



INITIATIVE ON  
Foresight

CGIAR

# Investment Prioritization and National Comprehensive Climate Change Assessments

The Malawi Case

Henry Kankwamba

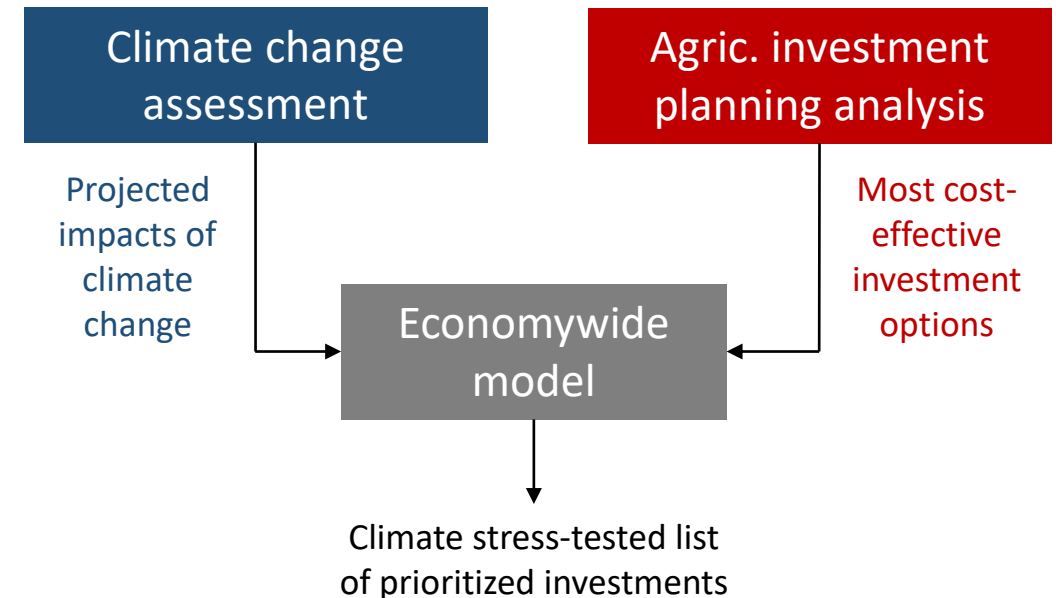
International Food Policy Research Institute

ECAMA Annual Conference | November 14, 2024

# Planning Under Climate Uncertainty

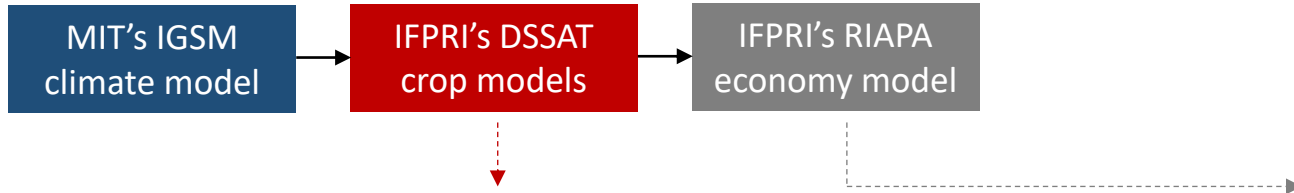
- **Divergent research and policy streams:**
  - Climate assessments focus on long-term impacts and large-scale assets
  - National investment plans focus on the next 5-10 years and cover all spending
- **Mainstreaming climate change into investment planning is a priority**
  - But it is technically challenging
- **Integrated approach**
  - Stress-testing investment plans under a range of climate change scenarios

## Integrated Analytical Approach



# Projecting Climate Change Impacts

## Agricultural impact channel...



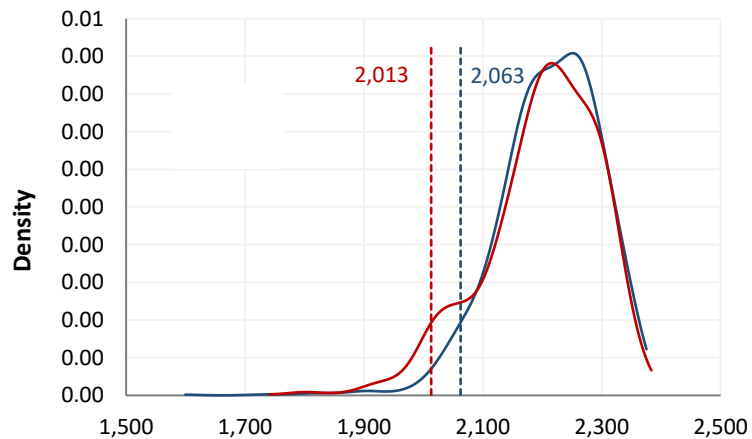
## Climate scenarios

1.5°C = global warming above pre-industrial levels

REF = No explicit climate mitigation policies

## Estimated maize yields in Malawi (2040s)

(dashed lines show 5<sup>th</sup> percentile)



Consider full distribution of climate projections

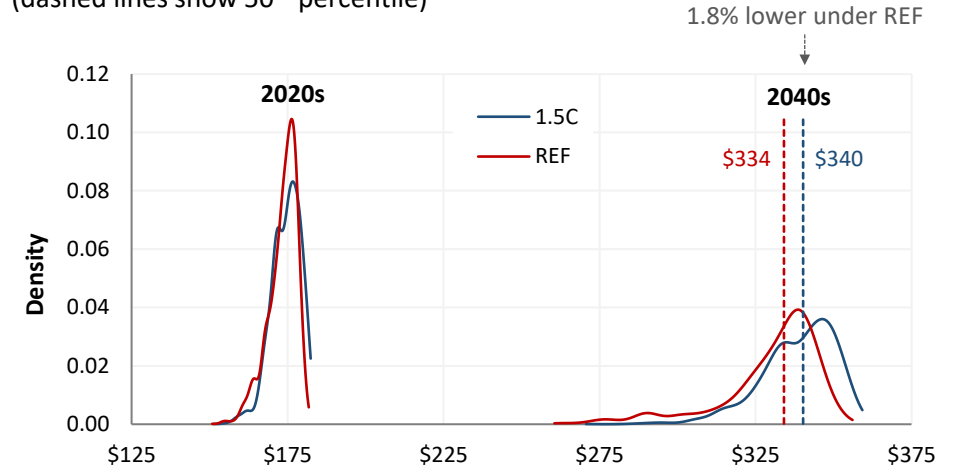
Select stress-test scenarios for public investments

## In Malawi...

Climate change reduces agricultural production and leads to worse poverty outcomes by 2040s

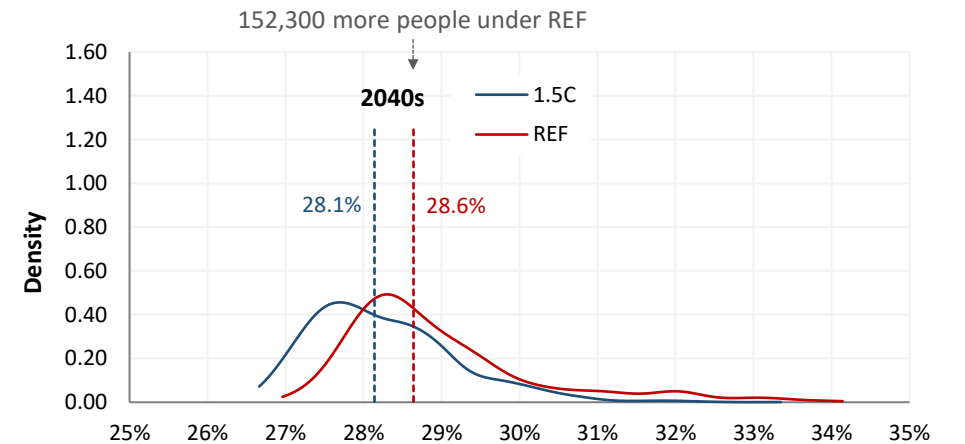
## Agric. GDP per capita in Malawi

(dashed lines show 50<sup>th</sup> percentile)



## Poverty rate in Malawi

(dashed lines show 50<sup>th</sup> percentile)

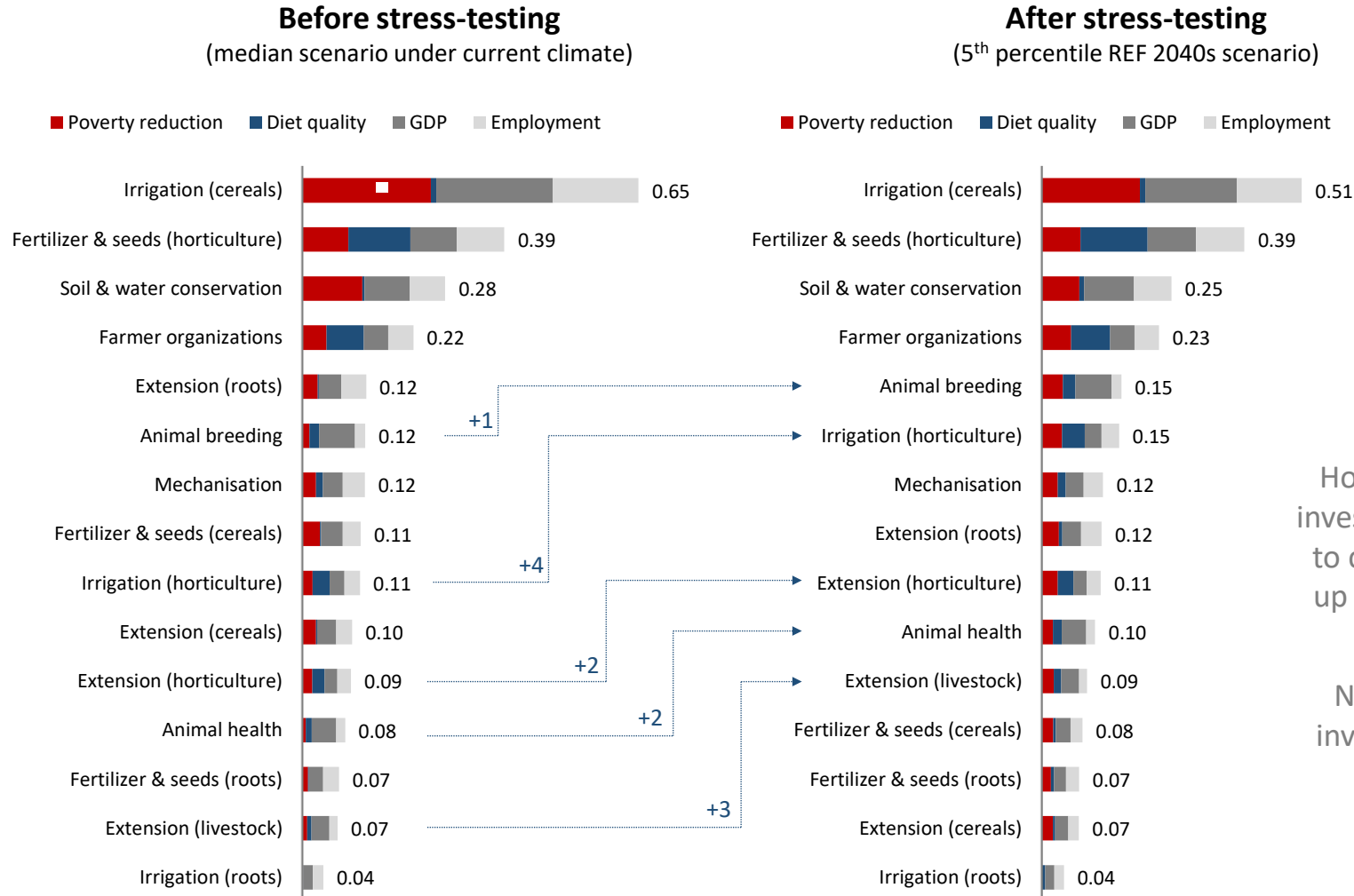


# Prioritizing & Stress-Testing Investment Plans

Estimate benefit-cost ratios for different investment options

Rank investments based on their cost-effectiveness in achieving different outcomes

## Ranked list of public investments (normalized score | 1 = most cost-effective option)



Re-estimate benefit-cost ratios under selected climate stress scenario

**In Malawi...**  
Irrigating cereals is most cost-effective overall, but is less effective than horticulture input subsidies at improving diets

**In Malawi...**  
Horticulture and livestock investments are less exposed to climate stress and move up the ranking (opposite is true for cereals)  
No change at top of the investment ranking due to climate risks

# Informing Policy Processes

- **National partners**
  - Planning Commission, Ministries of Finance and Agriculture, Central Bank
- **Adopt twin-track approach until integration**
  - Harnesses specialist expertise and interests
- **Stakeholder engagement is essential**
  - Prioritization is always contentious
  - Need broad government and public buy-in
- **Mainstreaming climate into planning is the crucial next step towards climate action**
  - We now have the necessary data and tools

## Sequencing analysis and engagement (with government and public touchpoints)

