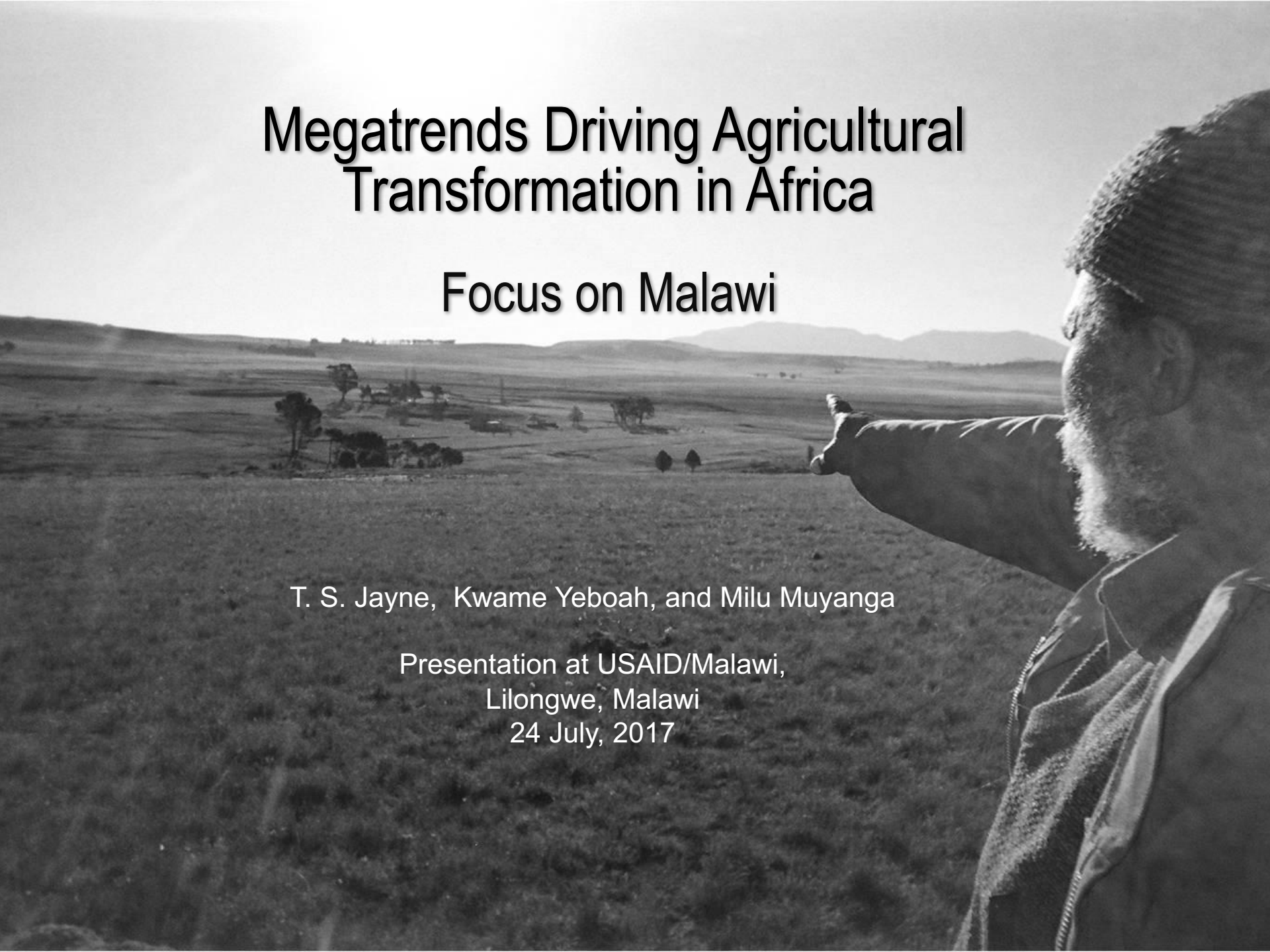
Megatrends Driving Agricultural Transformation in Africa

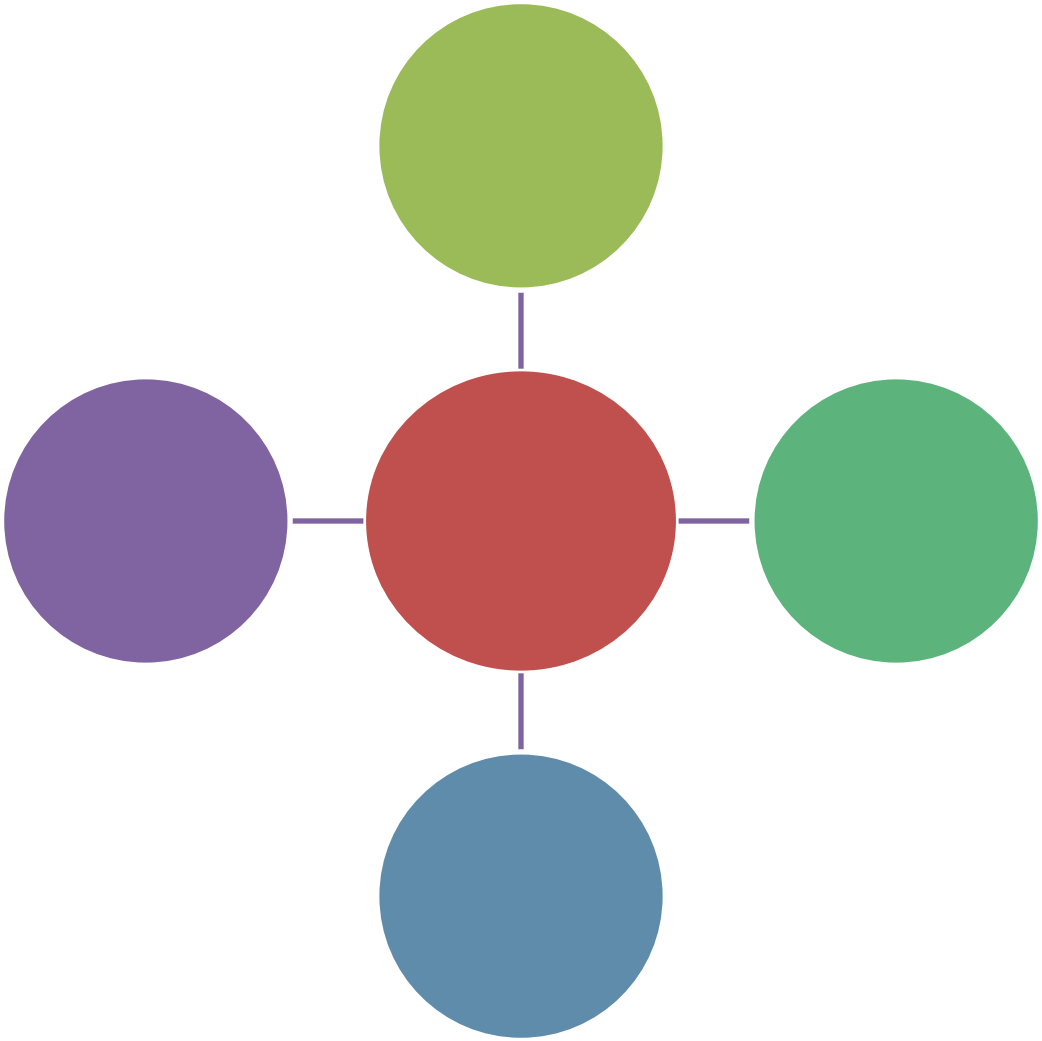
Focus on Malawi



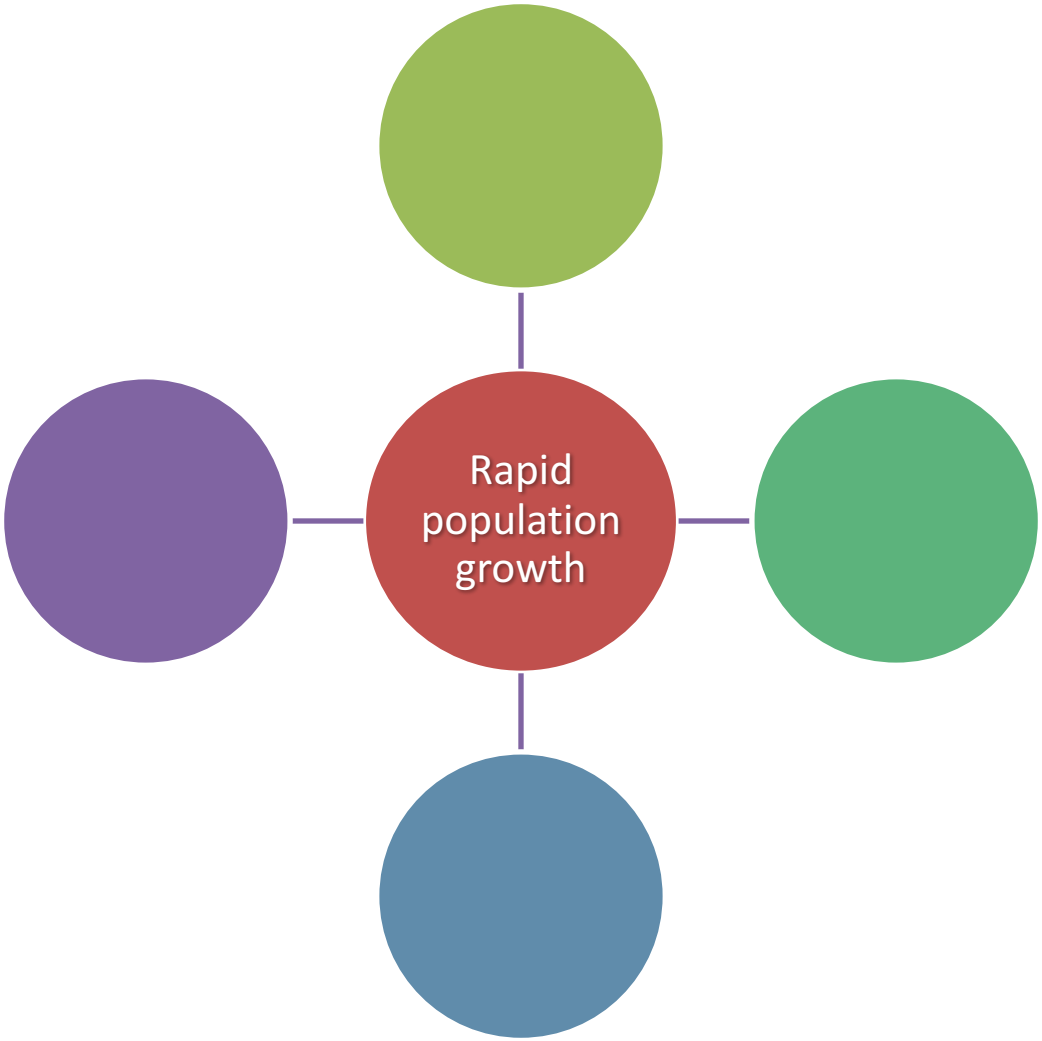
T. S. Jayne, Kwame Yeboah, and Milu Muyanga

Presentation at USAID/Malawi,
Lilongwe, Malawi
24 July, 2017

Five inter-related trends



Five inter-related trends



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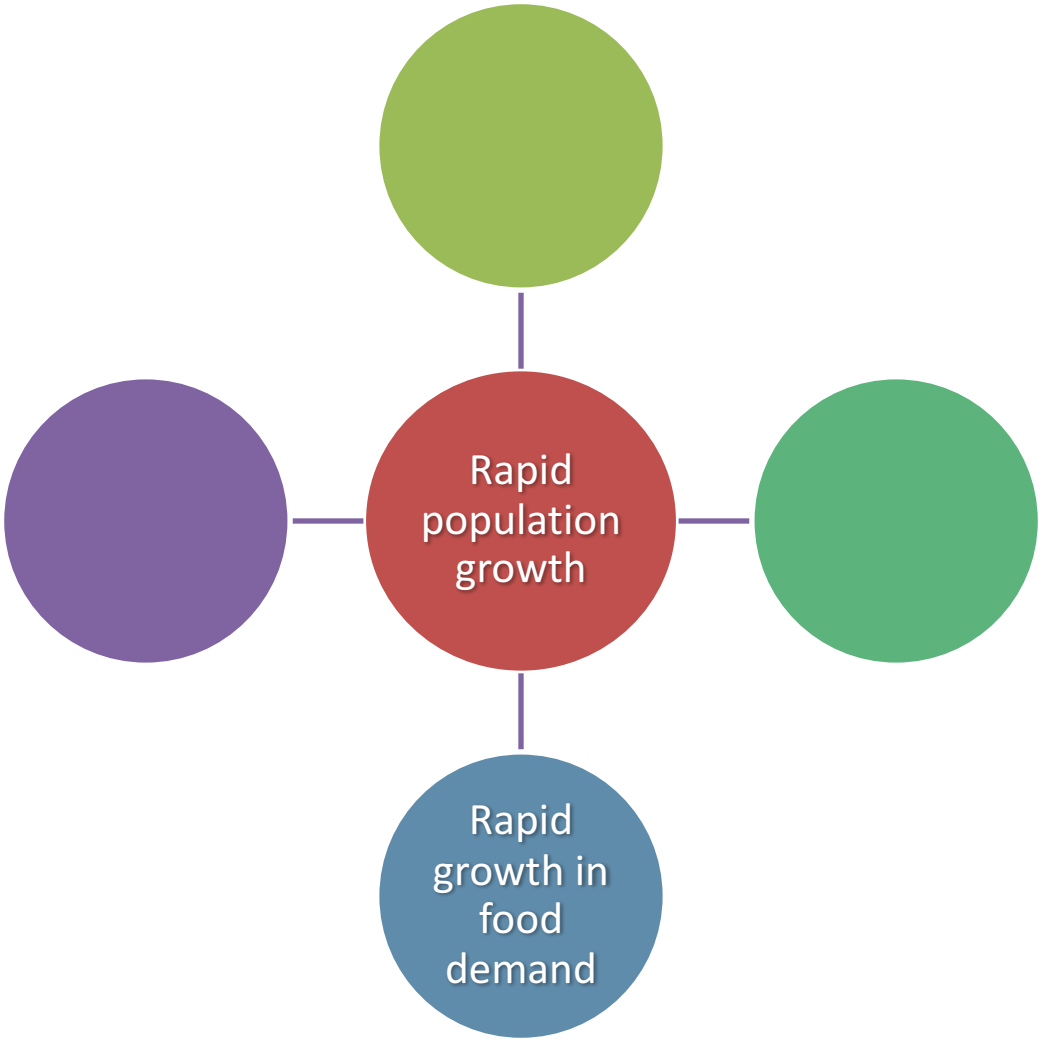

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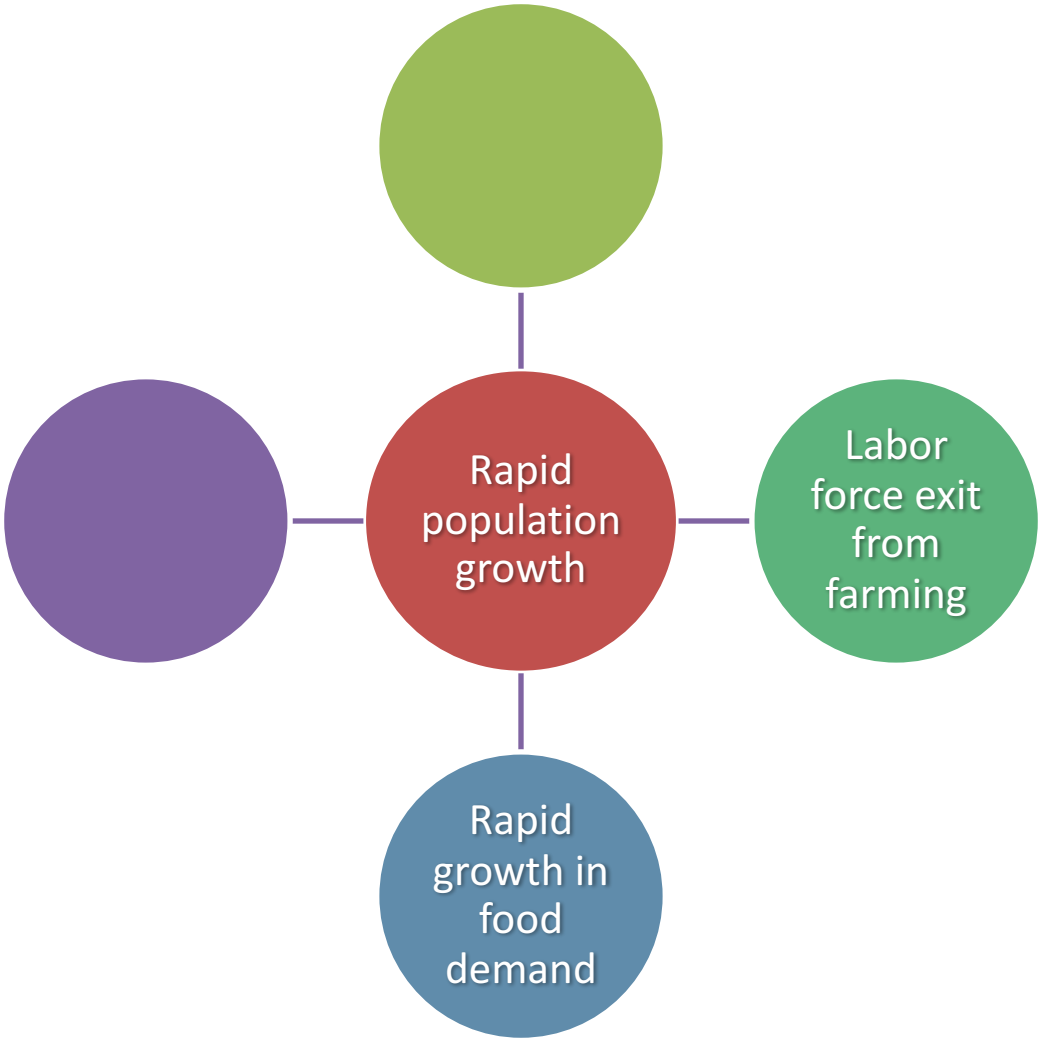

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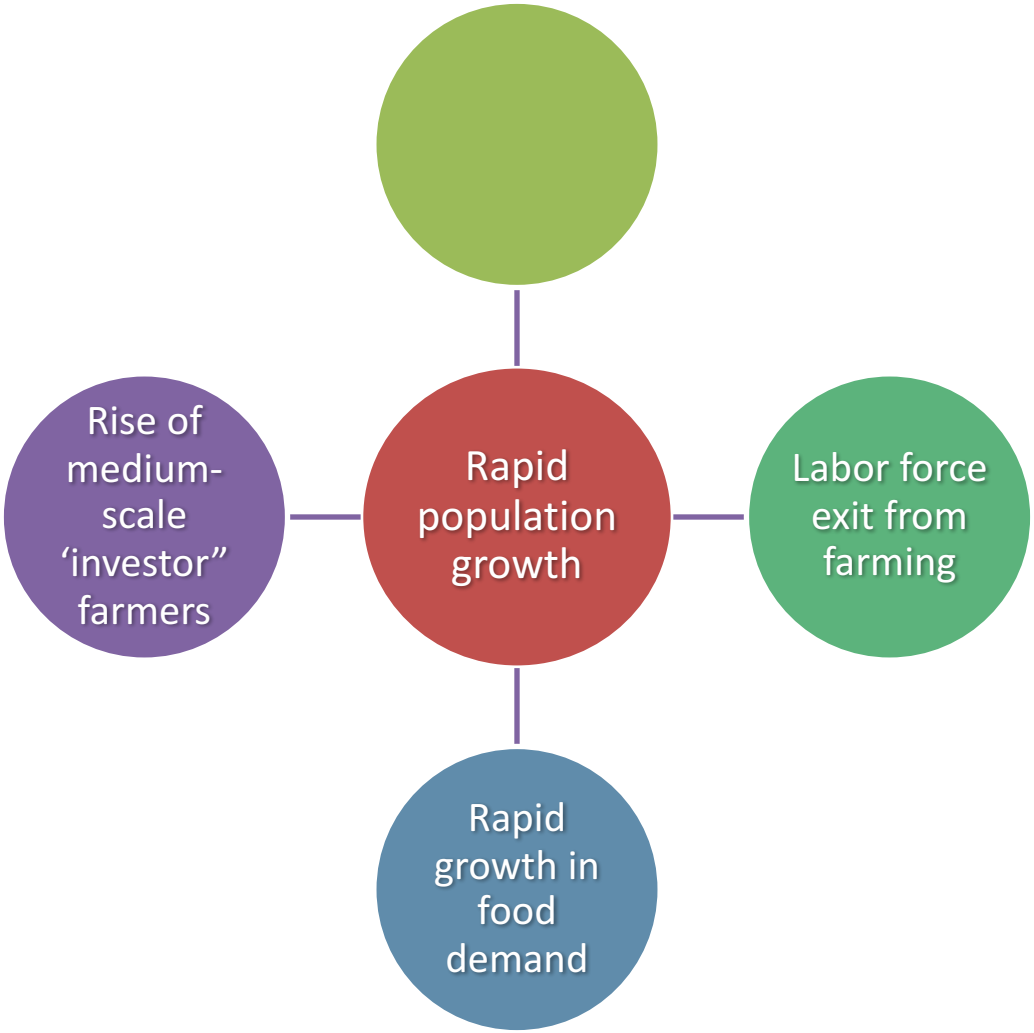

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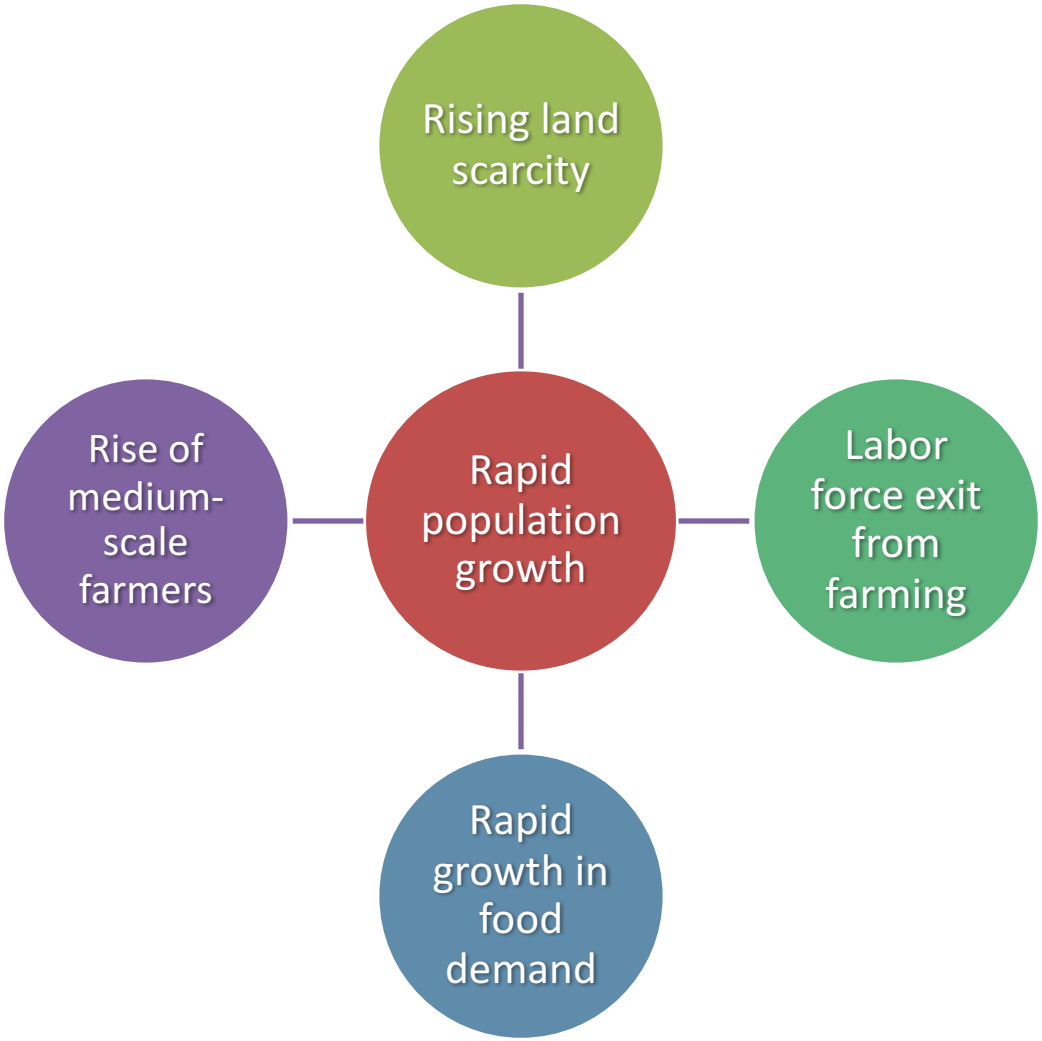

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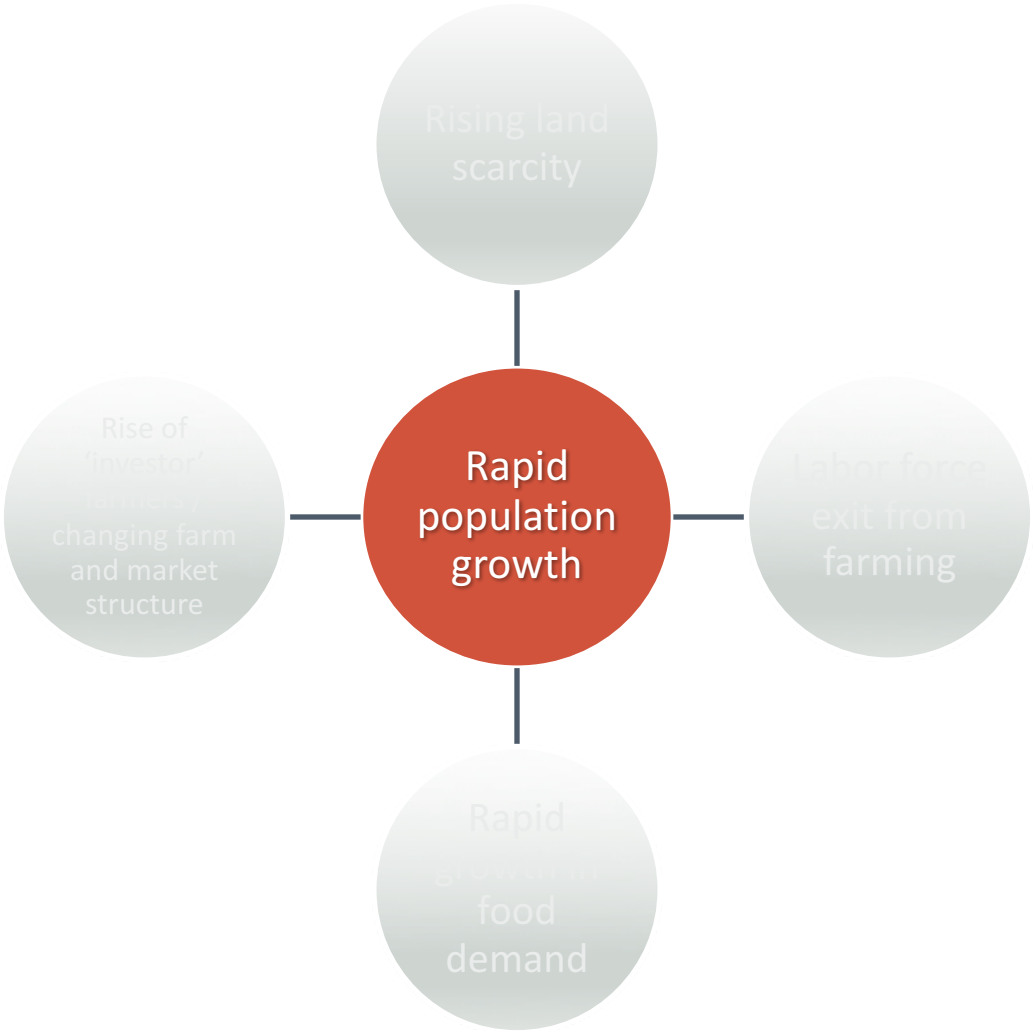
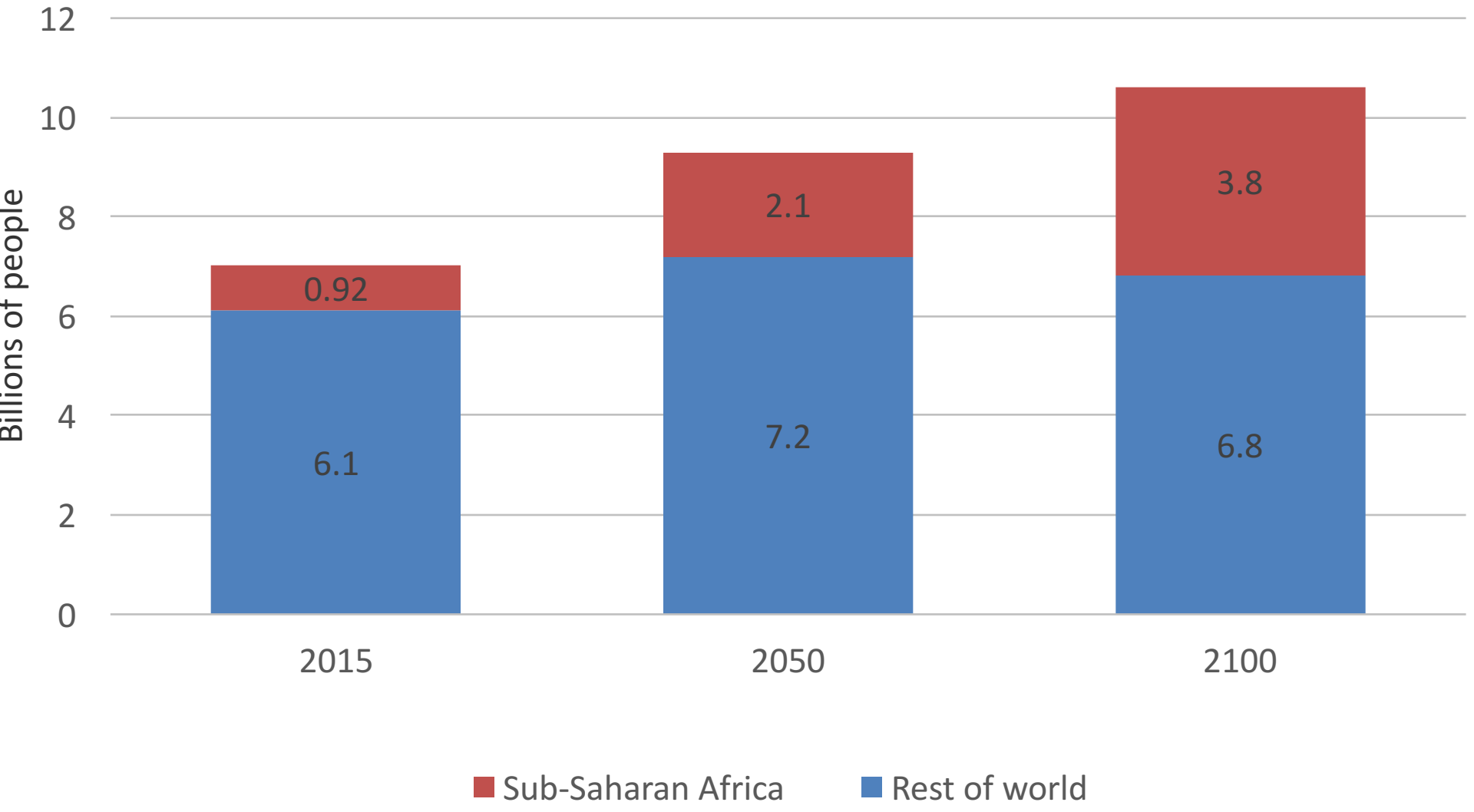
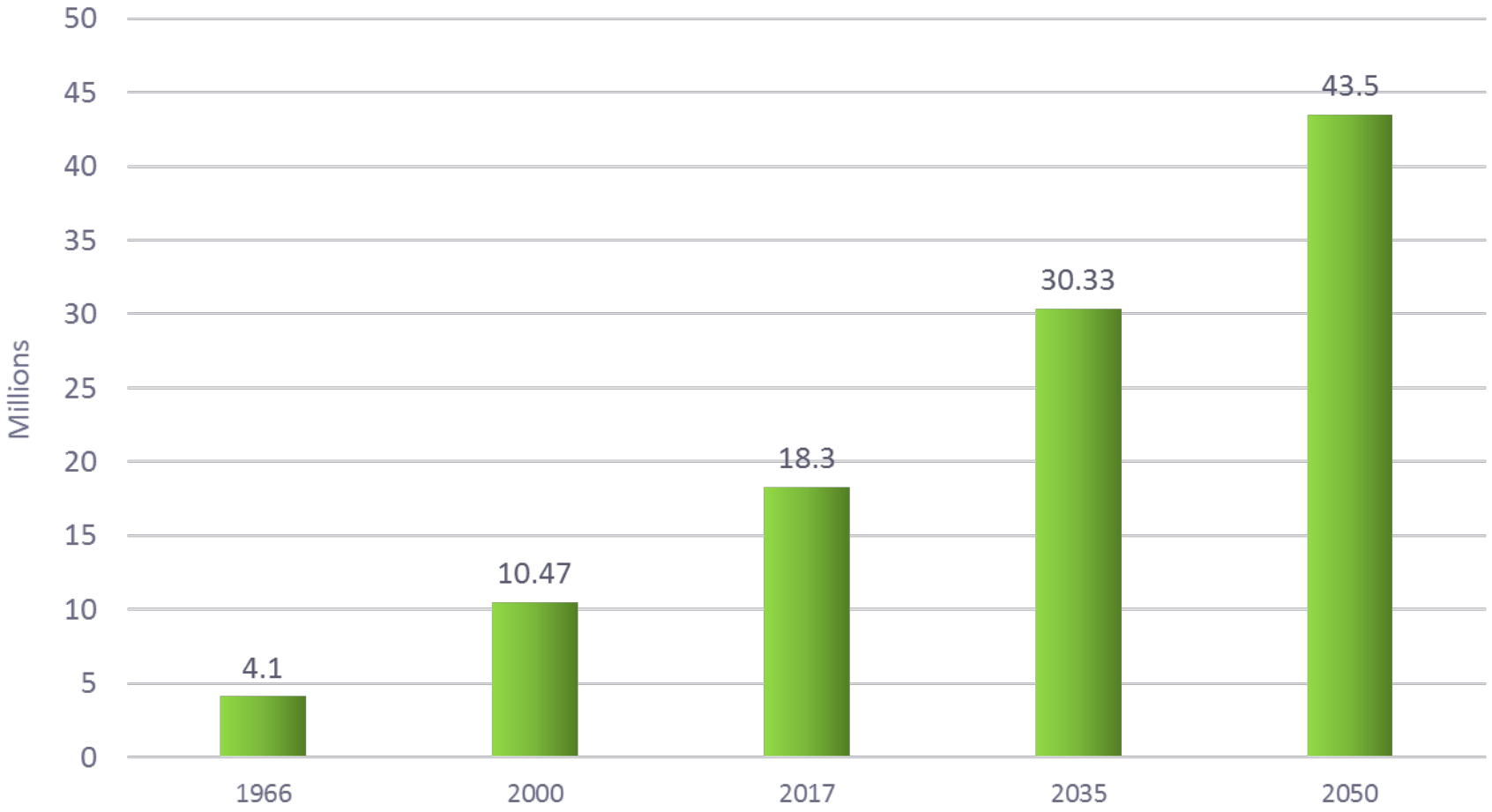


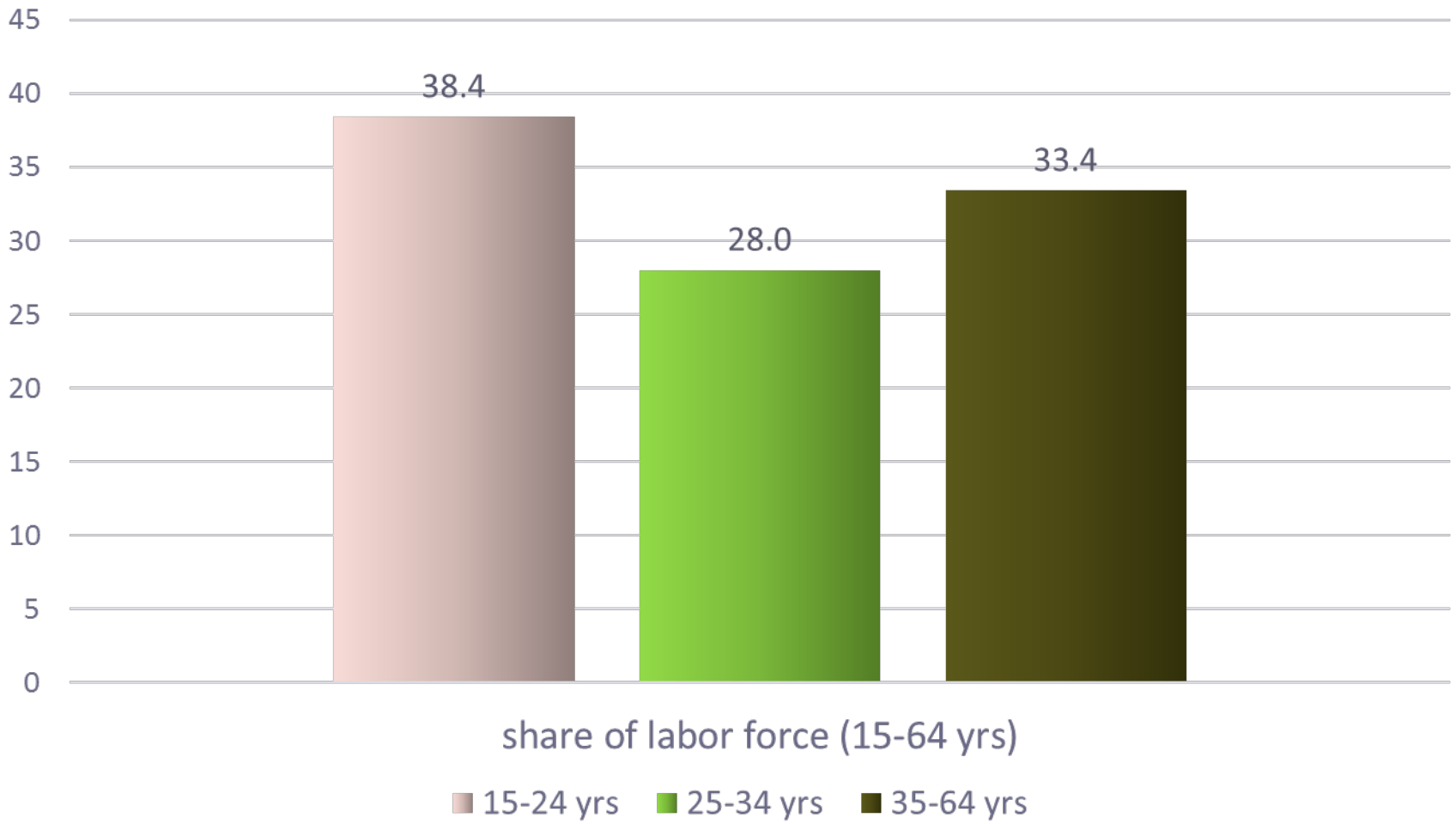
Africa's rapid population growth



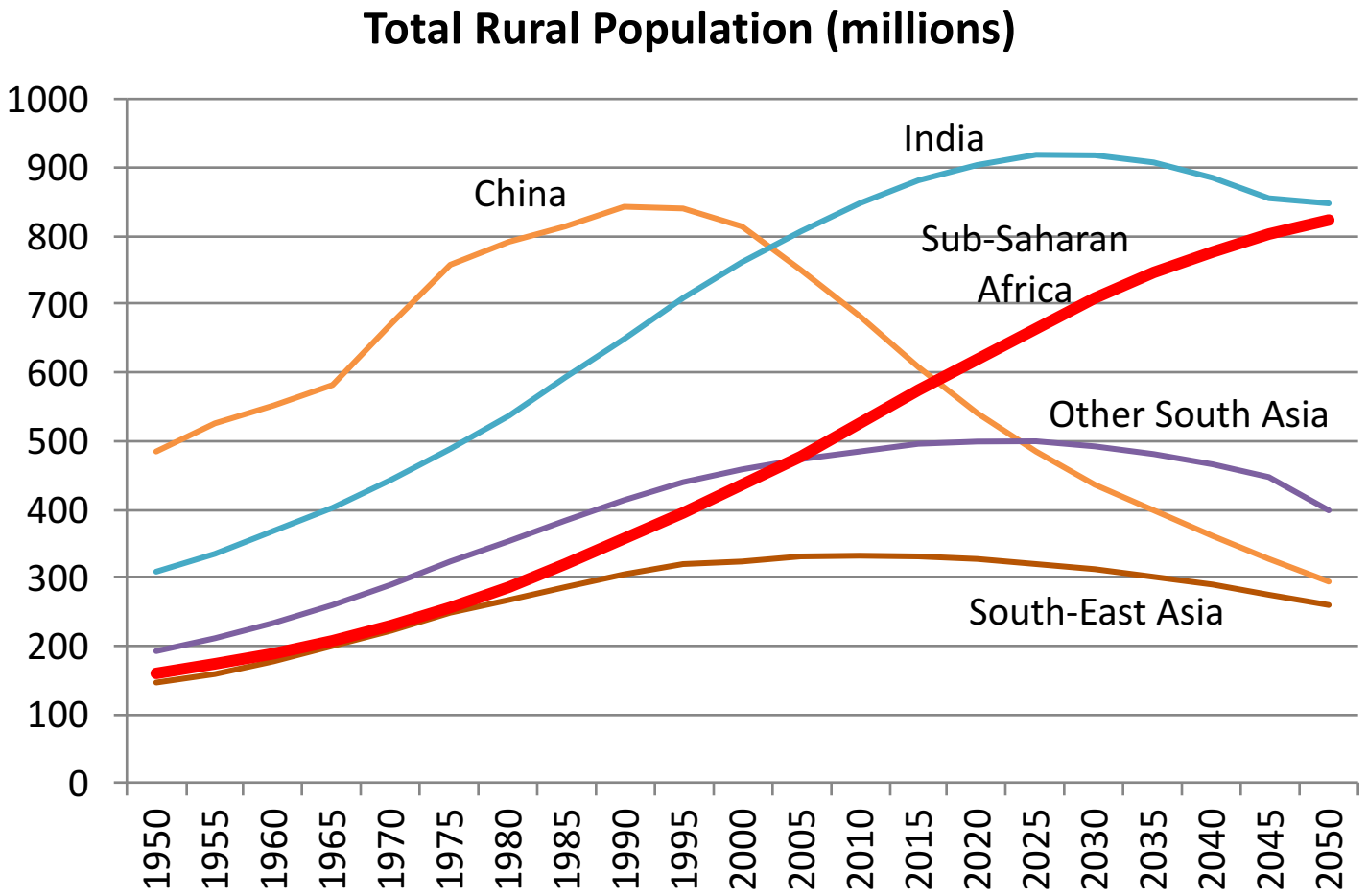
Population of Malawi



Share of labor force by age, 2016 Malawi

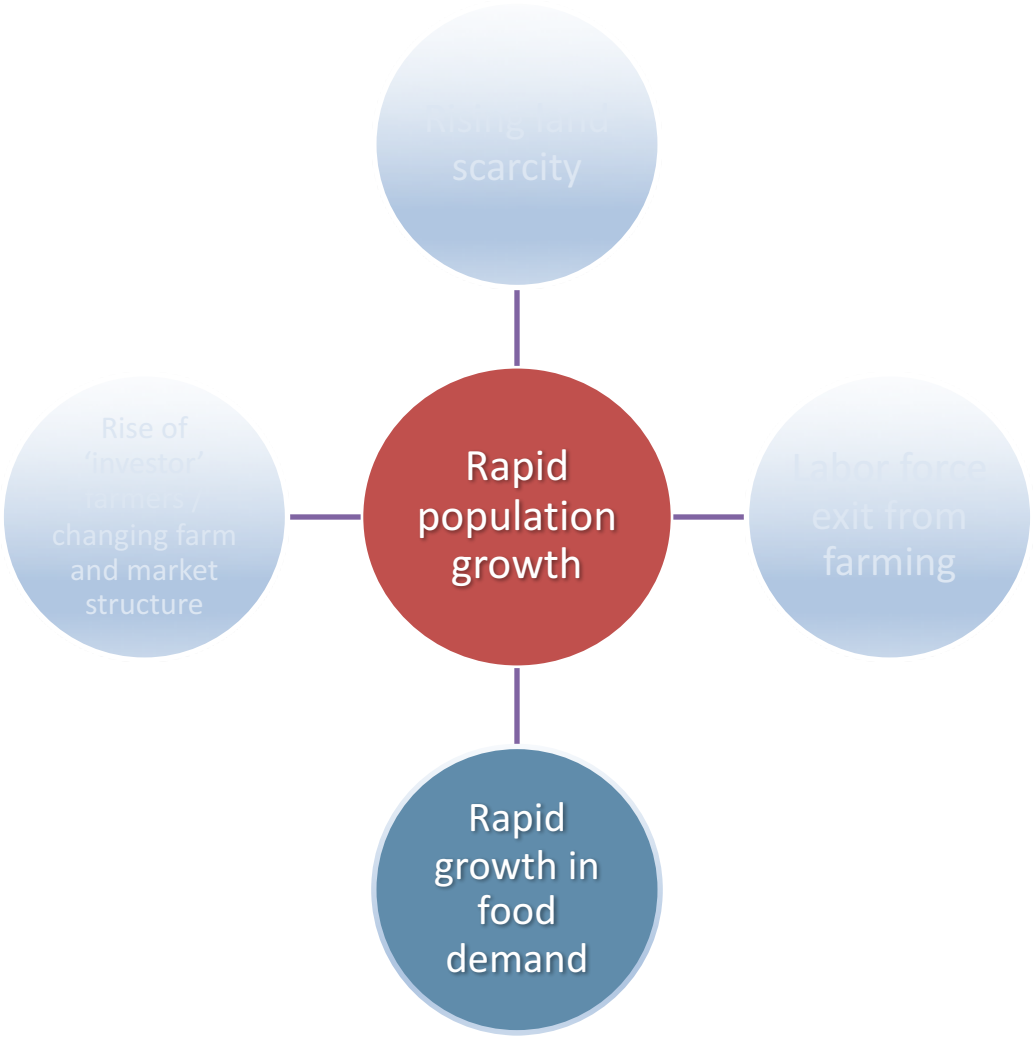


Sub-Saharan Africa: only region of world where rural population continues to rise past 2050



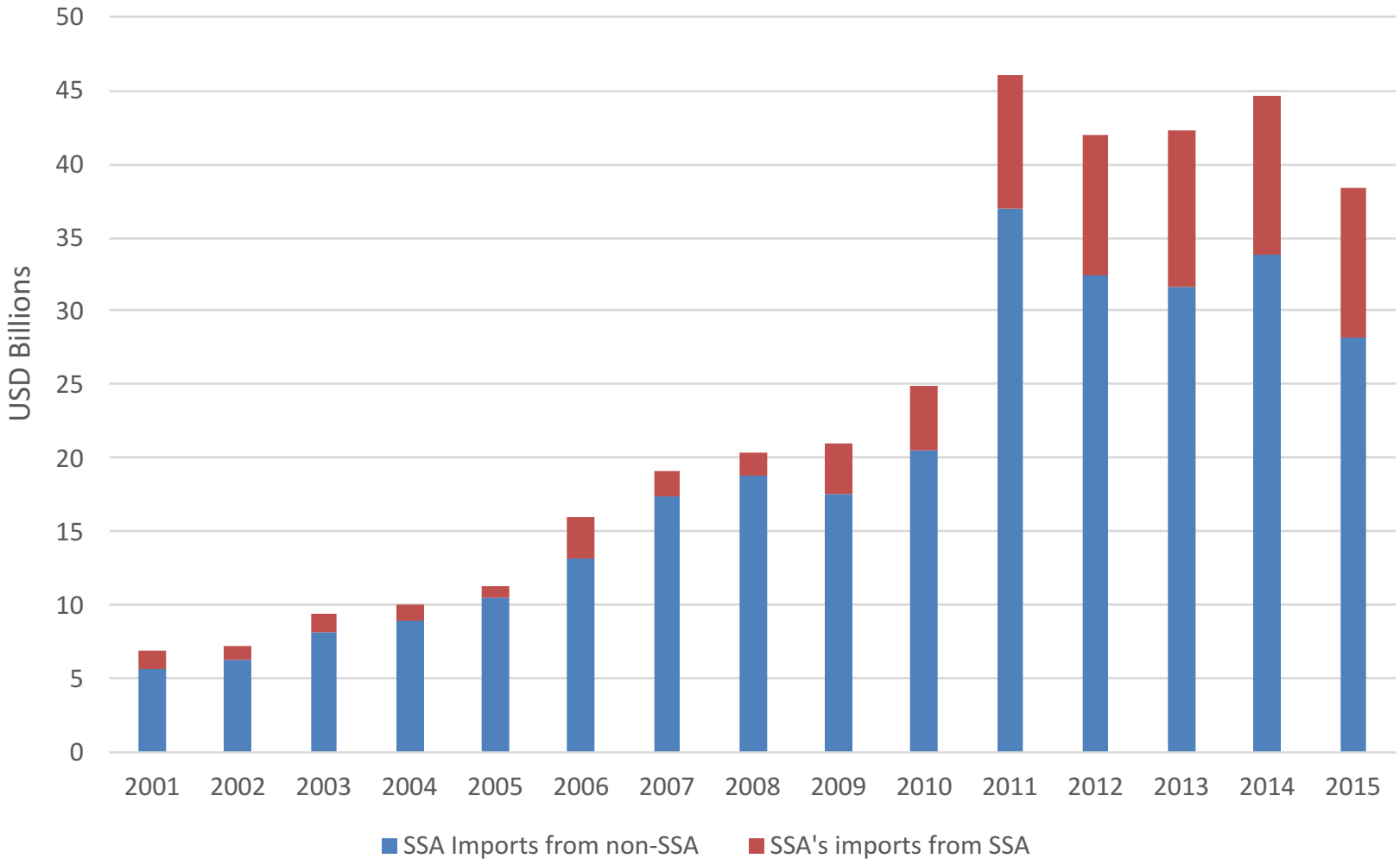
Source: UN 2013

Five inter-related trends

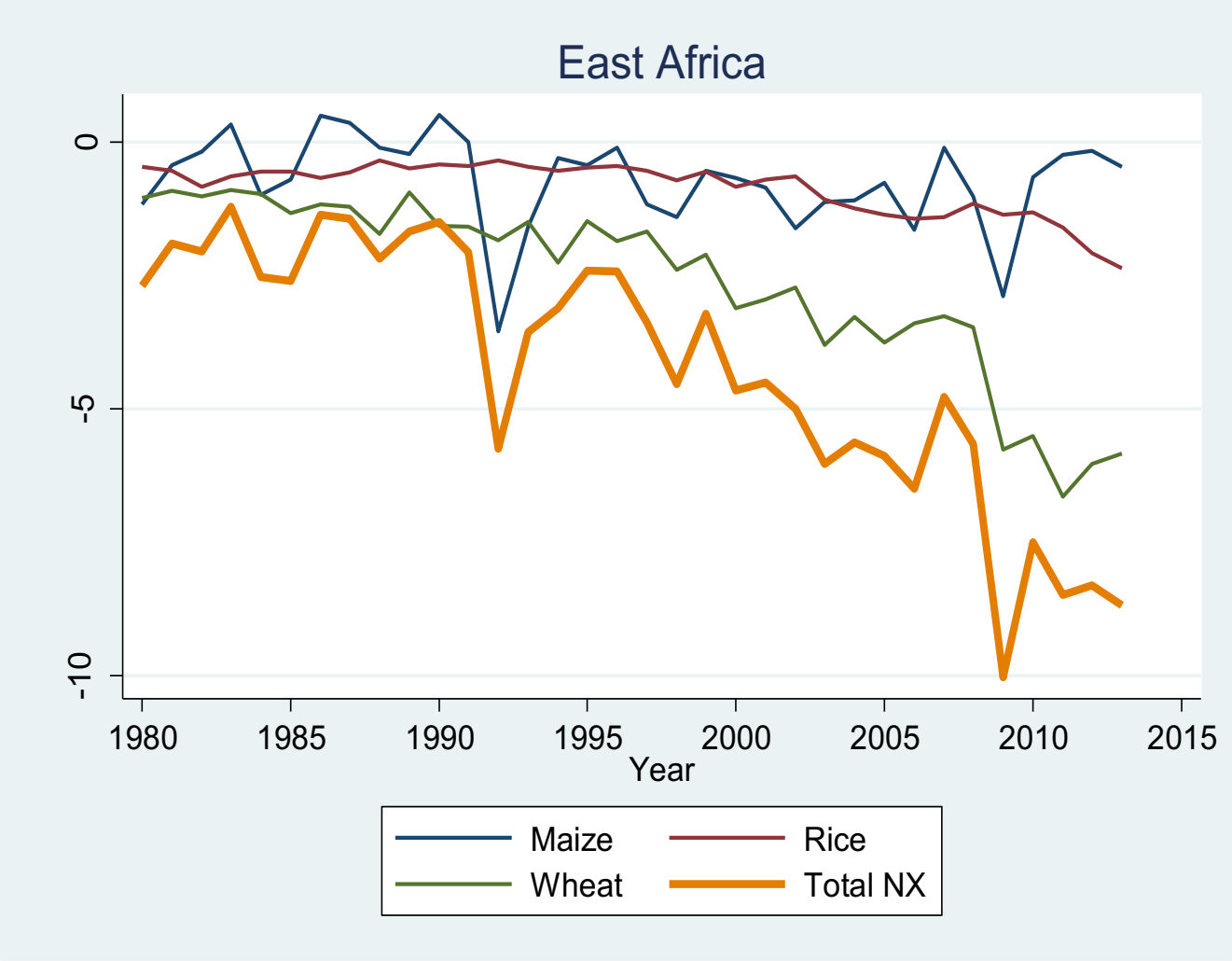


SSA Total Food Imports from 7 to 40 billion USD (2001-2015)

(intra SSA trade from 1 to 10 billion USD)

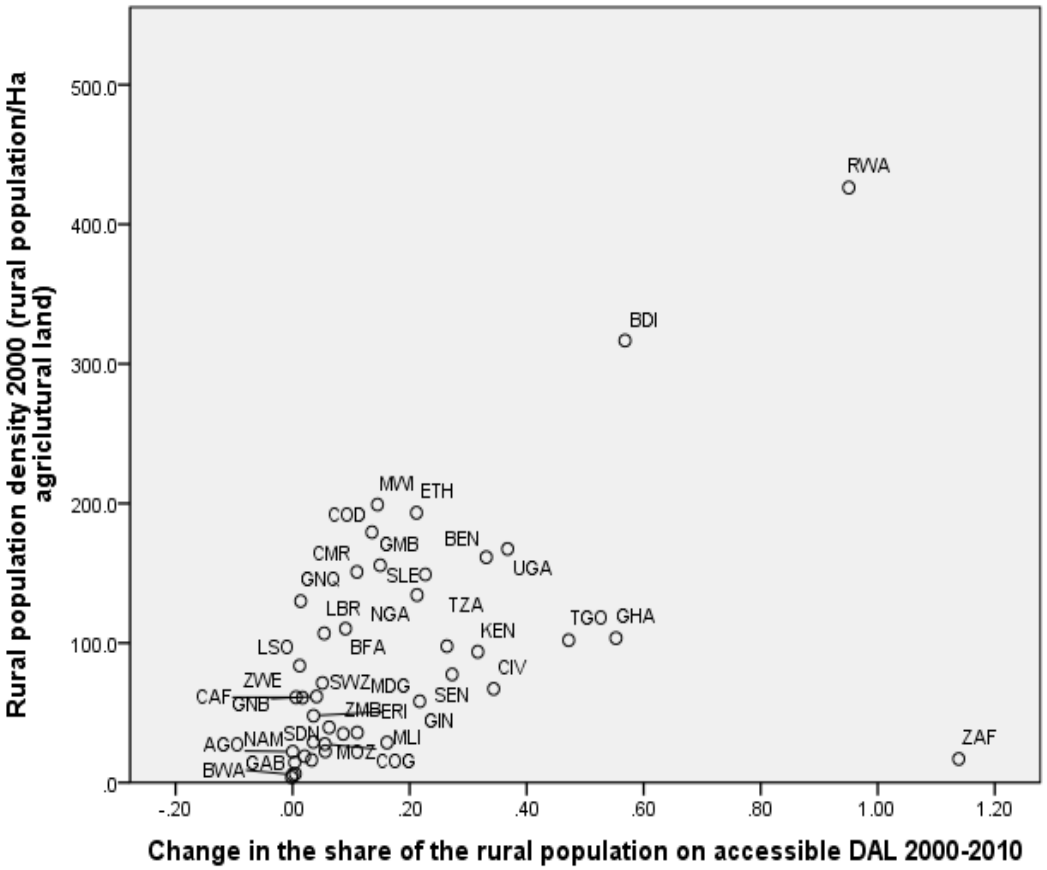


Net cereal exports, East Africa Region



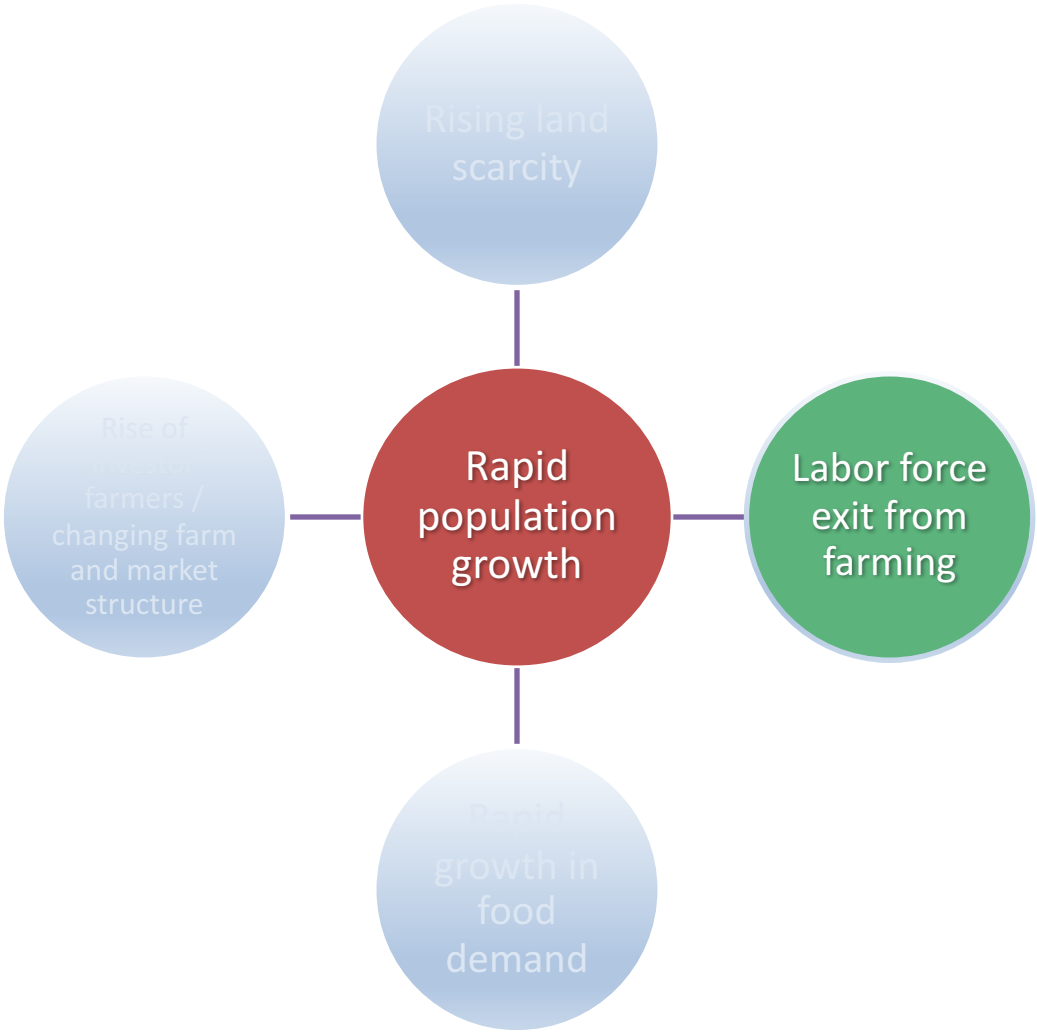
Source: FAOSTAT, 2016

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

Five inter-related trends

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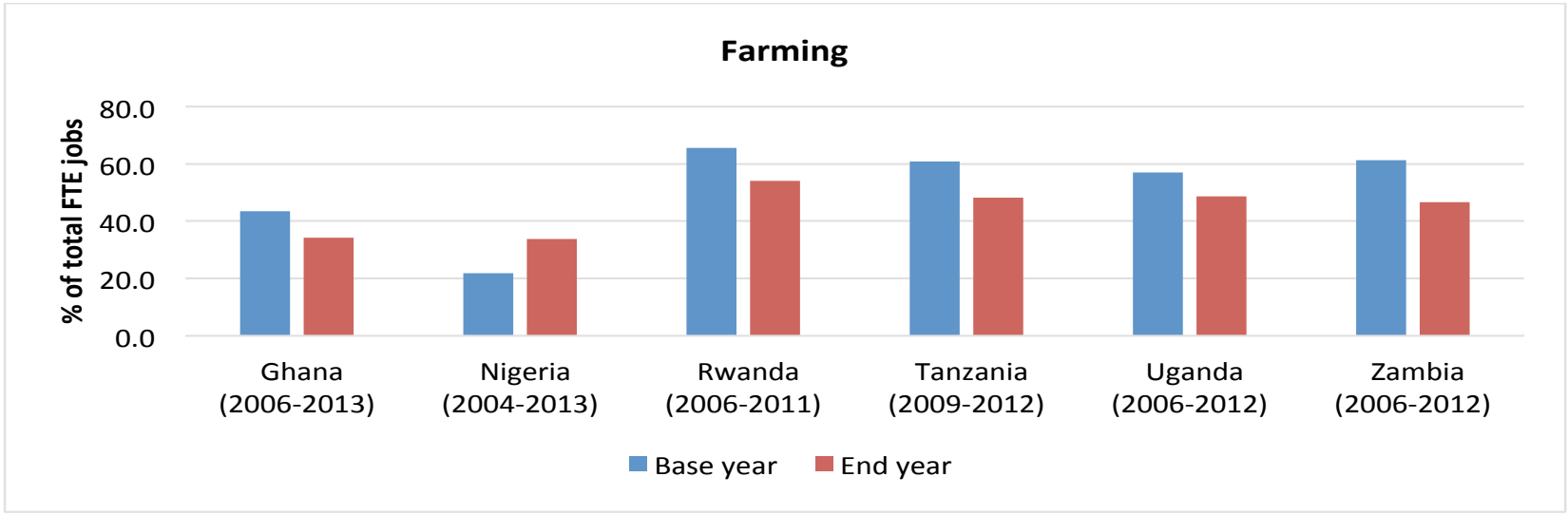
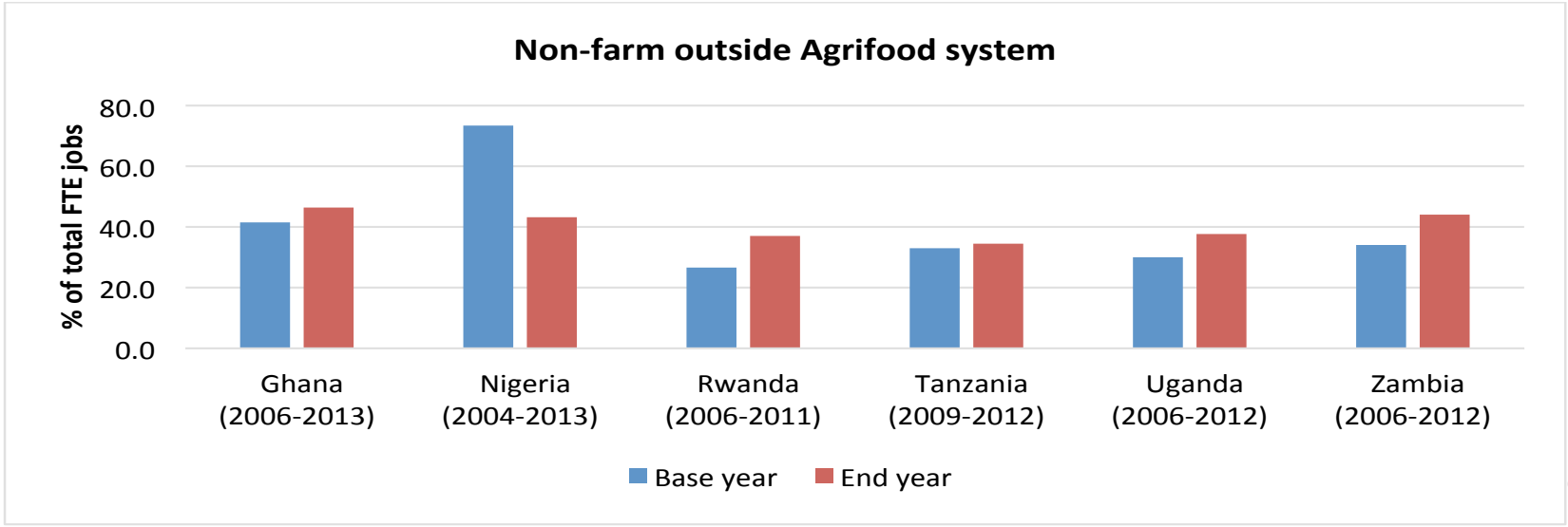
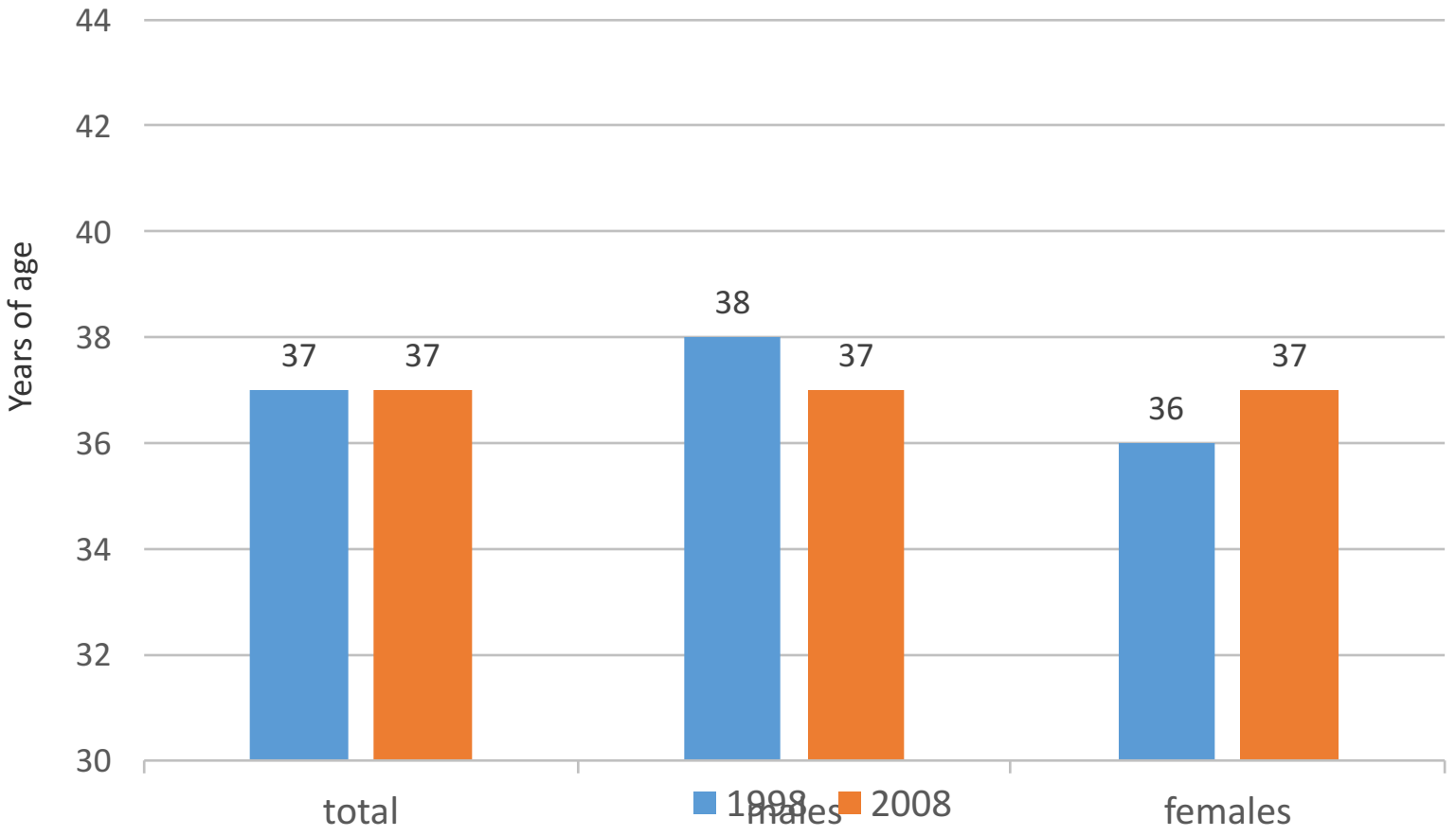
Employment trends

Changes in the share of total jobs in farming, non-farm and off-farm agri-food systems, among the working age population (15–64 years)



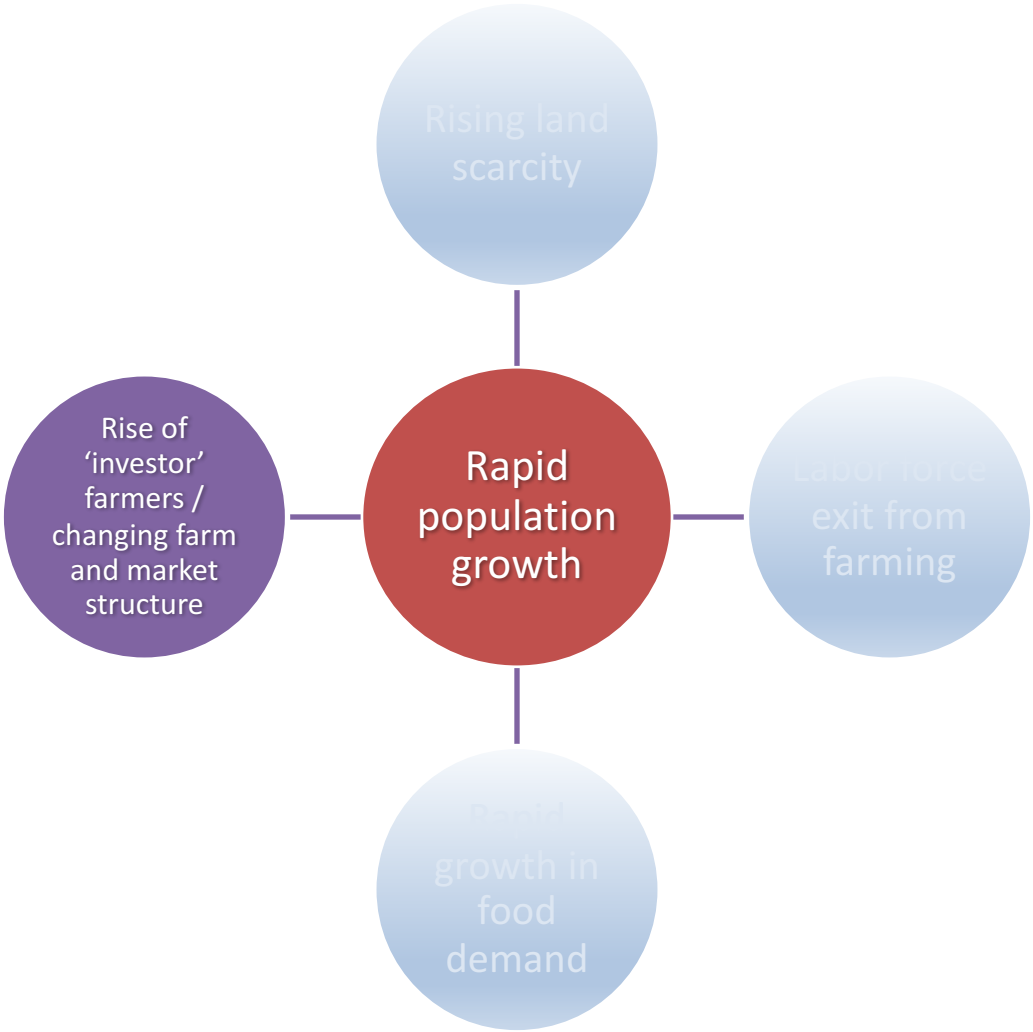


Mean age of individuals engaged in farming, Malawi



Source: 1998 and 2008 Malawi Censes (from IPUMS)

Five inter-related trends



Changes in farm structure in Tanzania (2008-2012), 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

Share of farmland on farms 5-100 ha from 38% to 44% in 4 years

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)

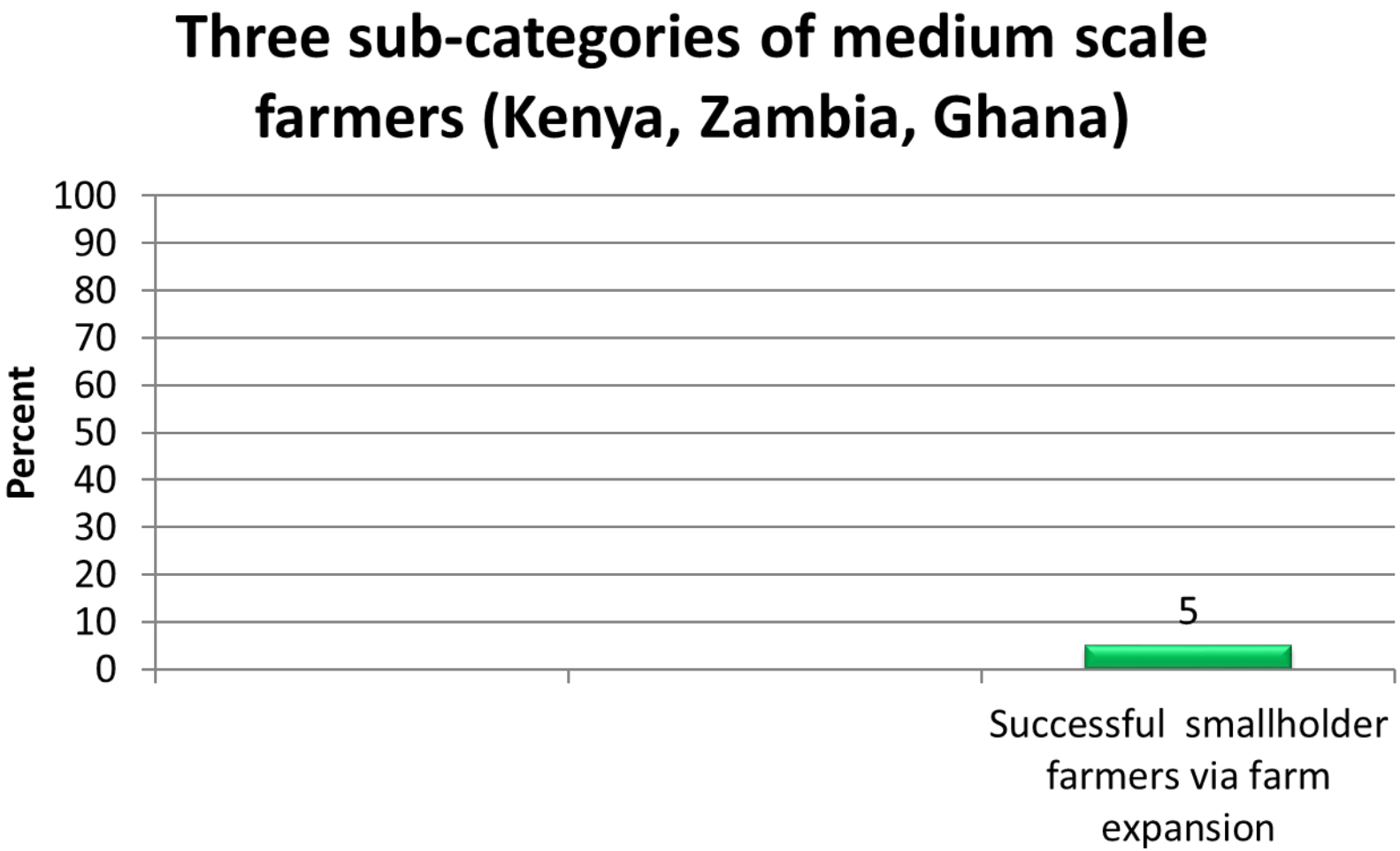
Farm size category	Number of farms		% growth in number of farms	% of total cultivated area	
	2001	2012		2001	2012
0 – 2 ha	638,118	748,771	17.3	34.1	16.2
2 – 5 ha	159,039	418,544	163.2	45	31.7
5 – 10 ha	20,832	165,129	692.6	14.3	25.0
10 – 20 ha	2,352	53,454	2272.7	6.6	15.0
20 – 100 ha	--	13,839	na	--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

52.1%

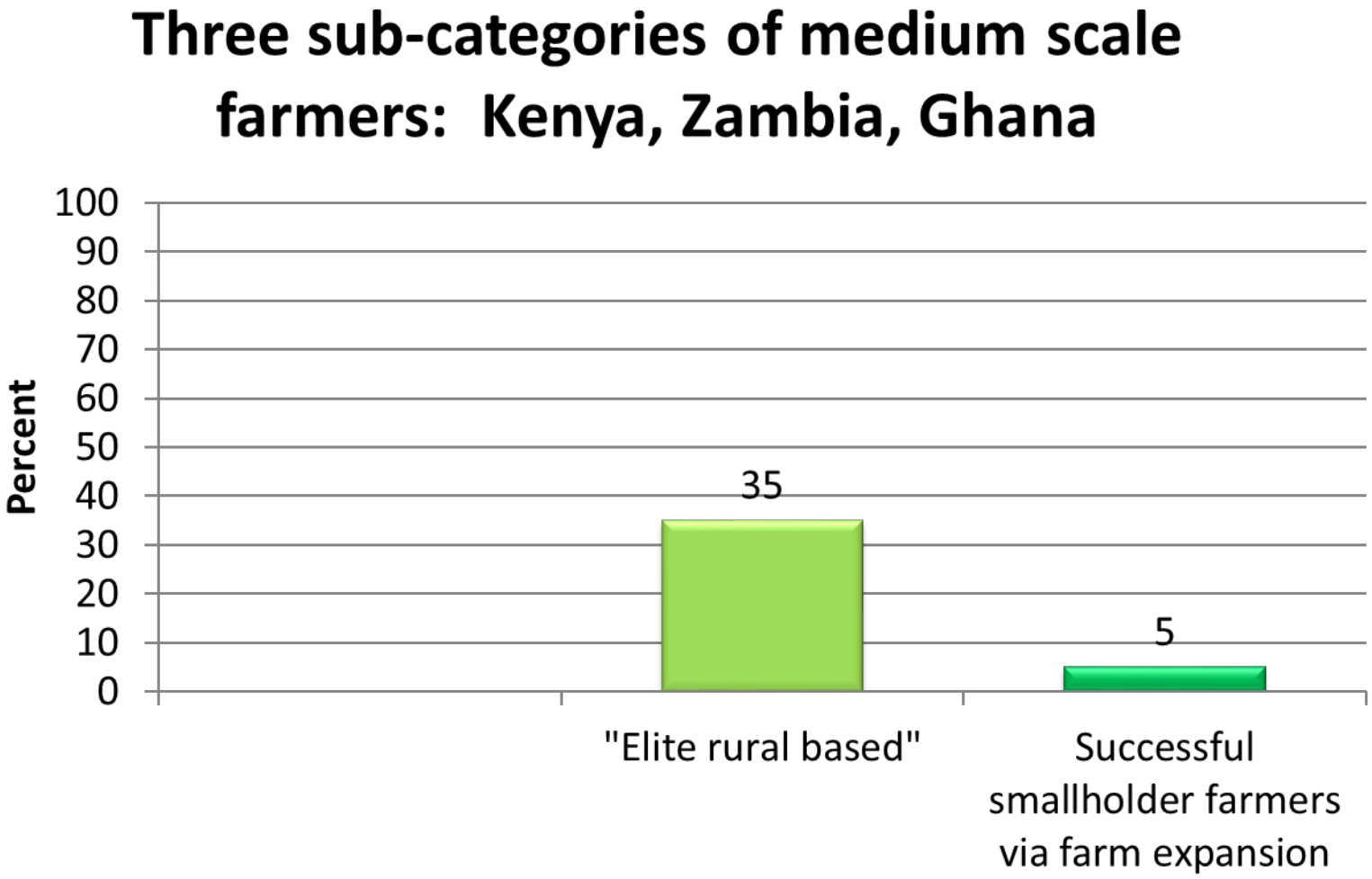
Source: Zambia MAL Crop Forecast Surveys, 2001 and 2012

Characteristics of “emergent farmers”

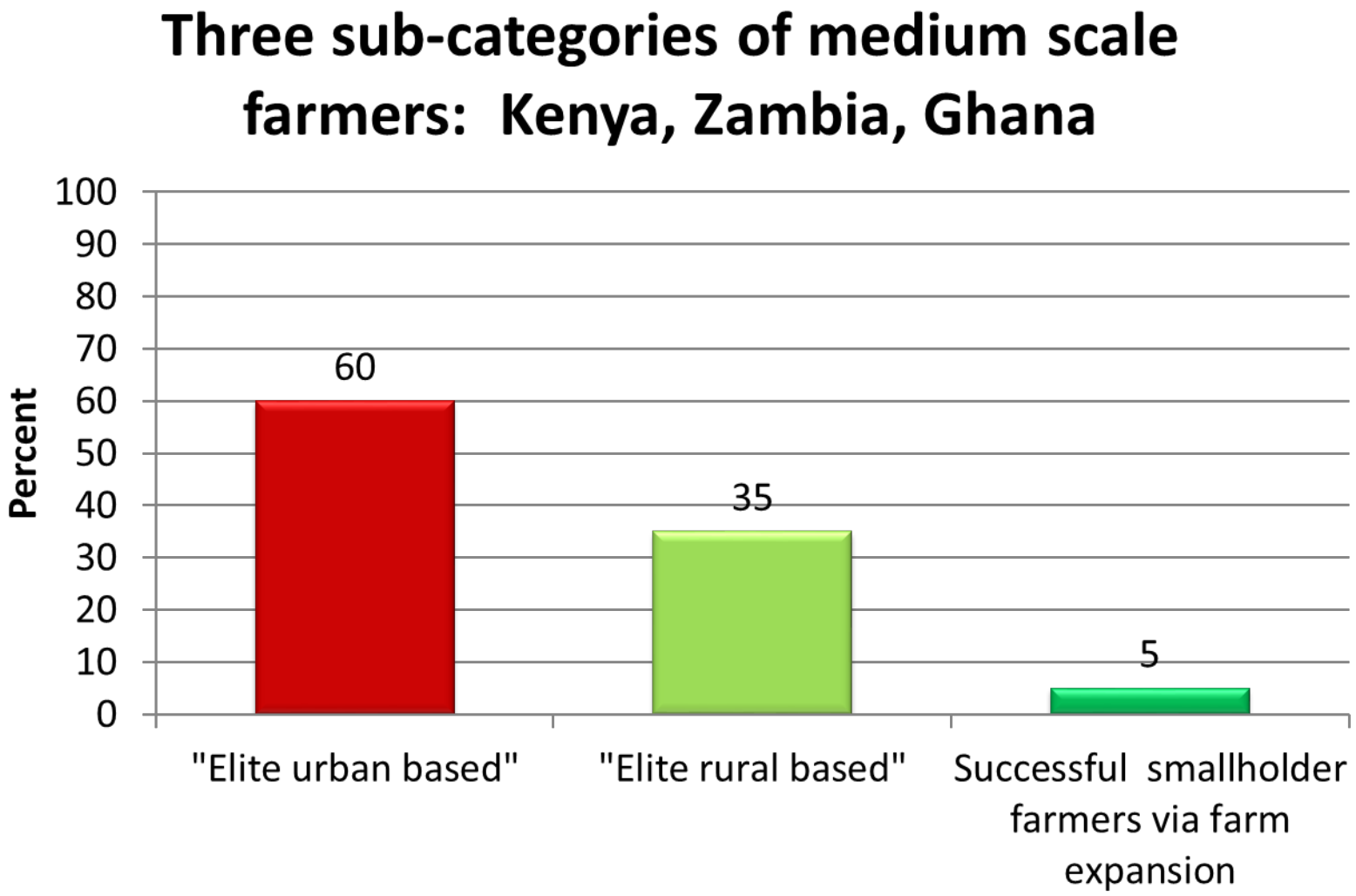
Rise of the medium-scale farmers



Rise of the medium-scale farmers



Rise of the medium-scale farmers

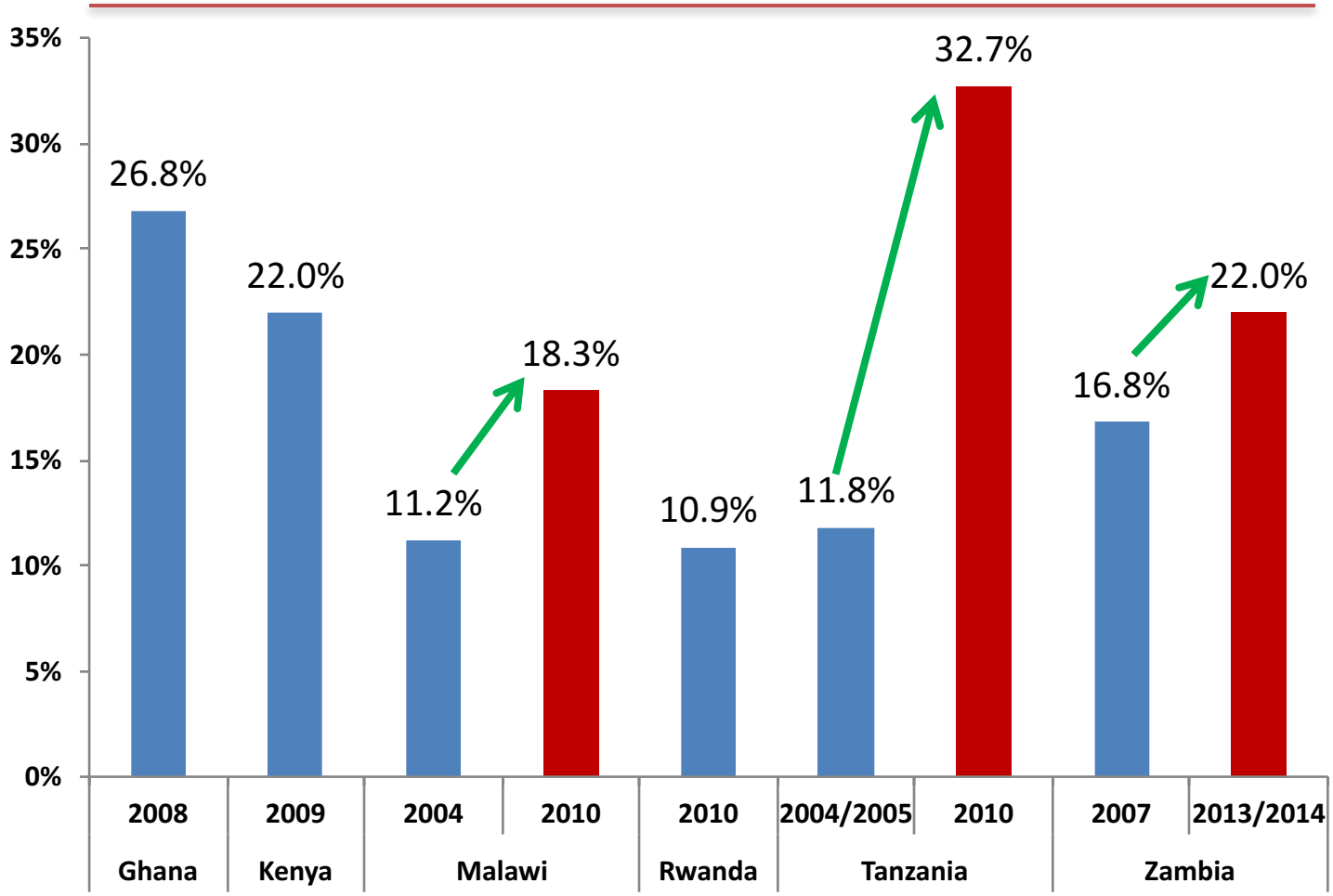


Type 1: Urban-based investor farmer

	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

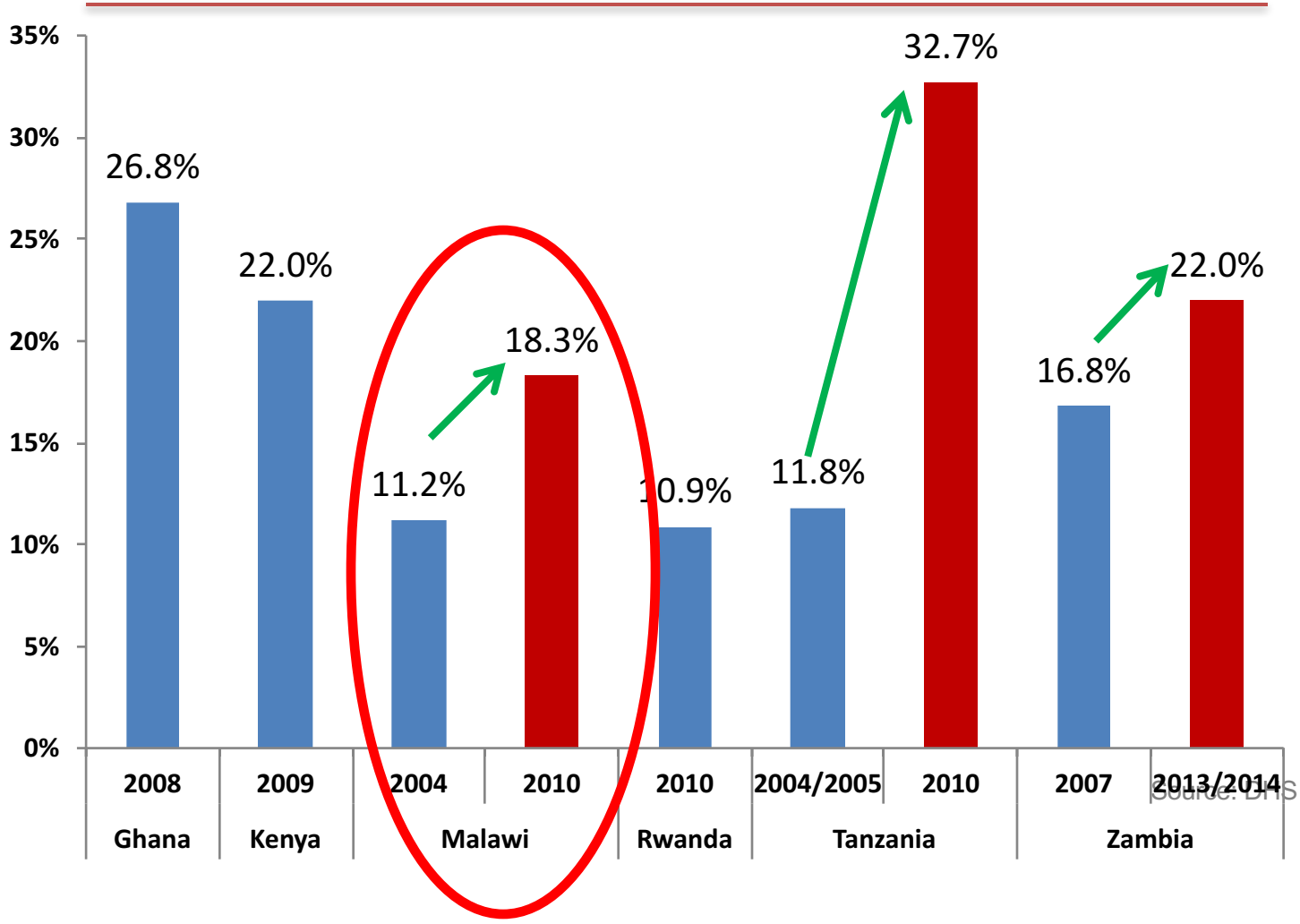
Source: MSU, UP, and ReNAPRI Retrospective Life History Surveys, 2015

% of National Landholdings held by Urban Households



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

% of National Landholdings held by Urban Households



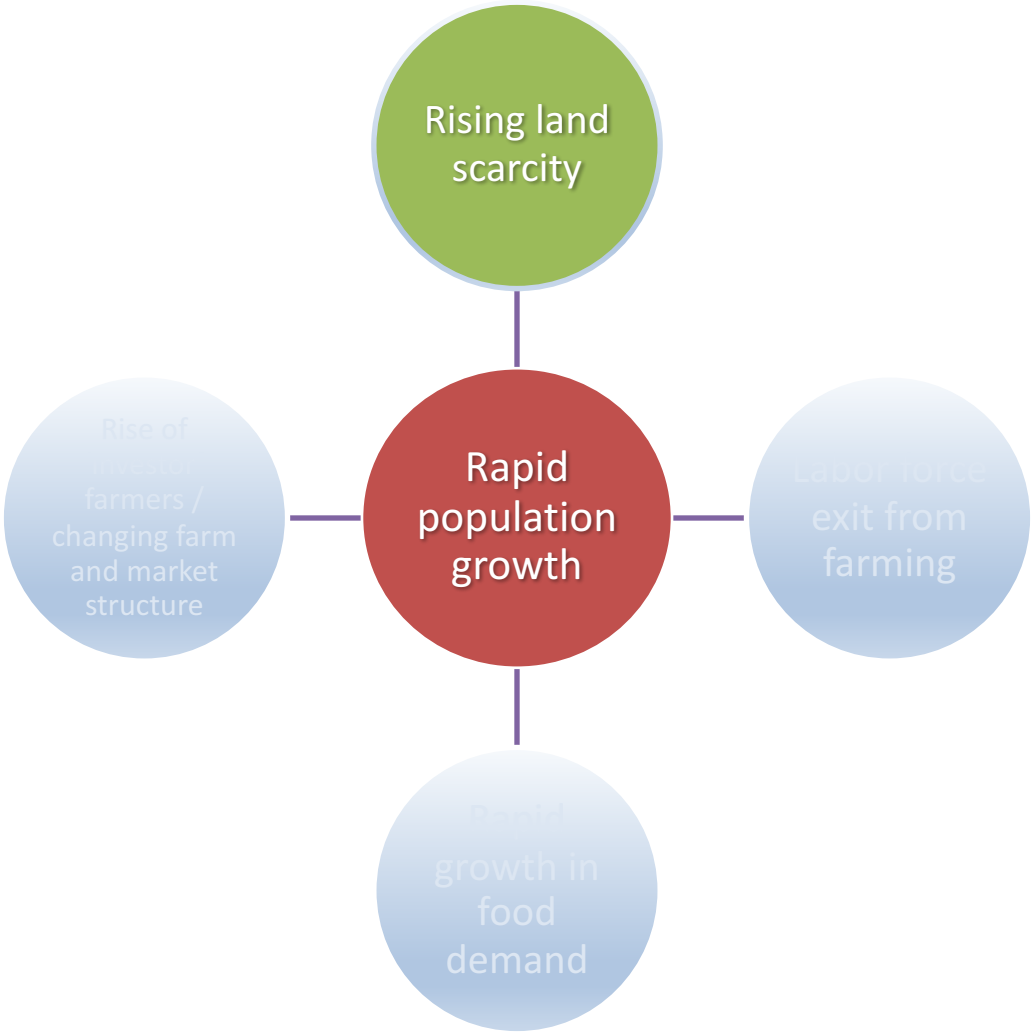
Source: DHS

GINI coefficients in farm landholding

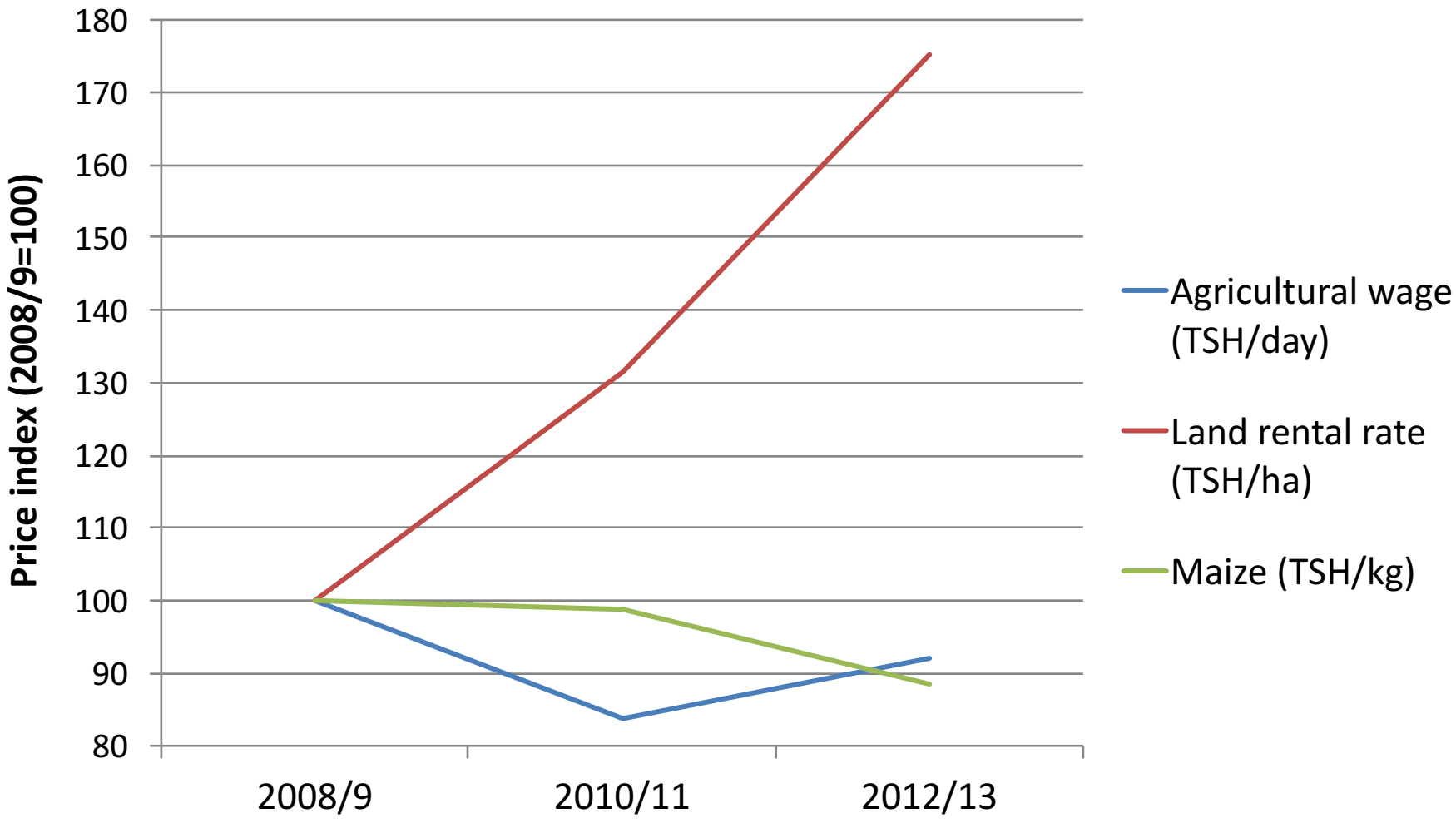
	Period	Movement in Gini coefficient:
Ghana (cult. area)	1992 → 2013	0.54 → 0.70
Kenya (cult. area)	1994 → 2006	0.51 → 0.55
Tanzania (landholdings)	2008 → 2012	0.63 → 0.69
Zambia (landholding)	2001 → 2012	0.42 → 0.49

Source: Jayne et al. 2014 (JIA)

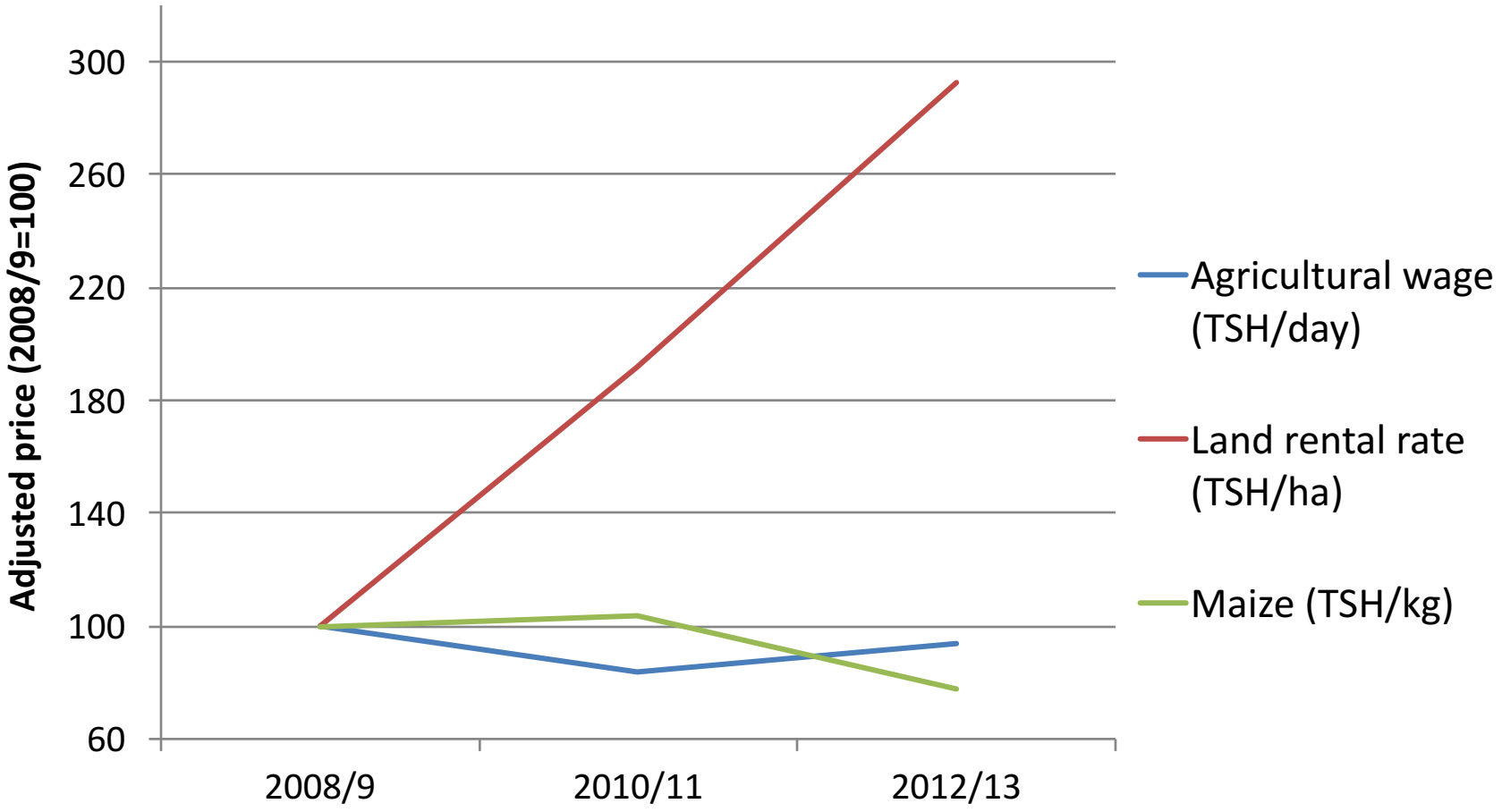
Five inter-related trends



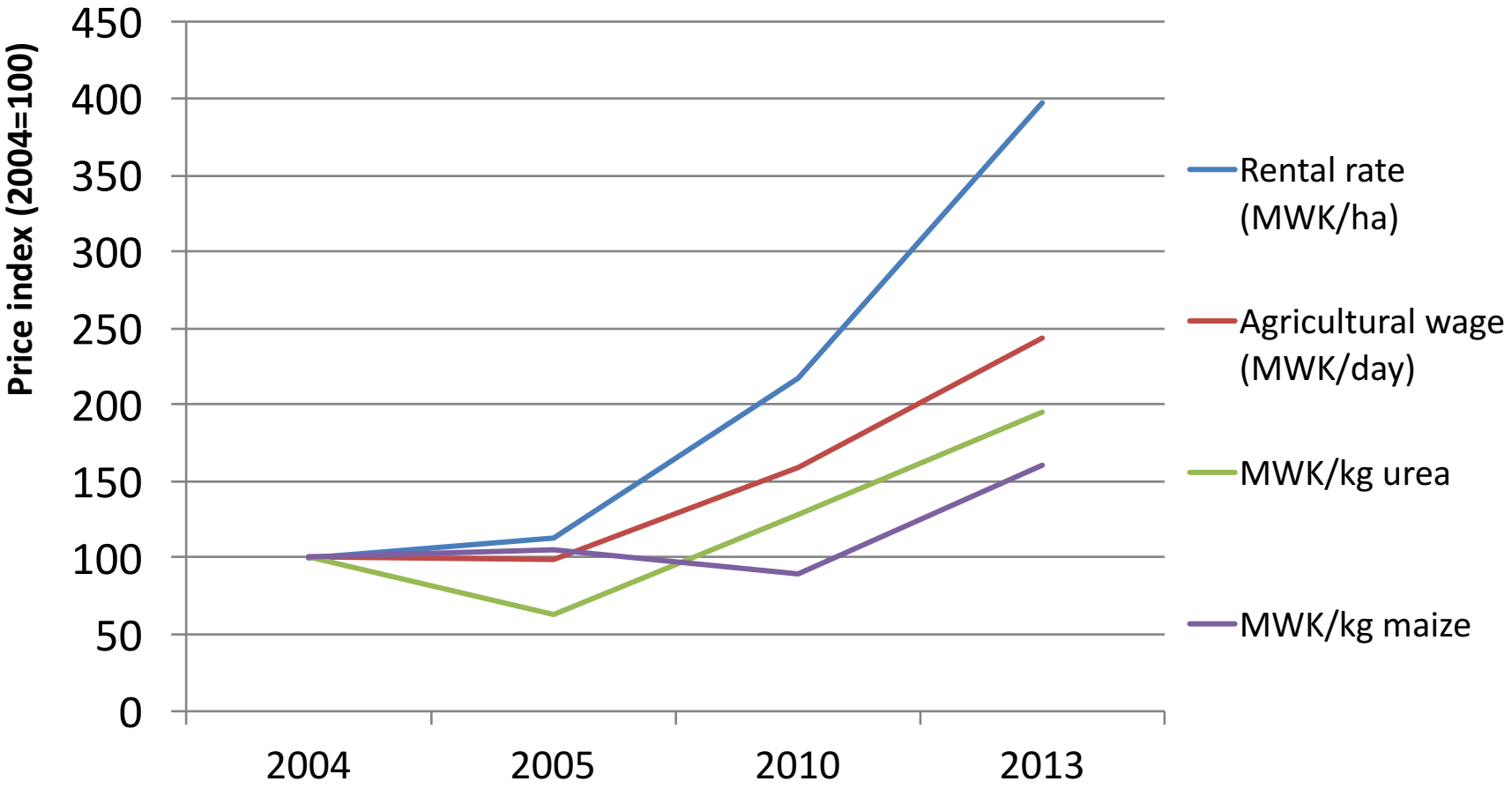
Output and factor price indices, northern Tanzania



Output and factor price indices, western Tanzania

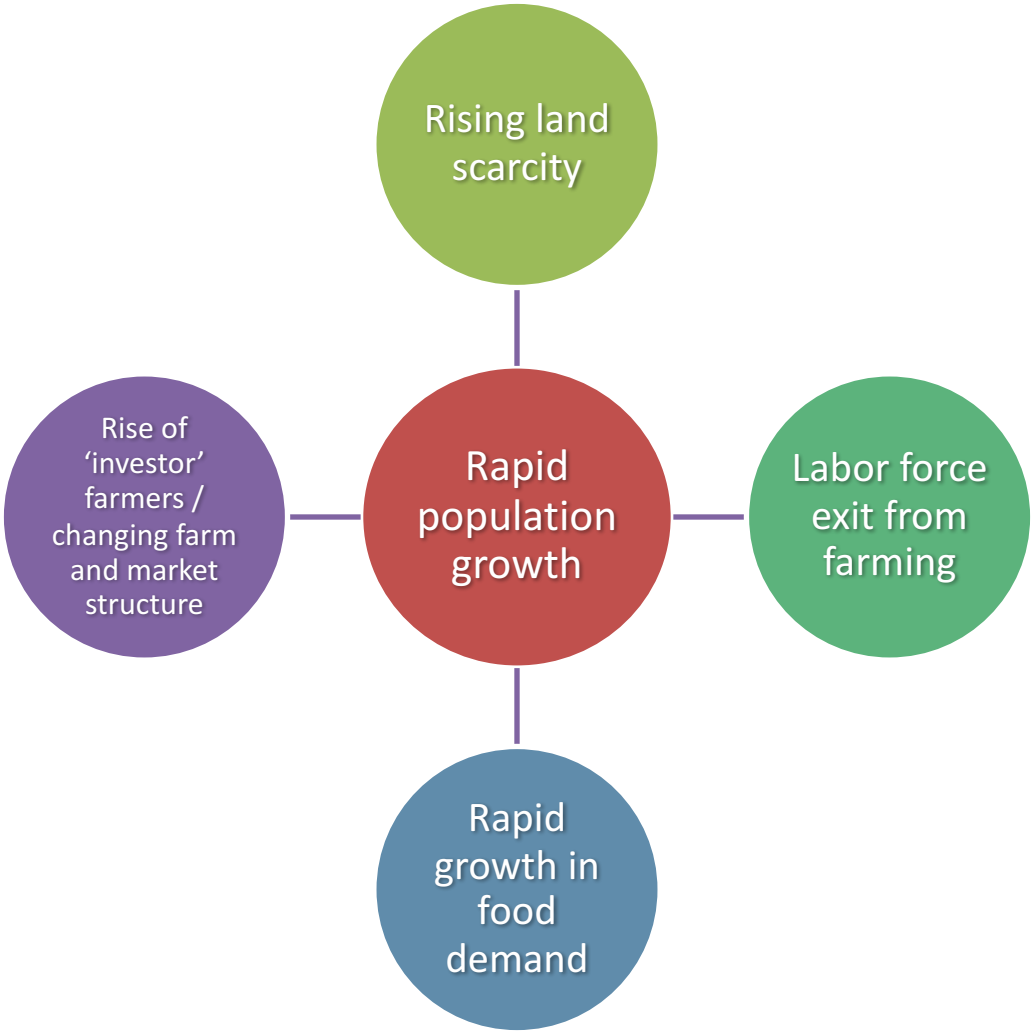


Output and factor price indices, rural Malawi, 2004-2013

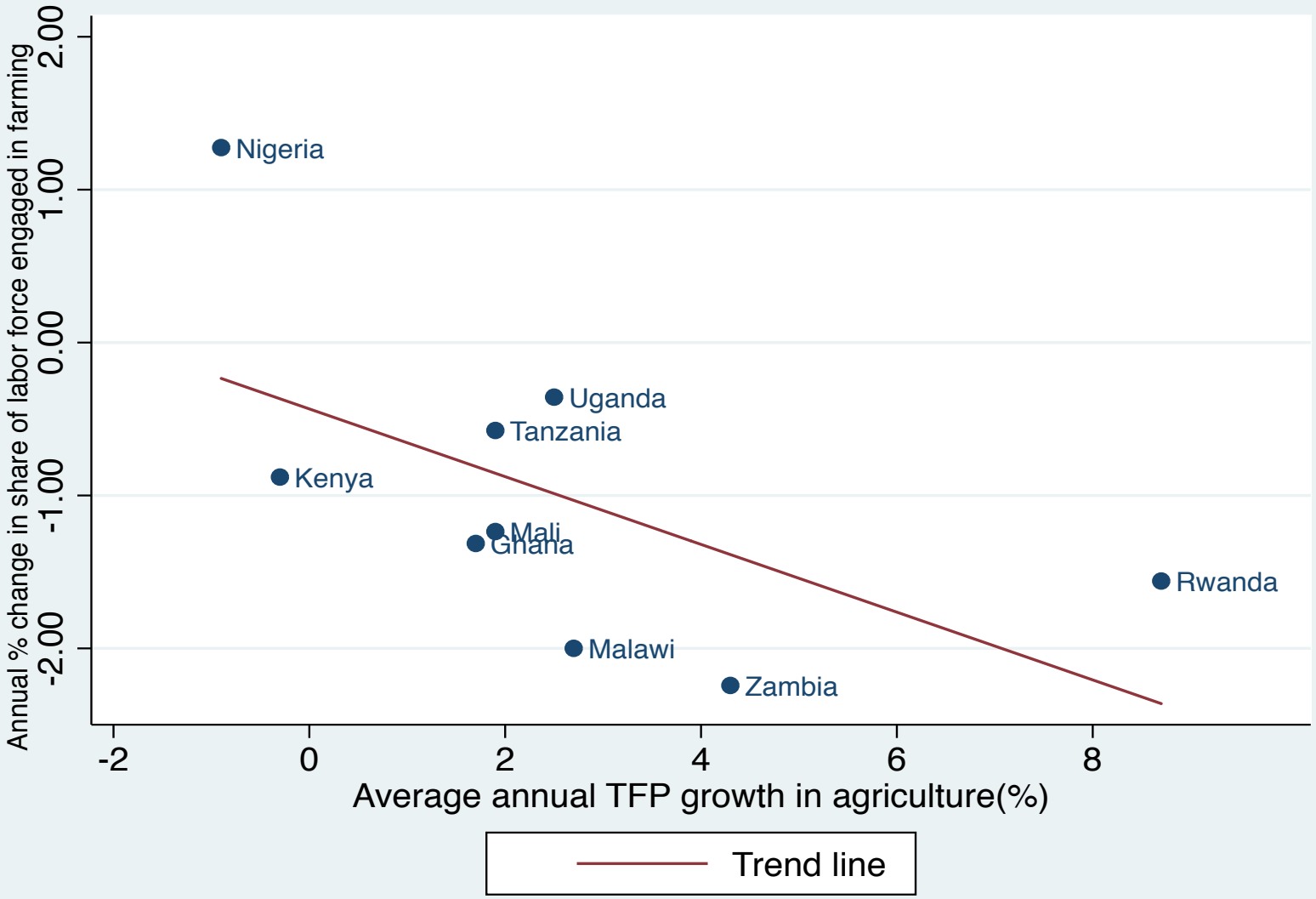


Sources: IHS for land and wages; FEWSNET for urea and maize

Five inter-related trends



Share of labor force in farming is declining most rapidly where agricultural productivity growth is highest



Source: Yeboah and Jayne, 2016

Non-farm labor productivity growth linked to lagged agricultural productivity growth

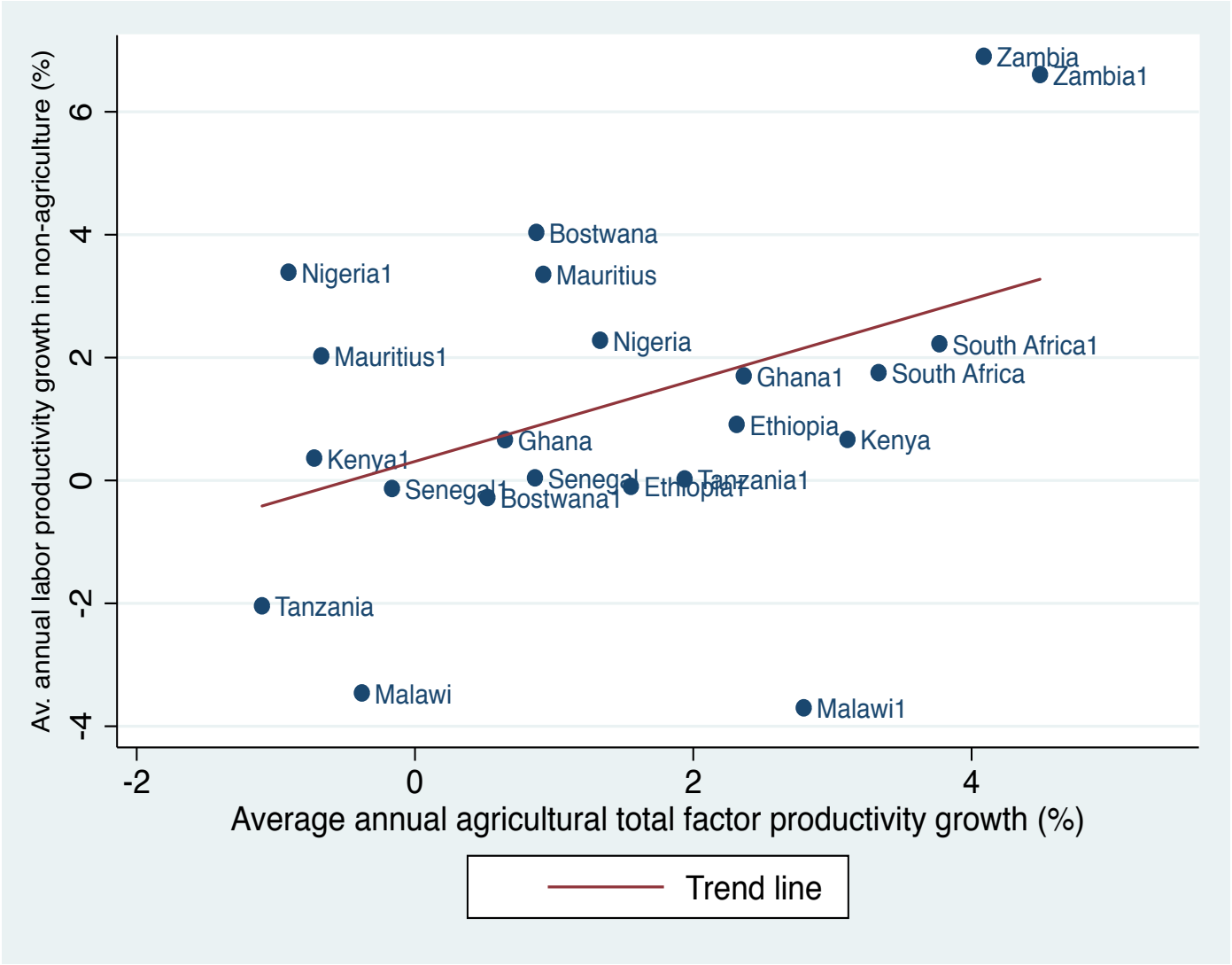


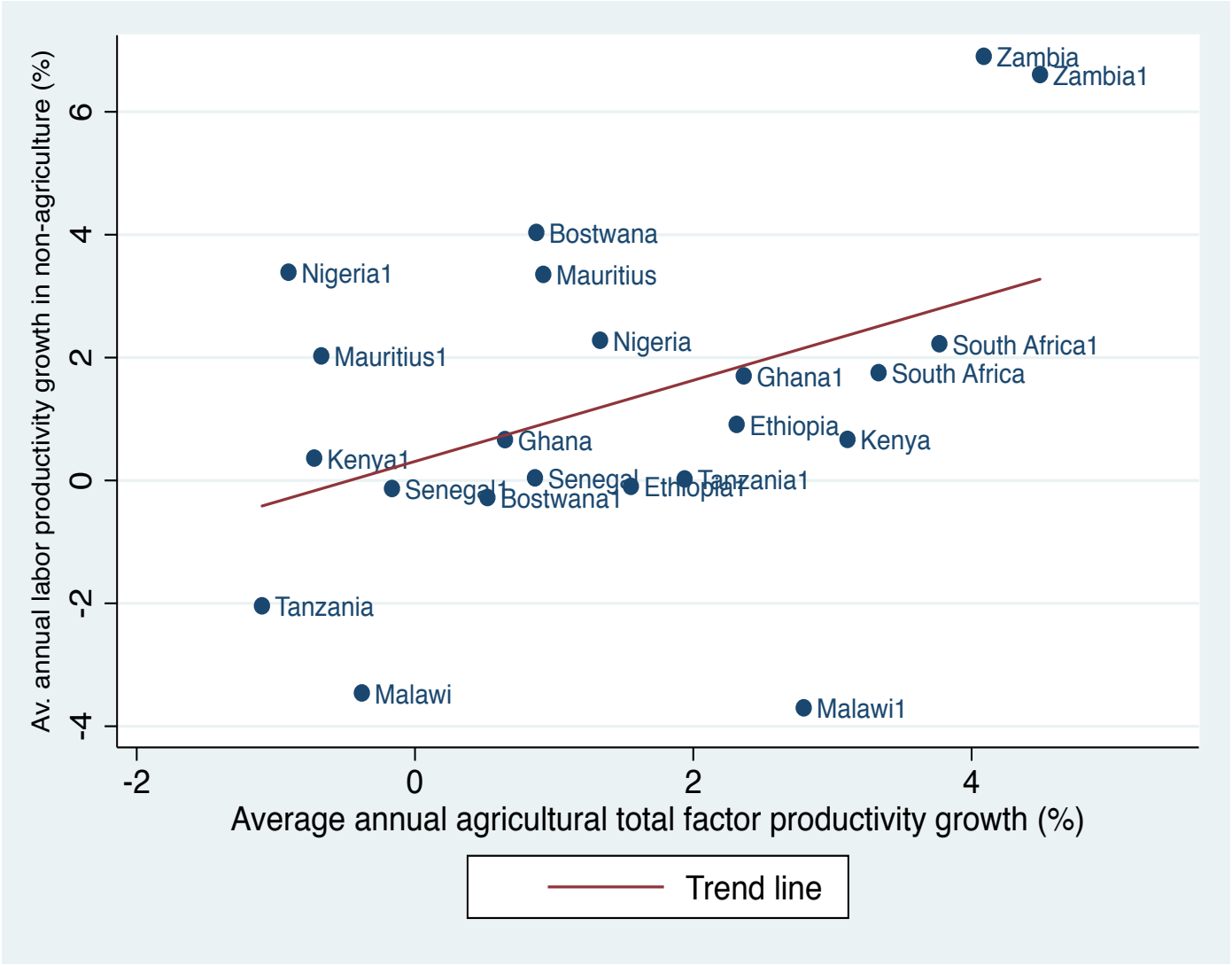
Table 1. Factors associated with changes in proportion of labor force in farming, 11-country annual pooled data, 1995-2011

	Fixed effect model	
	(i)	(ii)
Log lag labor productivity in agriculture	-0.133*	-0.284**
	(-2.15)	(-2.77)
Log lag labor productivity in non-agriculture	-0.0121	-0.176
	(-0.23)	(-1.89)
Other covariates		
Index of governance (lagged)	-0.0205	0.0698
	(-0.45)	(1.06)
Time trend	-0.00961***	-0.00458
	(-4.62)	(-0.96)
Population density	-0.00181	-0.00475
	(-1.51)	(-1.89)
Road density	-	-0.000260
	-	(-0.21)
Constant	-0.519**	0.0690
	(-3.07)	(0.20)
Number of observations	161	78
Number of Countries	11	10
Adjusted/Overall R-square	0.71	0.87
Time period	1995-2011	1995-2011

Conclusions

1. Performance of agriculture will continue to exert major influence on job growth and income growth in overall economy
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

Non-farm labor productivity growth linked to lagged agricultural productivity growth



Conclusions (cont.)

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

Conclusions (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”

Conclusions

4. Investments that raise productivity / profitability of farming:
   - Agricultural R&D and extension systems
     - Improved seed + fertilizer: crucial but incomplete
     - Farm management "best practices"
   - Well resourced public agricultural-nutrition institutions
   - Local policy institutes
   - Access to finance
   - Policy/enabling environment to attract private investment
5. Education: 300 million youth need access to skills, training
   - Malawi example
   - Ethiopia:
     - 1995: 3,000 undergrads per year
     - 2014: over 100,000 per year

Conclusions

Bottom line:

Economic transformation in SSA will require

- inclusive agricultural productivity growth
- improved access to education
- strengthening of African public institutions

Governments hold the key!


Thank You