

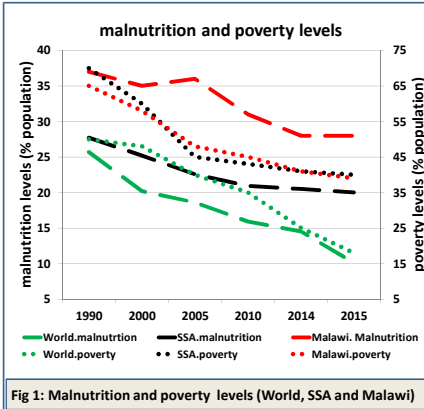
Food security and farm revenues among scalescale farmers in Malawi (under changing climate, population growth and landuse options)

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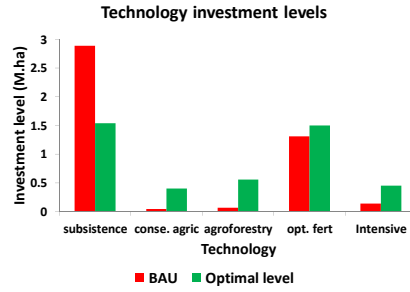
Introduction

- Despite technological advancement many are still food insecure and impoverished (NSO, 2012 and FAO, 2015)
- Climate change and high population growth (3.2% per annum) will exacerbate the low welfare of smallscale farmers (80% of Malawi population, IFRI 2010)
- Though population is estimated to triple by 2050 (NSO, 2012) investments in reproductive health services (60% unmet demand) may avert this population boom (Bremer, 2012)
- In view of climate change and population growth:



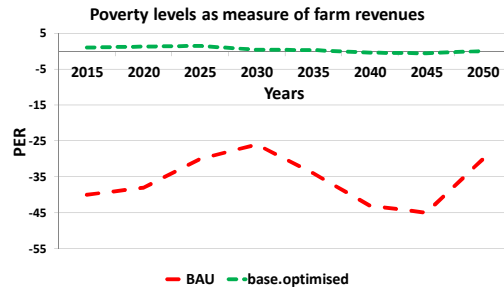
Results and discussion

1: What are the optimal technological investments levels?



Change in crop area contribution		
Technology	BAU %ge	Optimal %
subsistence	64.3	34.6
Conserv. agric	1	9
agroforestry	1.2	12.5
opt. fert	30.4	33.7
Intensive	3.1	10.2

2: What benefits do we get under optimal investments?

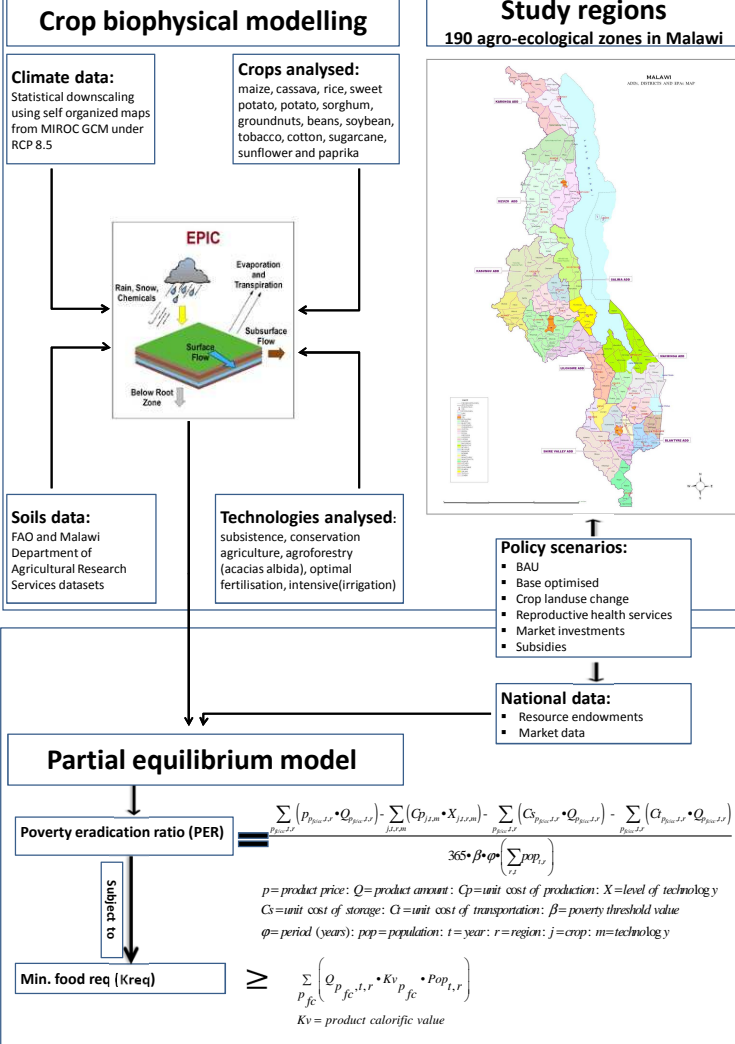


- Optimal investments (base optimised) guarantee food security and marginally eradicate poverty (green line)
- Until 2030 incomes are 1.5 times (PER) above poverty threshold value
- BAU scenario presents high persistent of poverty throughout (red line)

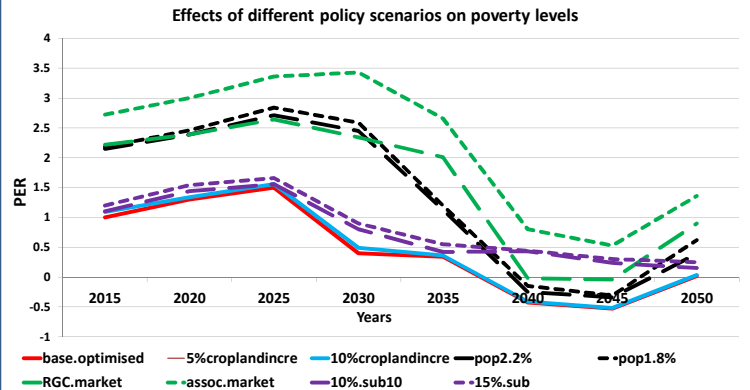
Research questions

- Which technology investments guarantee both food security and poverty eradication?
- How do different policy scenarios affect food security and poverty eradication?

Methods



3: What effect do policy scenarios have?



- At optimal investments, all scenarios guarantee food security and eradicate poverty until 2035
- Investment in rural markets (RGC) and farmer associations have 2.5 times (PER) income levels above poverty threshold value
- Investments in reproductive health services, increase the potential of base optimised to eradicate poverty by a factor of 2
- Crop area expansion does not reduce poverty levels from based optimised (red, blue lines)

Conclusions

- Despite future climate and population effects, right technological investments would still guarantee food security and poverty eradication
- Agricultural markets investments offer best baits to achieve food security and eradicate poverty
- Provision of reproductive health services can be a powerful climate adaptation option
- Expansion of crop land has negligible effect on poverty reduction within the study period

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- IFRI (2010). Food Security, Farming and Climate Change to 2050. Scenarios, results and policy options. International Planning Committee for Food Sovereignty . Italy: National Statistical Office (NSO, 2012). 2010 Intergrated Household Survey Report, Zomba Malawi