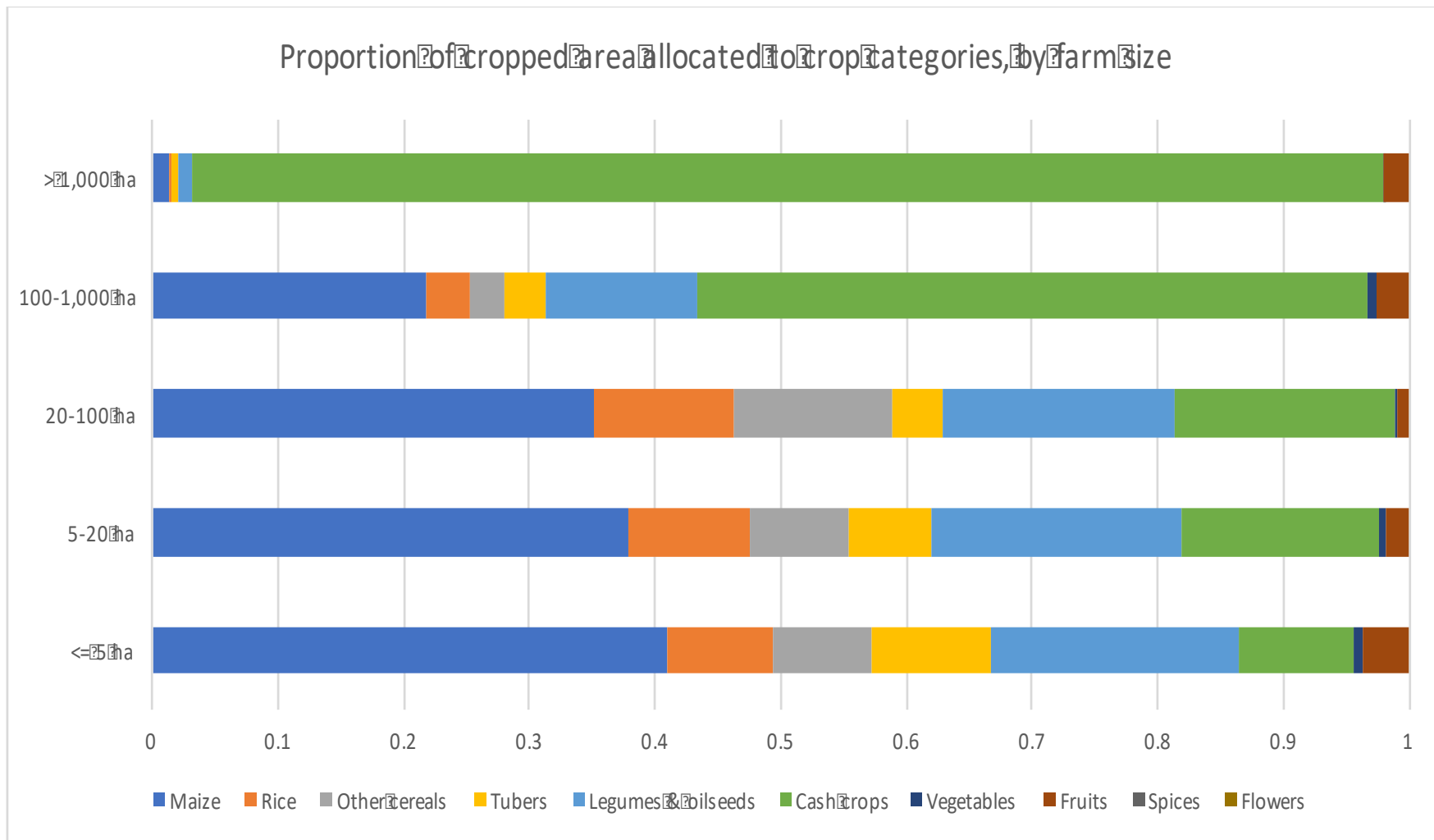


Source: NPS, 2009, 2011, 2013, 2015

Cropping patterns, 0-5 ha vs. 5-20 ha, Tanzania, 2009



Proportion of area to crops, Tanzania, 2009



Source: Agricultural Sample Census Survey, 2009

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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

Implications for policy (cont.)

2. Ag sector policies must anticipate and respond to
 - rising land prices
 - decline of land inheritance,
 - land markets as increasingly important means of acquiring land

Implications for policy (cont.)

3. Agricultural productivity growth will be the cornerstone of any comprehensive youth livelihoods strategy:

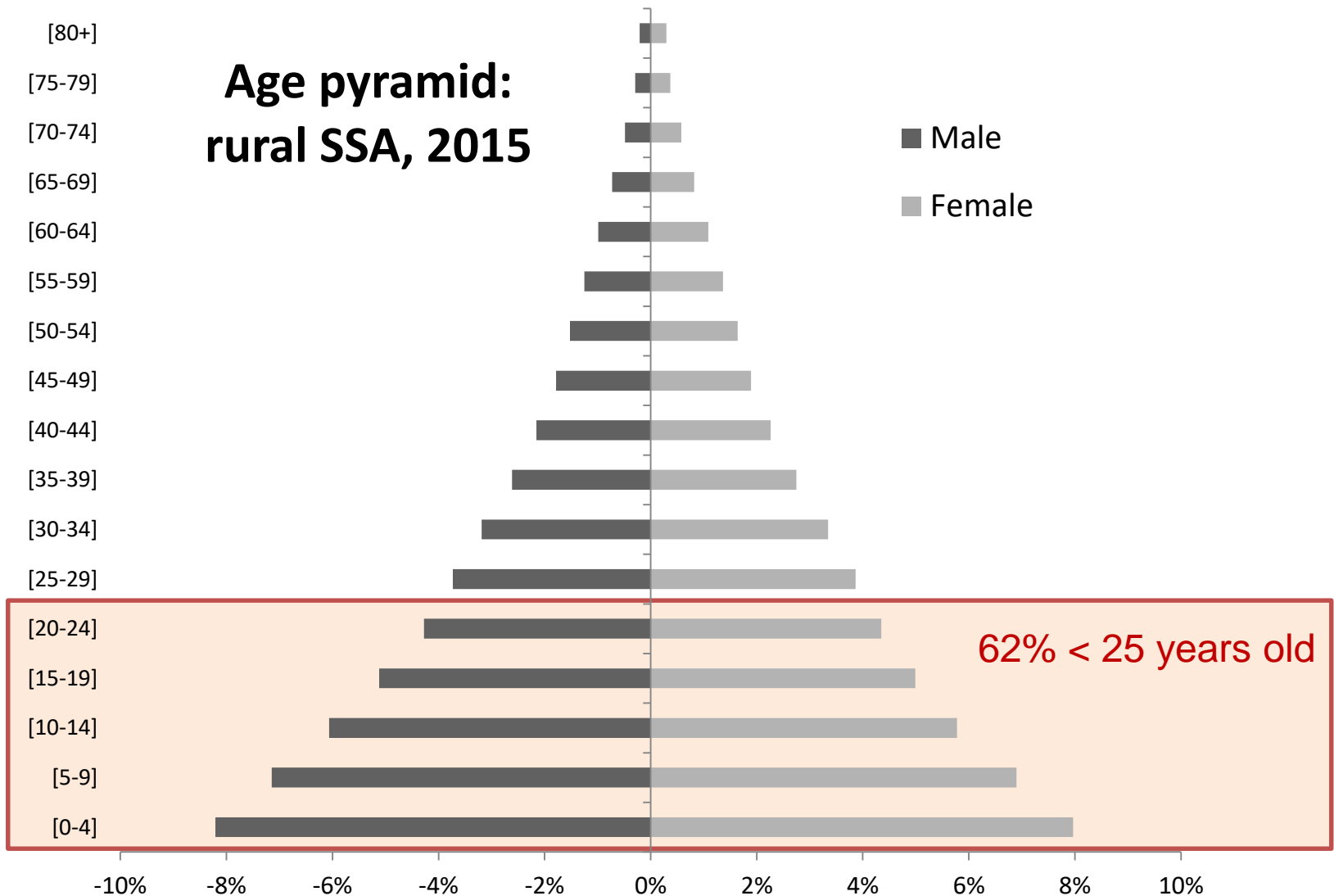
- Ag productivity growth influences
 - pace of labor force exit out of farming
 - Labor productivity in broader economy

Implications for policy (cont.)

4. Mounting evidence that

- youth engagement in agriculture will depend on government actions influencing the profitability of small farms
- Rural transformation will depend on young peoples' profitable engagement in farming
- in the context of rising land prices

Looming employment challenge in SSA



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 may increasingly become more productive
 - Main implications for economic transformation may pertain more to GE effects on employment and wages
2. Are there positive or negative ‘spillover’ effects?

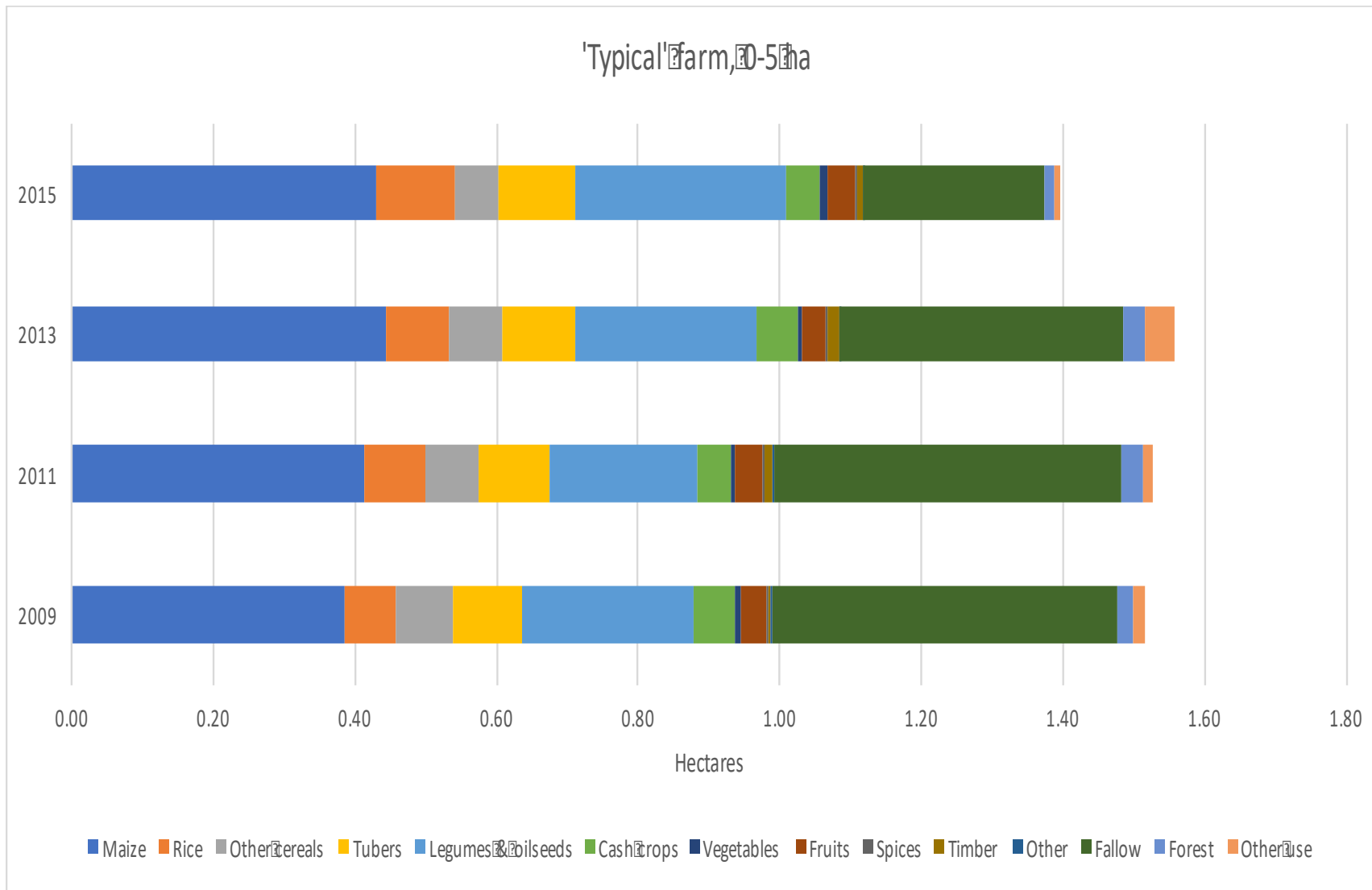
Major challenges/research issues for land policies

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
4. Distinguish between:
 - Strengthening land rights on land that is currently utilized
 - Deciding on how currently unutilized land is to be allocated – who decides?

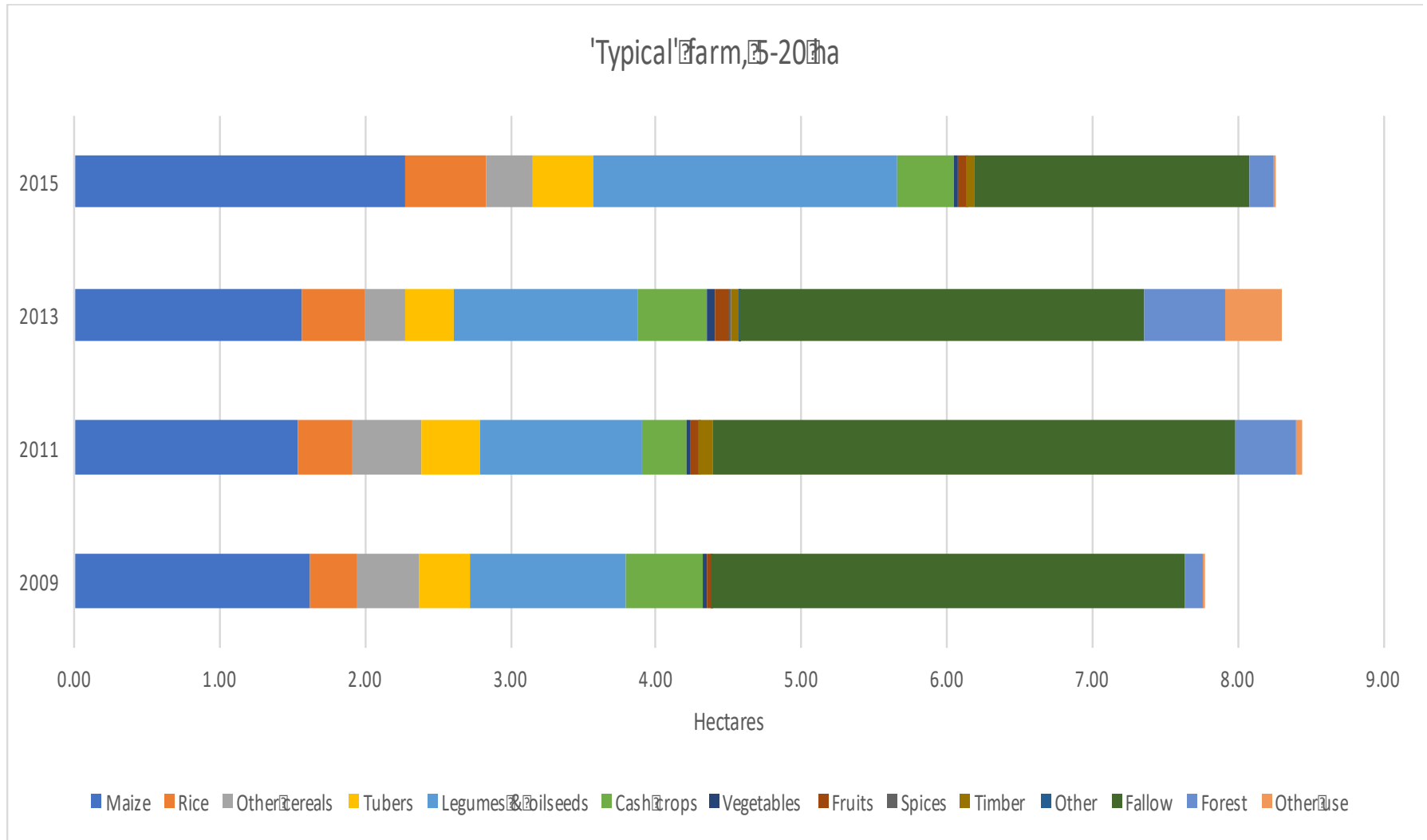
Thank You

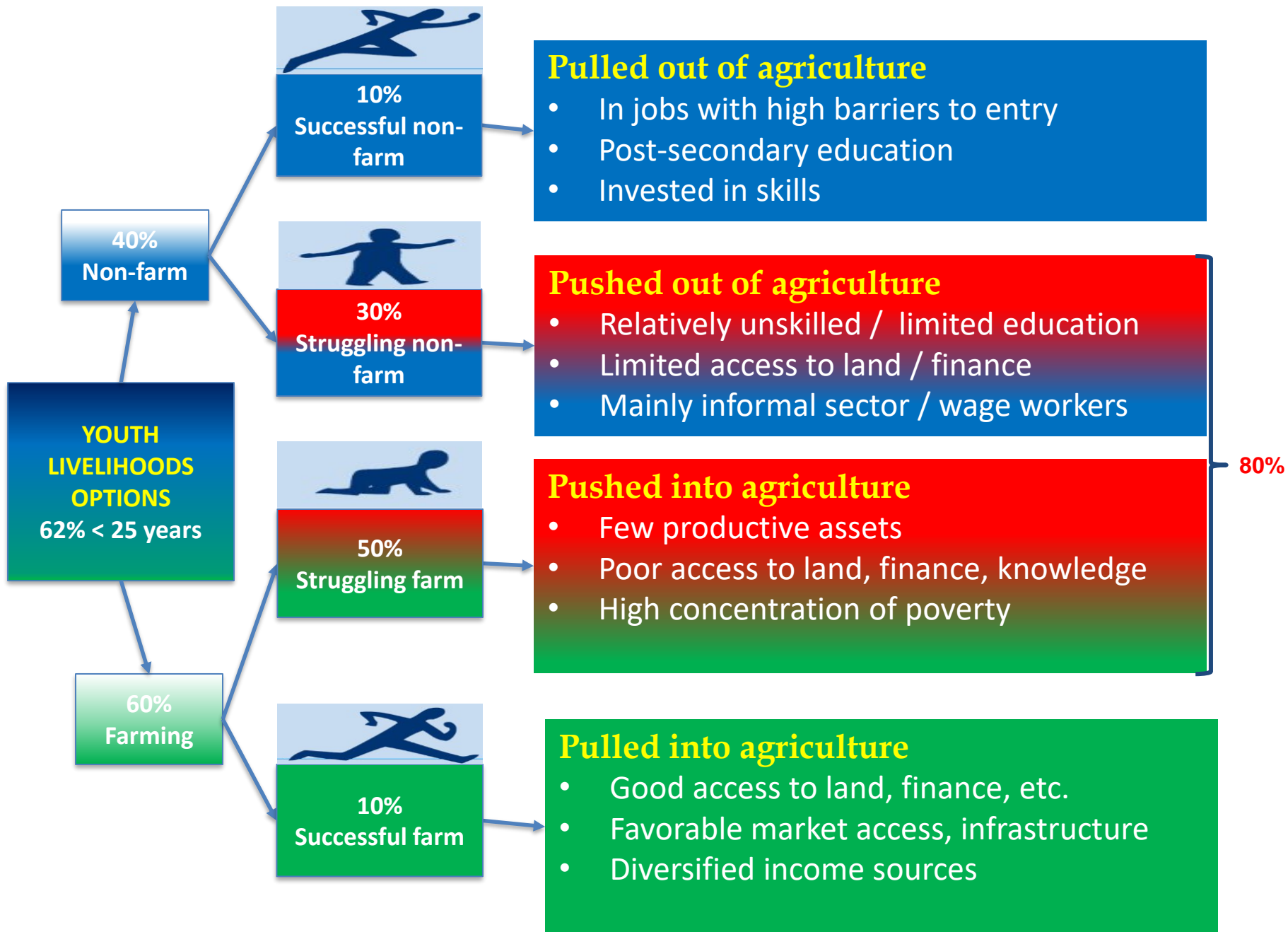


Allocation of area of farms 0-5 ha, Tanzania,

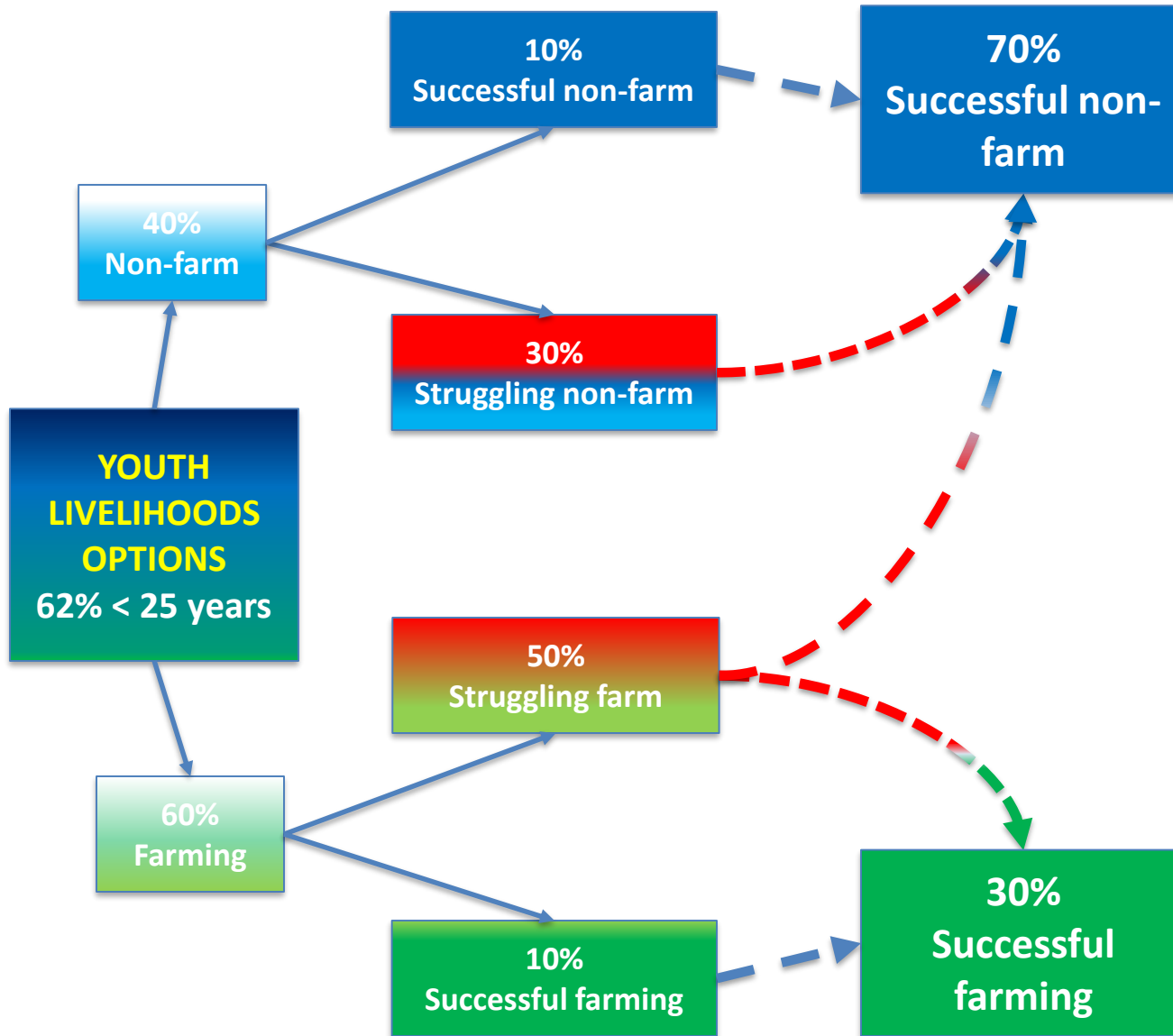


Allocation of area of farms 5-20 ha, Tanzania,





Structural transformation pathway



Policies

- Inclusive economic growth
- Infrastructure
- R&D
- Education
 - Post-secondary

Policies

- R&D / ext.
- Land access
- Finance
- Infrastructure and investments along value chain
 - Irrigation
 - Roads
 - Electricity

What do we know about agricultural growth in Sub-Saharan Africa?

