

The assessment of the socio-economic impacts of climate change at household level

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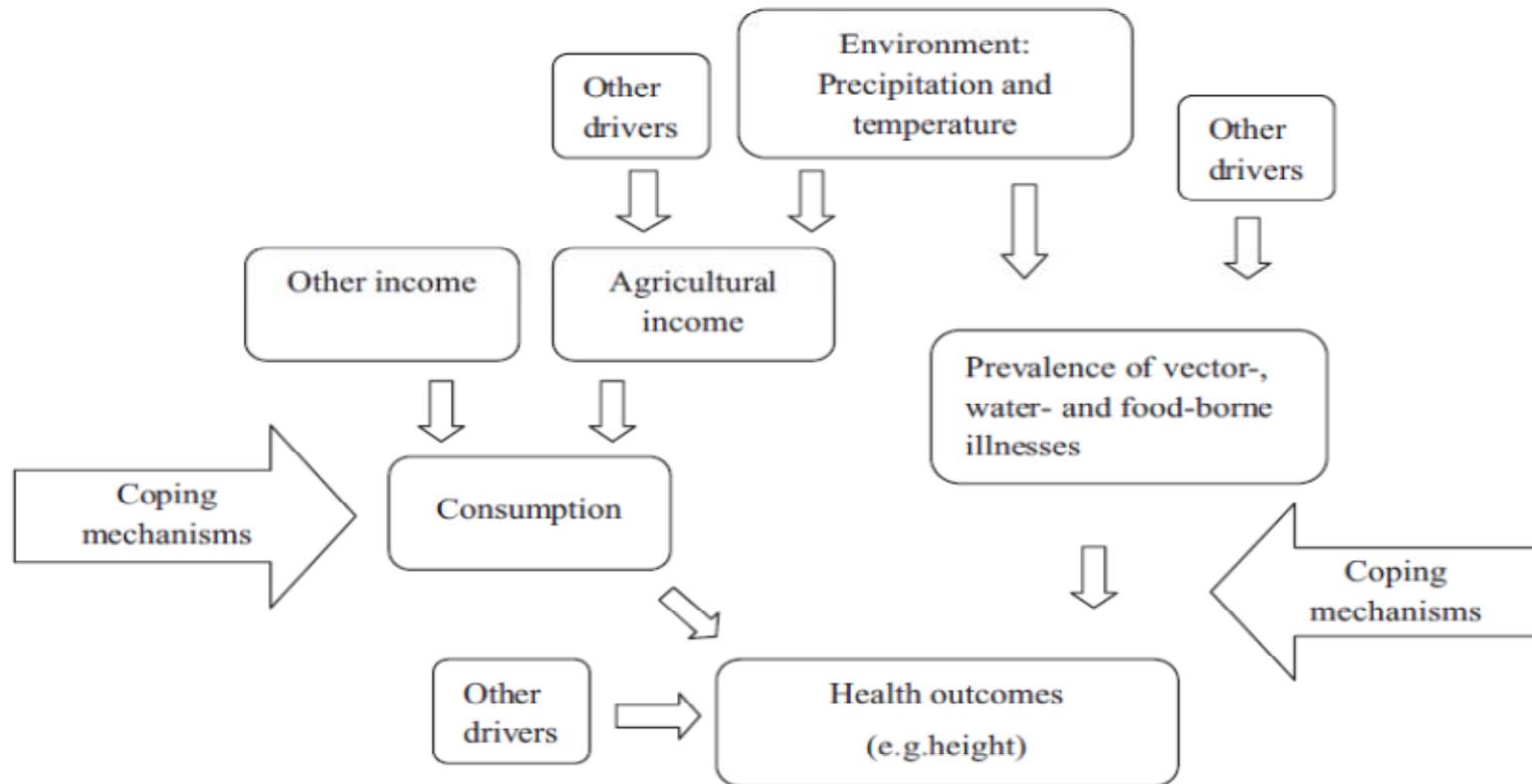
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Overview of challenges and macro impacts

- Global and local trends (demographic pressures, etc.)
 - Natural resources pressures
 - Climate change (gradual onset and weather shocks)
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- Loss of GDP in tropical vs. possible gains in temperate regions
 - Relatively marginal increases in poverty and food insecurity



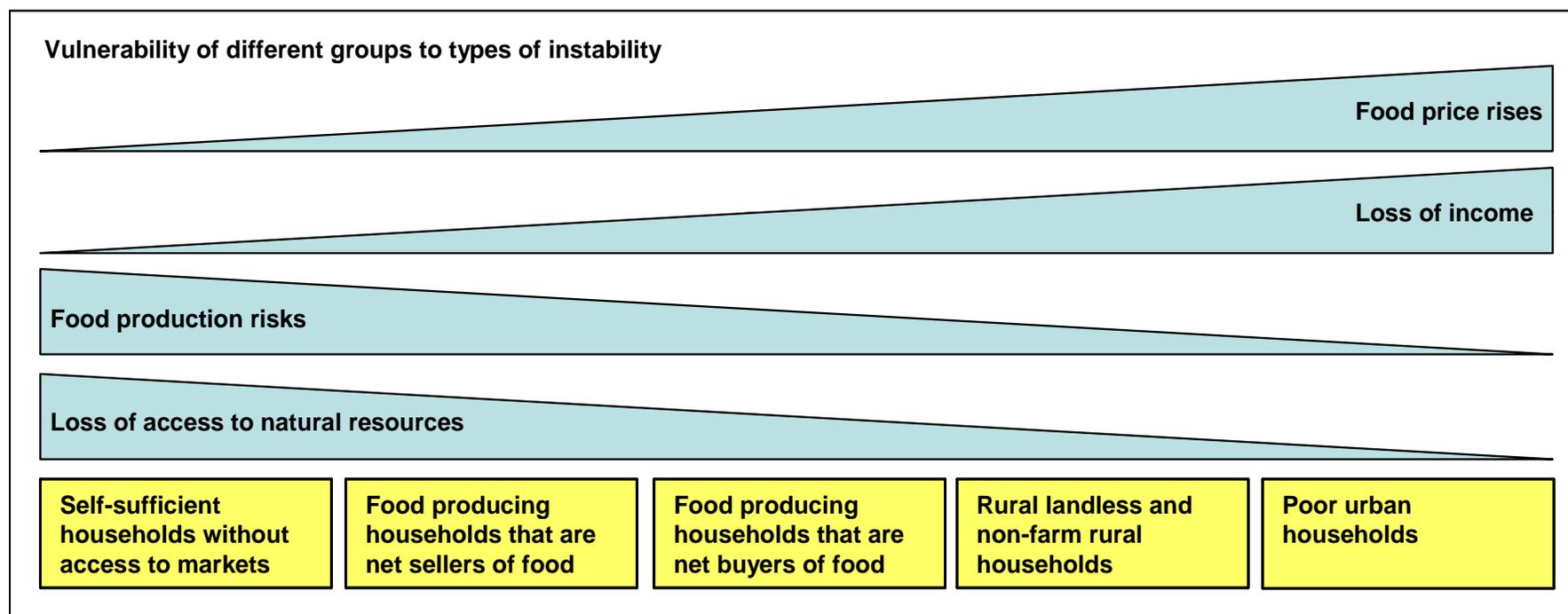
The socio-economic impact of climate changes



Source: Skoufias and Vinha (2012)



Household groups vulnerable to food insecurity as a result of risks



Source: McMahon, Lipper and Karfakis, (2011)



Vulnerability to food insecurity resulting from risks and shocks

Vulnerability as a function of household characteristics, exposure to risks and shocks

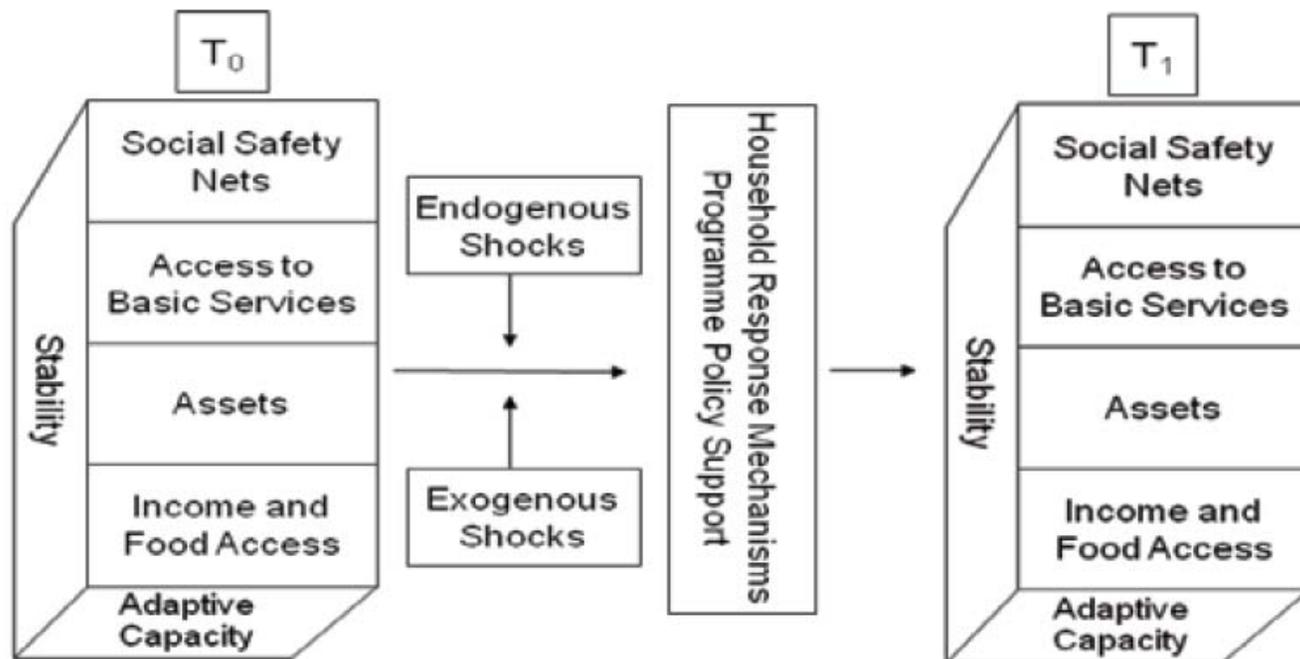
- Household survey data
- Weather data at community-district-regional level
- Model: direct impact of climate shocks to farm productivity and then to food insecurity

- Outputs:
 - Channels of transmission of shocks to food insecurity are identified
 - Profile vulnerable population groups (e.g. chronically vs. temporarily food insecure)
 - Explore the relative efficiency of different policy tools in reducing vulnerability

- Countries: Nicaragua, AMICAF: Philippines and another APEC country, Tanzania (poverty), Malawi (gender)



Resilience analysis



Source: Alinovi et al (2009)

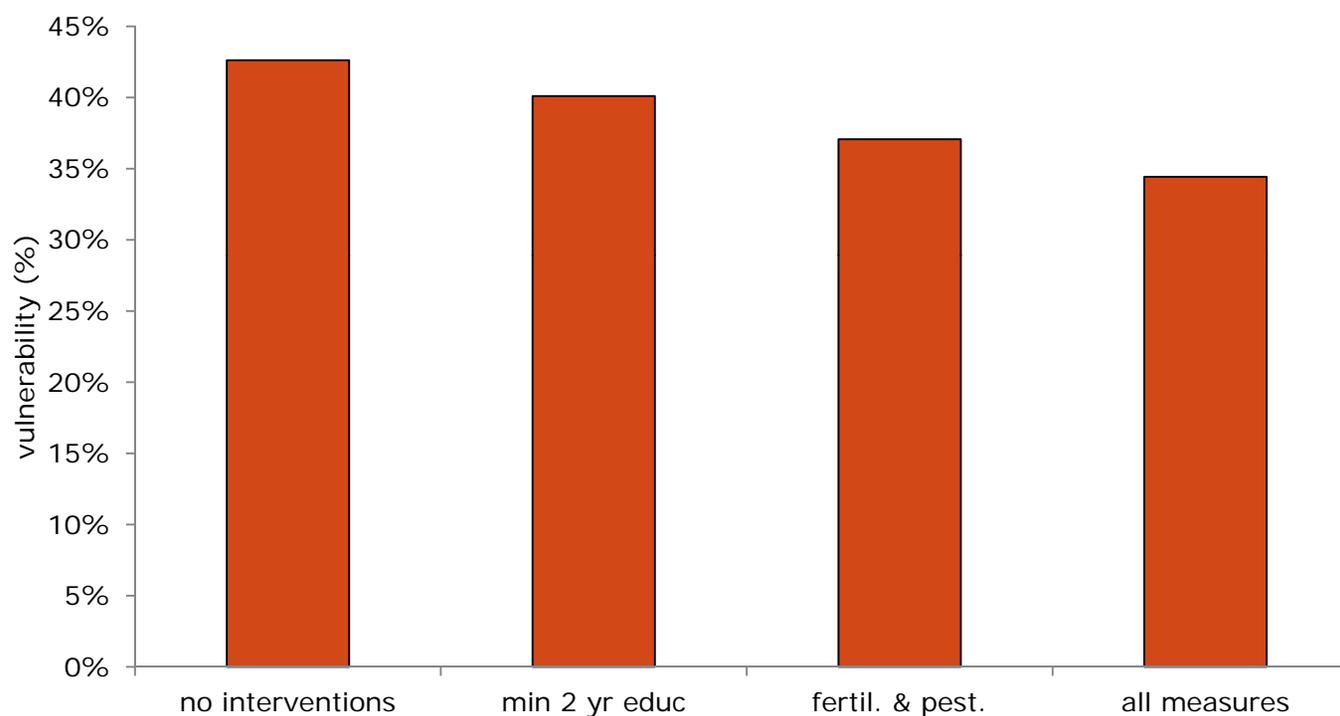


Empirical evidence

- 2 major research strands:
 - Impacts on farmland revenues
 - Welfare impacts (poverty, consumption, health)
- Evidence (Brazil, India, Philippines, Mexico, Nicaragua, Indonesia and elsewhere):
 - Heterogeneity (by location, assets, land, gender and other)
 - Poorer expected to suffer more (weak gender bias)
 - Adaptation strategies assist in smoothing some of the impact



Adaptation and vulnerability to food insecurity in Nicaragua



Source: Karfakis et al (2011)



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Policy Implications

agricultural innovation systems & (climate) smart agriculture

- **Identifying vulnerable populations is not a straightforward task**
- **Major attention should be paid to net buyers of food**
- **Adaptation practises remain the principal policy priority**
- **Policy measures beyond the agricultural sector are also important**
- **Safety nets for vulnerable groups remain key policy priority**
- **Exit from the agricultural sector should be a crucial policy concern**



Policy Implications

agricultural innovation systems & (climate) smart agriculture

- **Technical innovations (research and development) in agriculture are required**
- **Lifting organizational constraints in agricultural markets can increase food efficiency savings**



AMICAF: Overview

Project Title: “Assessments of Climate Change Impacts and Mapping of Vulnerability to Food Insecurity under Climate Change to Strengthen Household Food Security with Livelihoods’ Adaptation Approaches”

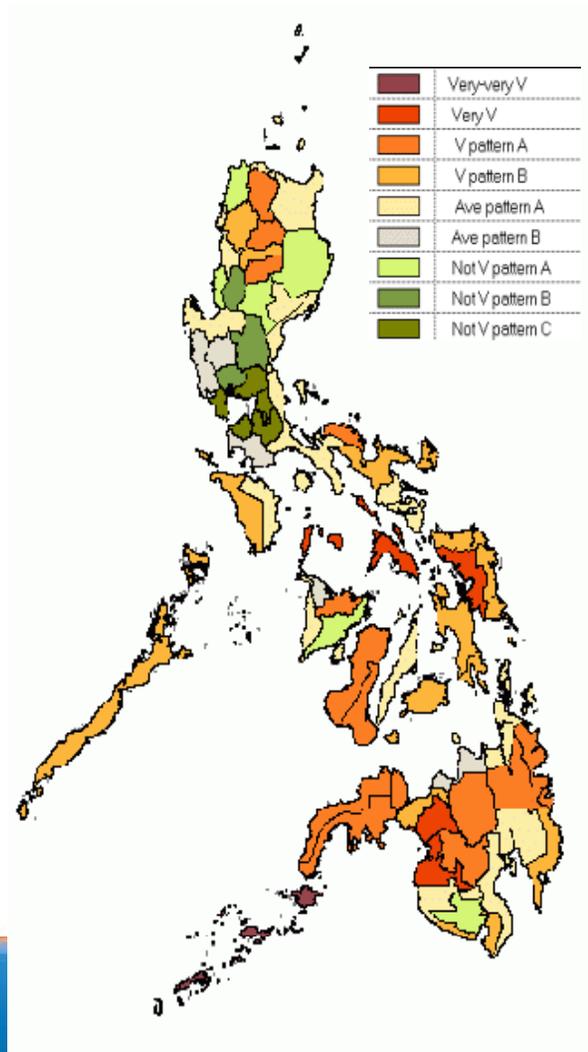
– Funded by Japan (MAFF), four step approach, 3 years, 2 countries, 2.5 million USD

- Step 1: Climate Change Impacts Assessment (national, sub-national levels)
- Step 2: Food Insecurity Vulnerability Analysis and mapping (household level)
- Step 3: Livelihood Adaptation to Climate Change (community)
- Step 4: Awareness Raising and Institutional Mechanism (national)

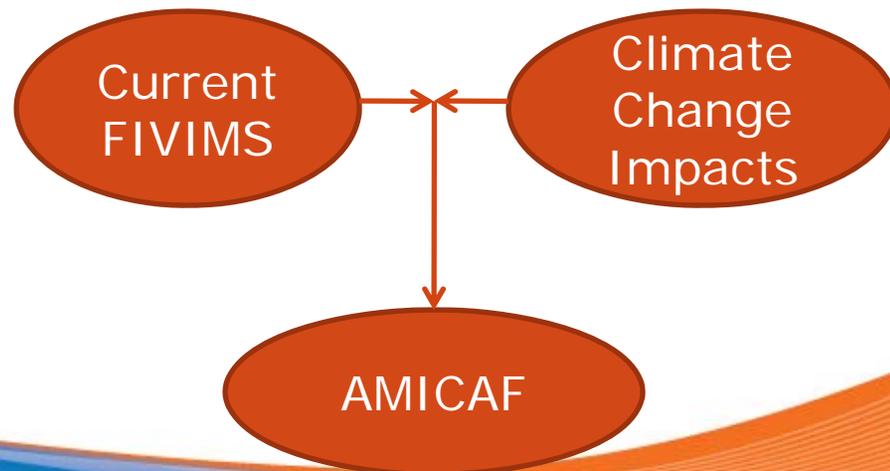
- ✓ Analytical approaches to inform adaptation actions in the field, and to support policies
- ✓ Capacity building
- ✓ Country and global Products



AMICAF: Food Insecurity Vulnerability Analysis and mapping (Step 2)



Step 2 will be built upon past work on analysis and mapping of food insecurity by incorporating climate change-related factors.





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EPIC

ECONOMICS & POLICY INNOVATIONS FOR
CLIMATE-SMART AGRICULTURE

Project Title: “Climate Smart Agriculture: Capturing the Synergies among Mitigation, Adaptation and Food Security”

– EC funded 3-year project implemented in Malawi, Vietnam and Zambia

- **Outcome:** Agricultural policies aligned with climate change policies that enhance food security and adaptation (possible mitigation benefits).
- Strengthen country capacity for:
 1. early action on Climate-Smart Agriculture (CSA)
 2. evidence-based input into UNFCCC processes
 3. country-specific synergies-tradeoffs between pillars of CSA
- **Expected outputs:**
 1. Evidence base for identifying, developing and implementing practices, policies and investments for CSA.
 2. A strategic framework to guide action and investment on CSA.
 3. CSA investment proposals and possible financing sources, incl. climate finance.



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Thank you



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