

Sustainable intensification of cereal-legume-livestock integrating farming systems in
Eastern and Southern Africa
Dar es Salaam, 6-9 February 2012

Intensification Index in rural Tanzania and Malawi



Data availability: Tanzania

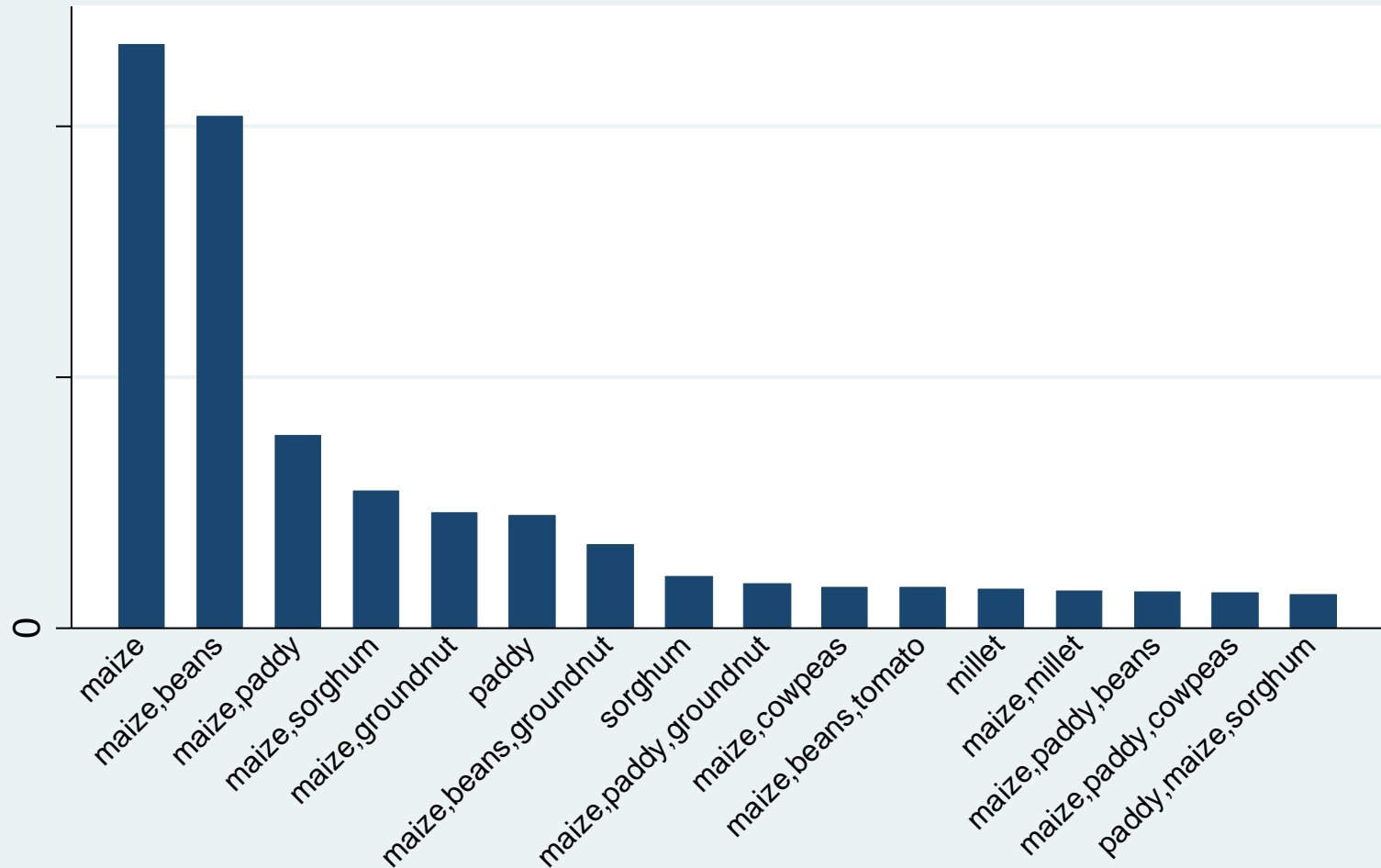
- HBS (2000, 2007)
- LSMS-ISA (2009)
- Census (2002, 2007)
- DHS (1996, 1999, 2003, 2004, 2006)
- Agricultural Sample Census (1995, 2002, 2007/8)
- ...?

Data availability: Malawi

- IHS (1997-8, 2004-5, 2010)
- Annual WMS (2005-2009)
- CWIQ (2002)
- Census (1984, 1998, 2008)
- DHS (1992, 1996, 2000, 2002, 2004)
- Agricultural Production Estimates Survey (2003)
- National Sample Survey of Agriculture (1992)
- ...?

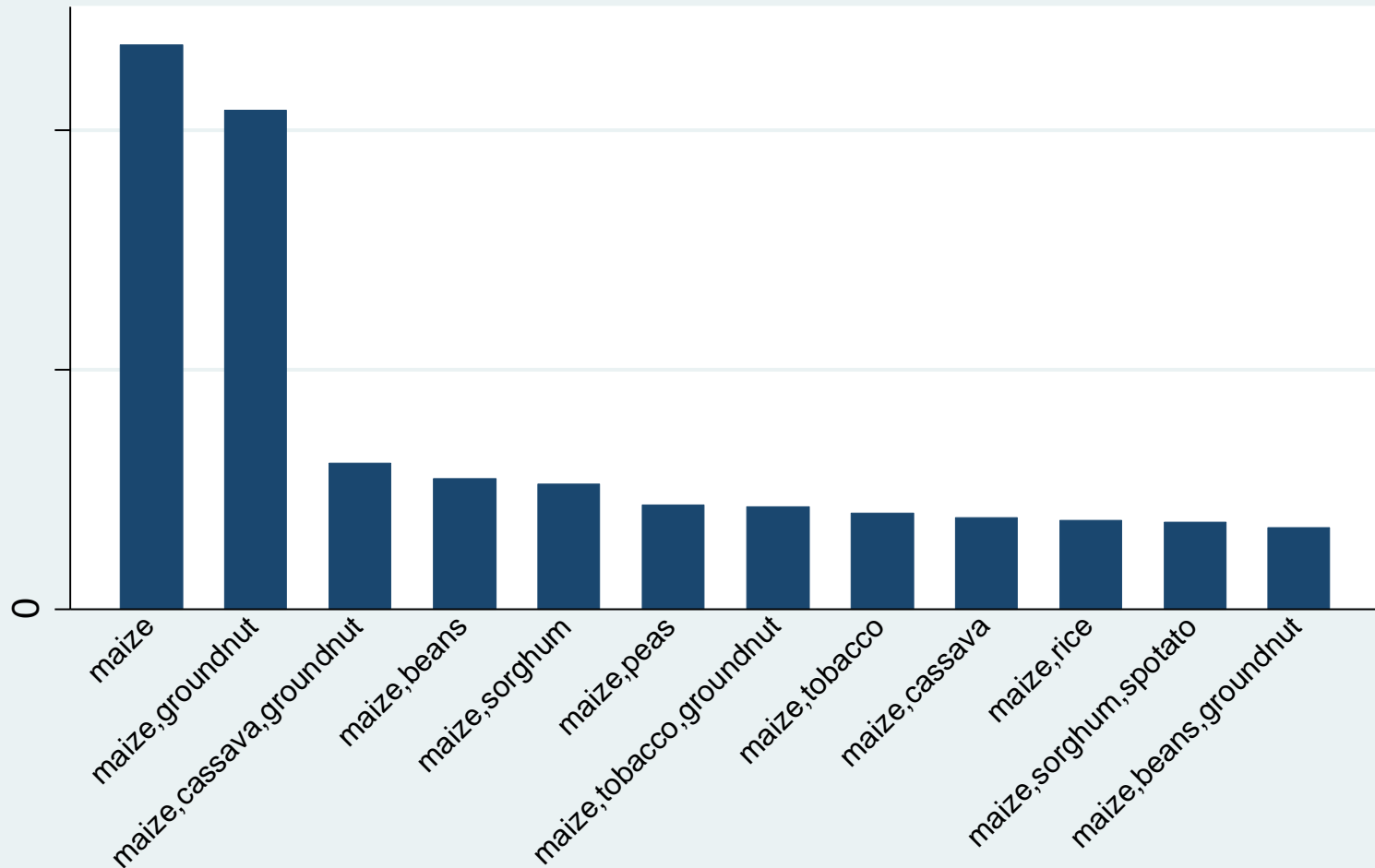
Farming systems in Tanzania

of households growing
rural Tanzania



Farming systems in Malawi

of households growing
rural Malawi



Indices

Normalized indices (0,1) with weights based on the first principal component, the linear combination capturing the greatest variation among the set of variables:

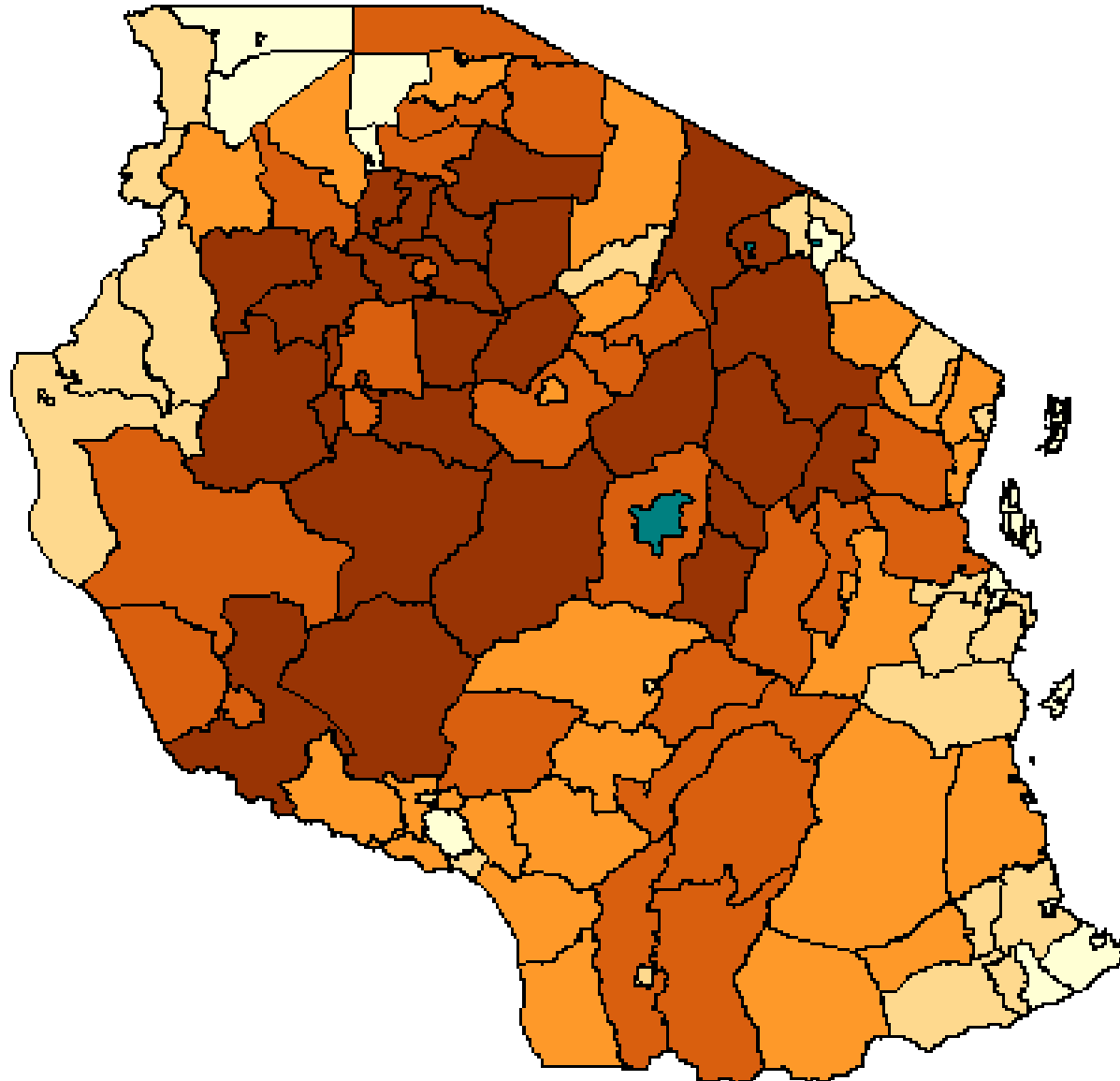
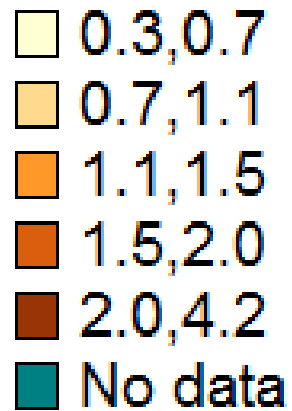
- **Intensification index (INT)**-> hh average education, quantity of improved seed/area, quantity of ino. fertilizer/area, quantity of org. fertilizer/area, quantity of pesticides/area, use of irrigation, # of total TLU/area, *ganyu* labor/area (MWI)
 - ***Sustainability index***-> *degradation, land and water availability/variability, erosion, SLM practices, NRM,...*
- > ***Currently we don't have a SI index***

What are we missing?

- **Intensification index (INT)**-> mechanization (MWI), soil quality, AEZ, yield? productivity? (depending on the intensification definition)
- **Sustainability index**->diversity of crop, social capital, engagement of private sector, future potential in agriculture and market access (in 5 years), # of trees planted and survived

Tanzania: farm size

Legend



Malawi: farm size

Legend

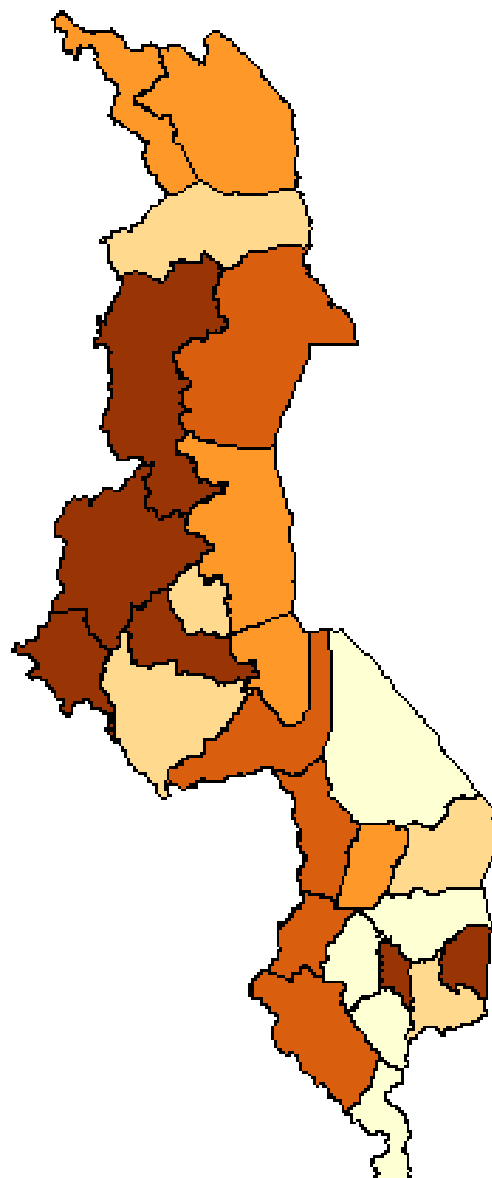
0.4,0.8

0.8,0.8

0.8,1.0

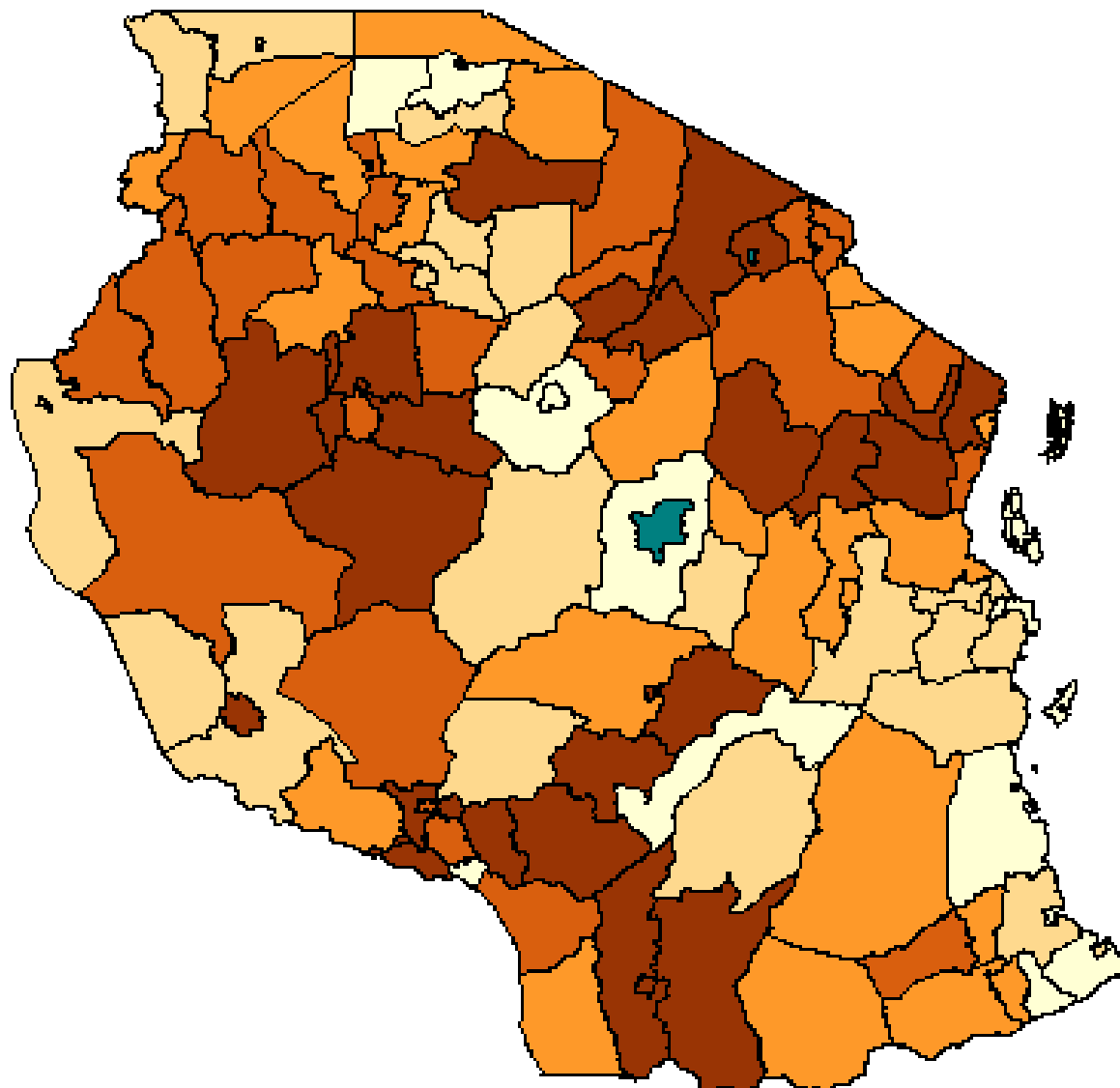
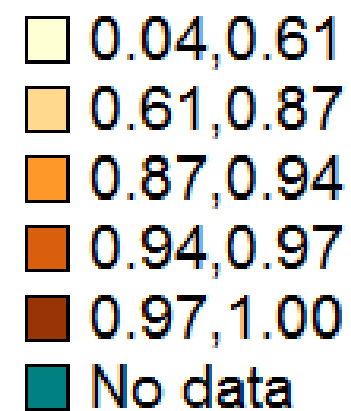
1.0,1.1

1.1,1.5



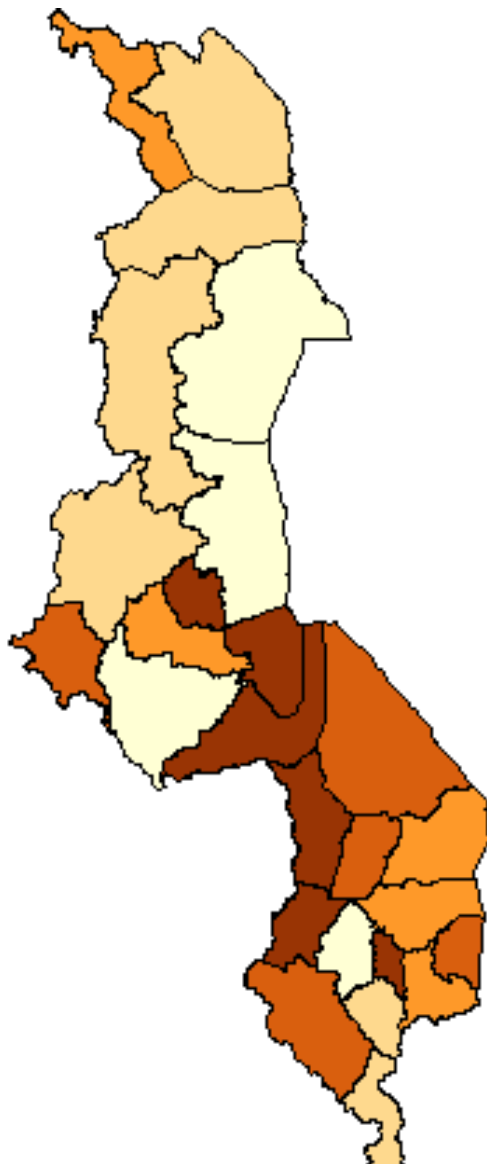
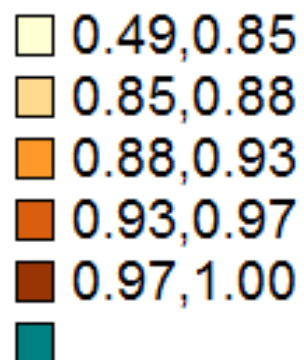
Tanzania: % hhs growing maize

Legend



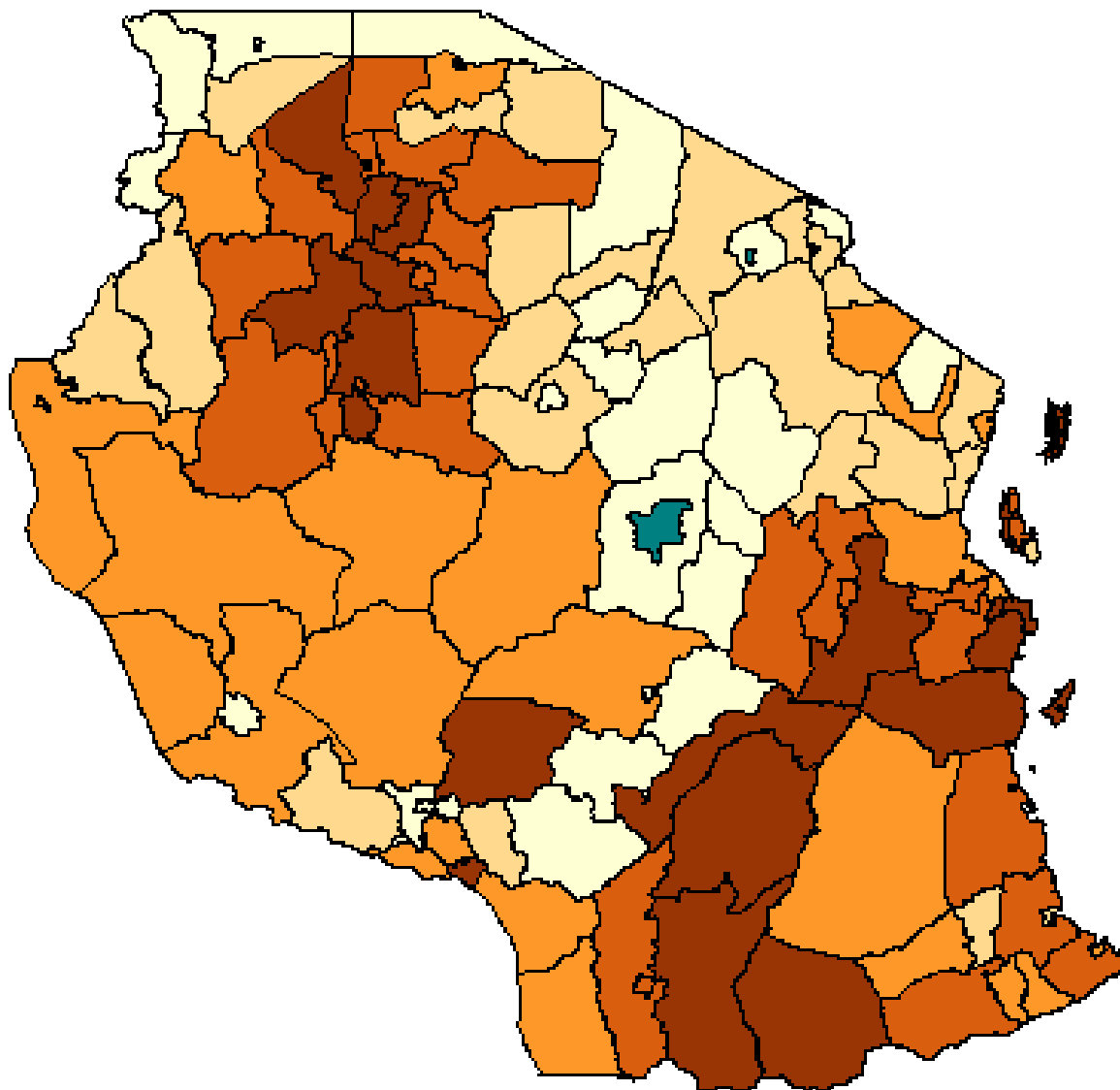
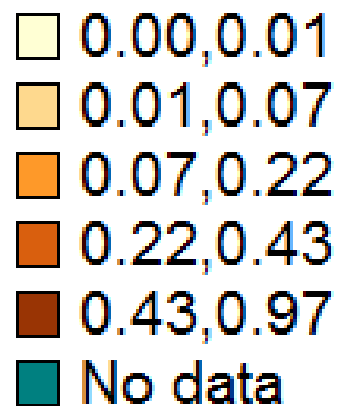
Malawi: % hhs growing maize

Legend



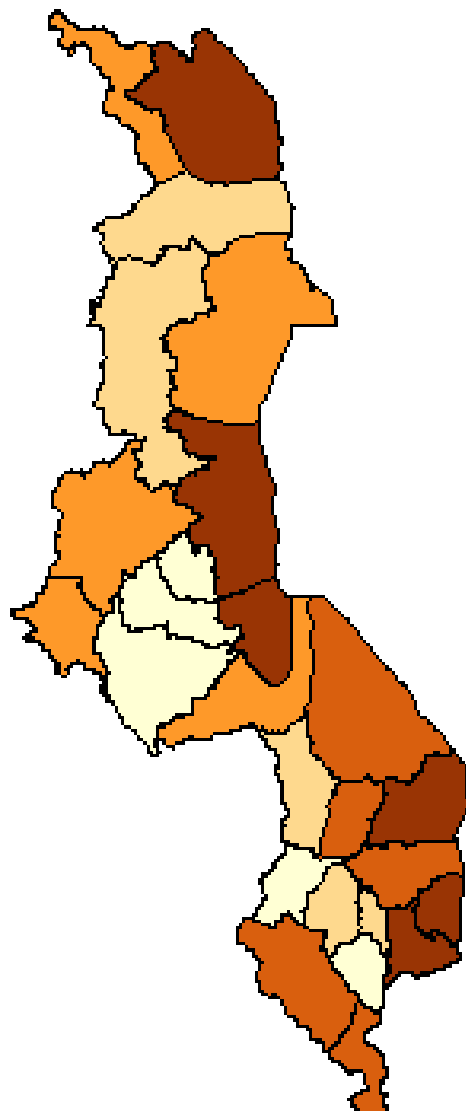
Tanzania: % hhs growing rice

Legend



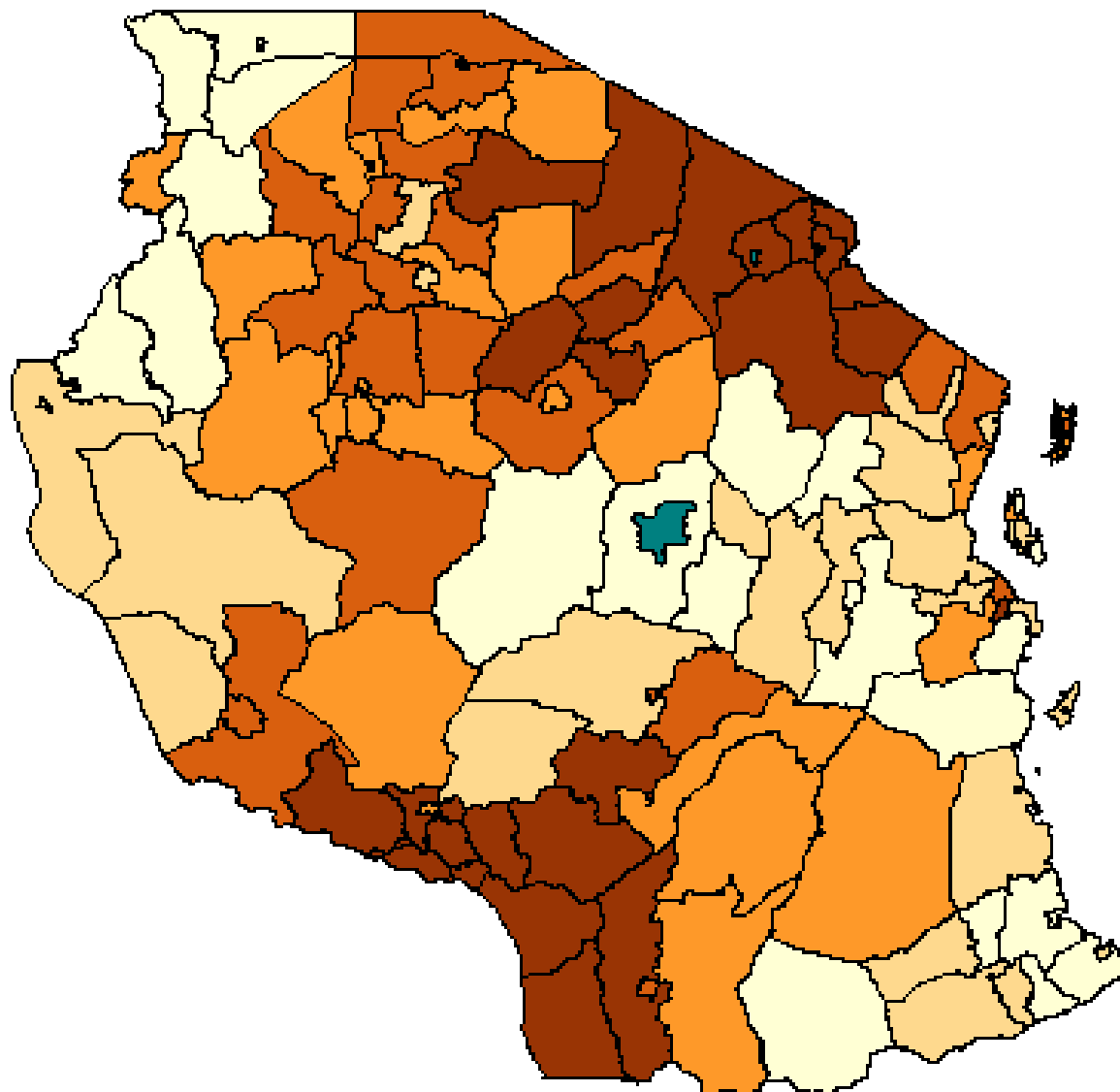
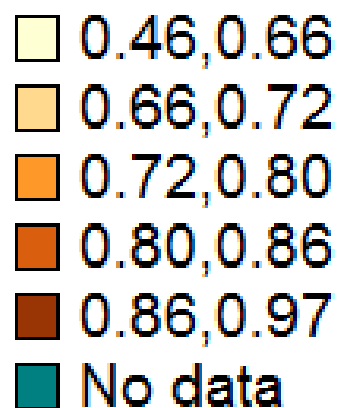
Malawi: % hhs growing rice

Legend



Tanzania: % hhs owning livestock

Legend



Malawi: % hhs owning livestock

Legend

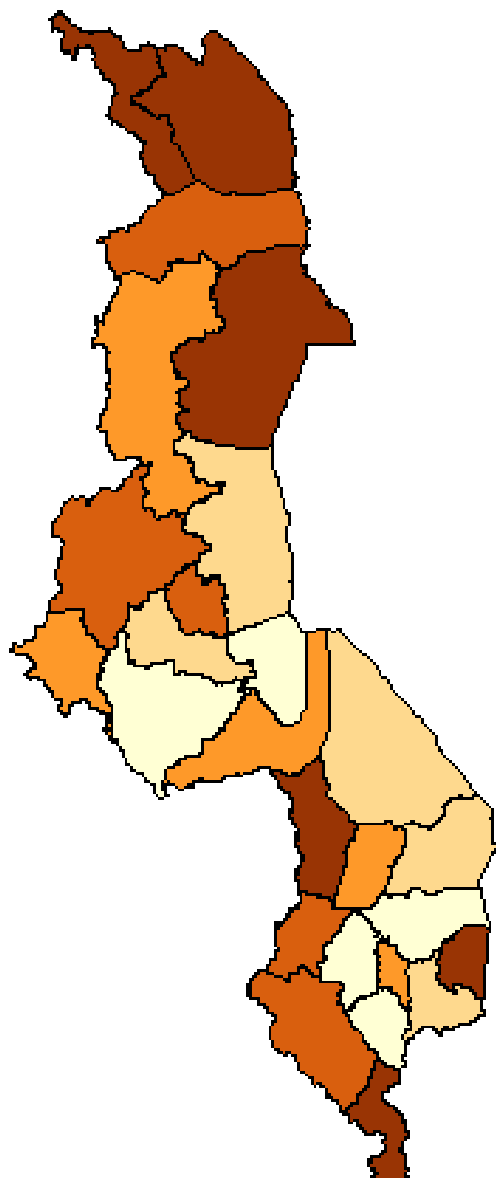
0.28,0.58

0.58,0.65

0.65,0.75

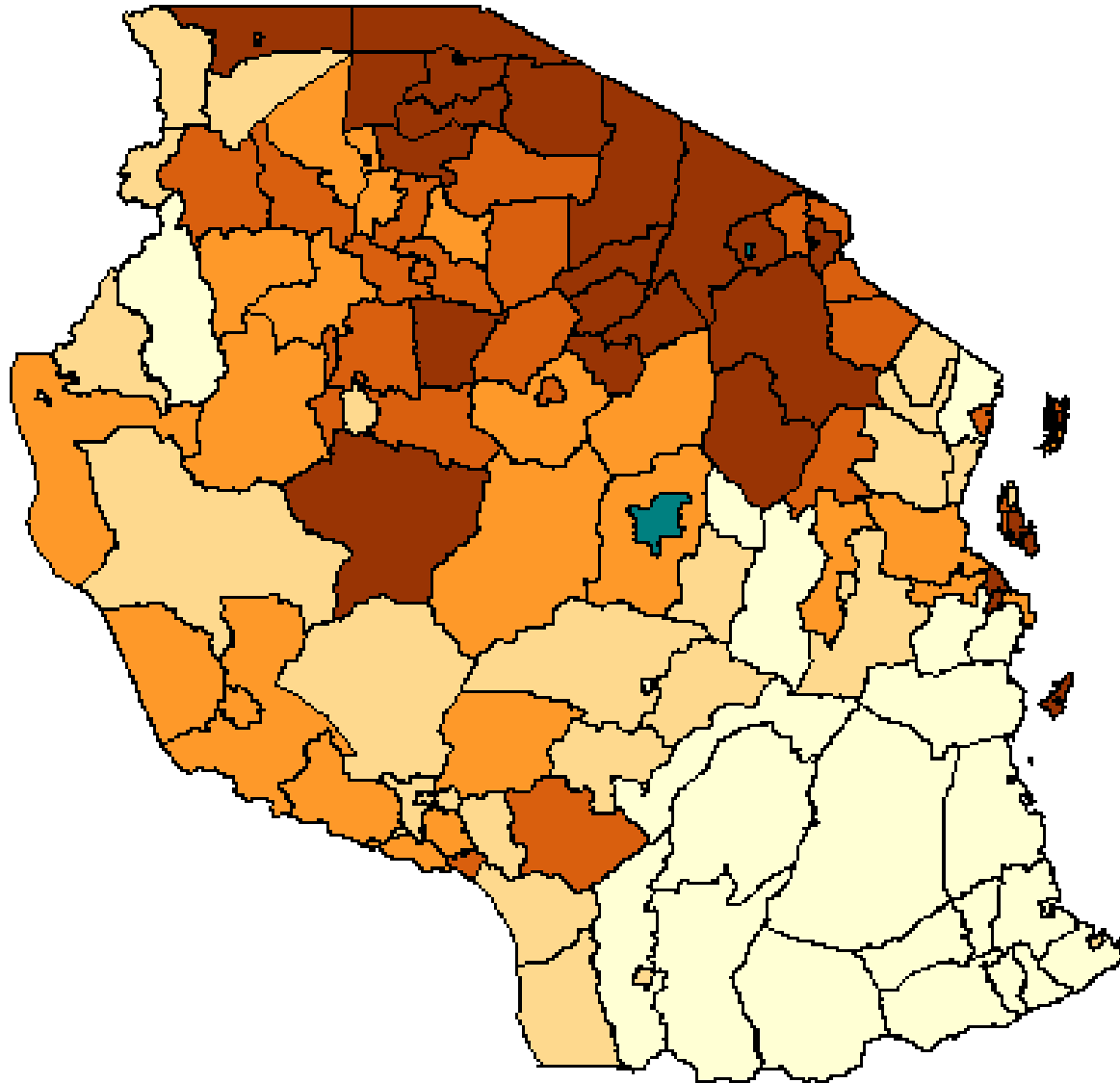
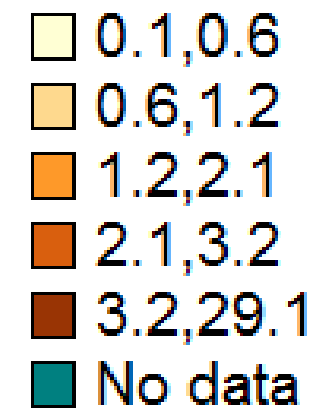
0.75,0.80

0.80,0.88

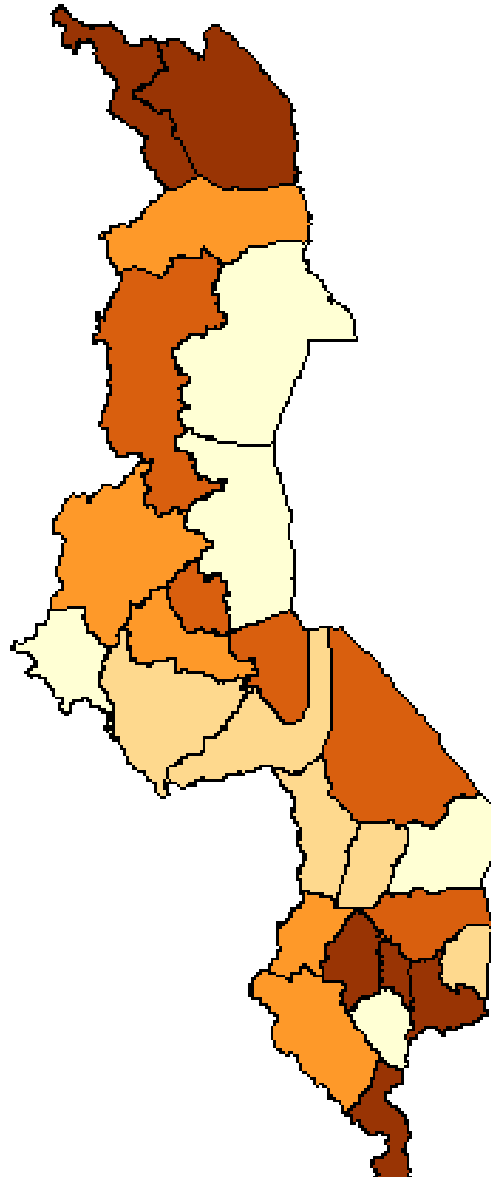
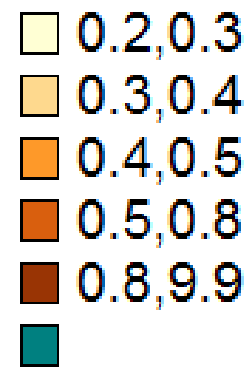


Tanzania: # of TLU/area

Legend

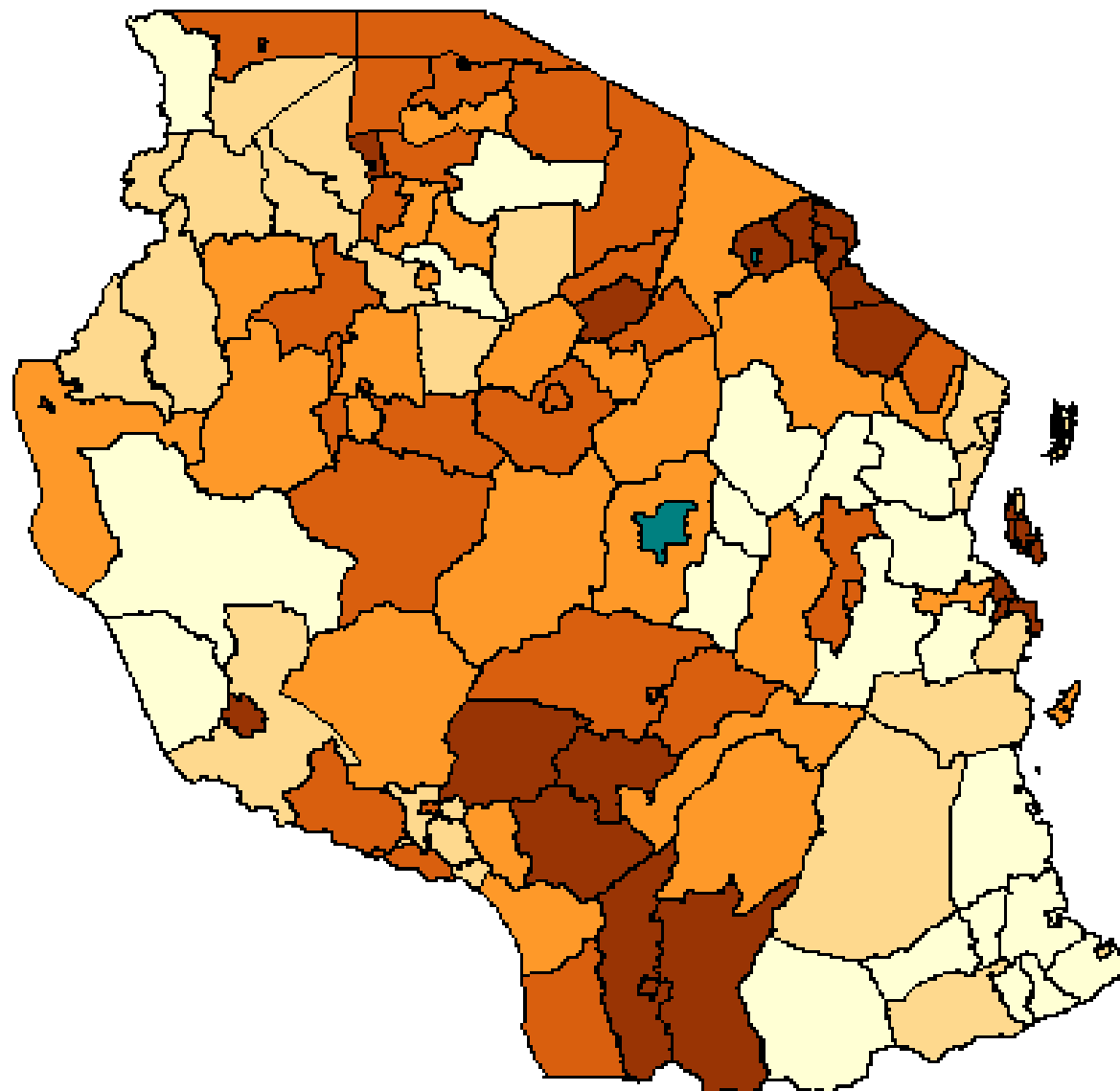
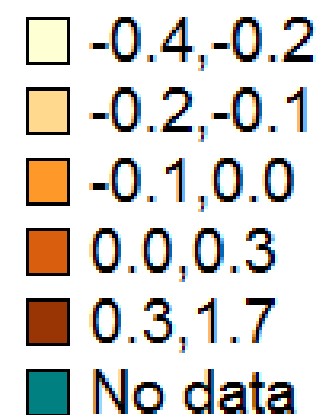


Malawi: # of TLU/area



Tanzania: Intensification index

Legend



Malawi: Intensification index

Legend

