

# Climate Change and The Poor

## EE461 - Lecture 9 (Environment and Development)

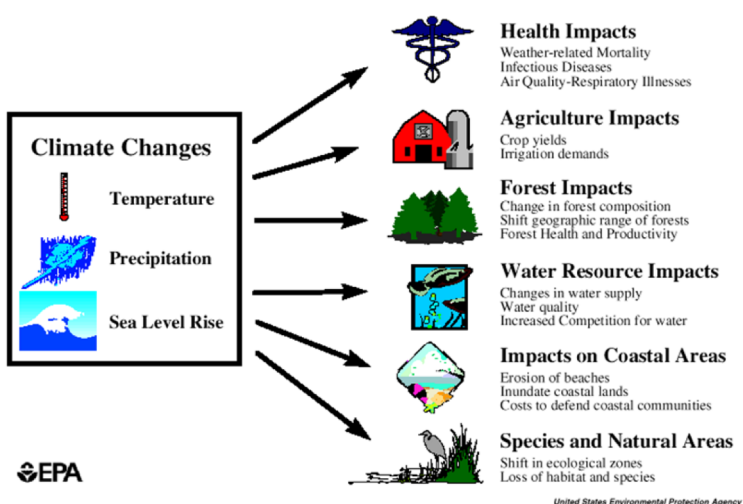
2/2018

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# Overview

- ▶ Some predictions
- ▶ Climate change as an obstacle to poverty eradication
- ▶ What can be done?

# Some predictions



# Some predictions

## By 2030, effects of climate change on agriculture key to driving people into poverty

Number of people in extreme poverty, in millions

### Prosperity scenario\*

Without climate change

142

With high-impact climate change

158

### Poverty scenario\*

Without climate change

900

With high-impact climate change

1,026

126 million more people will be affected with a high-impact climate change. These are the main causes



\*Scenarios developed based on different social and economic policies

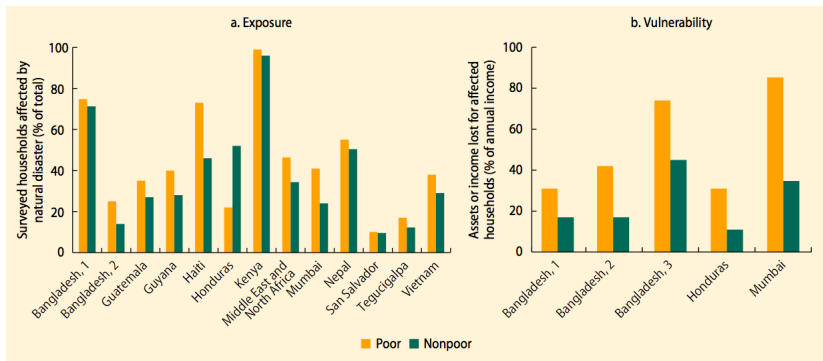
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SOURCES: WORLD BANK; ROZENBERG AND HALLEGATTE

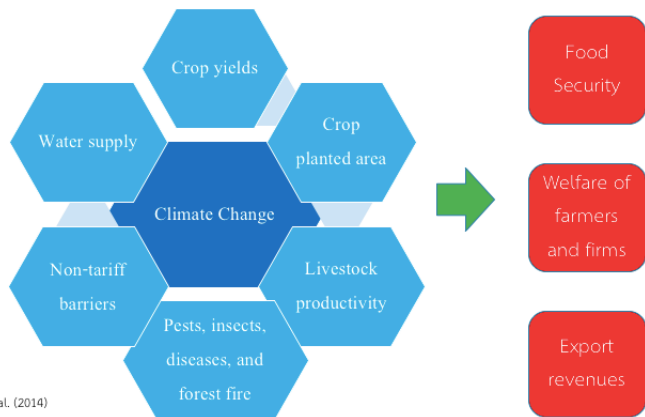
# Climate change: obstacle to sustained eradication of poverty

- ▶ Climate is involved in most of the shocks that keep or bring household into poverty
  - ▶ Natural disasters: floods cause asset loss and disability
  - ▶ Crop losses and food price shocks: due to drought or crop disease
  - ▶ Health shocks: malaria >> health expenditures and lost labor income
- ▶ Natural hazards, to which poor people are often more exposed and almost always more vulnerable, will become more intense and frequent in many regions
- ▶ Poor people are more vulnerable to spikes in food prices and more dependent on agricultural and ecosystem-related income

# Natural disasters likely hit most to the poor



# Effects of climate change on agriculture

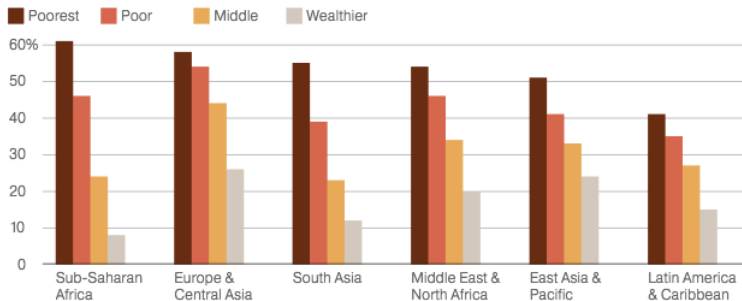


Source: [McCarl et al. \(2014\)](#)

# Higher food prices will affect most to the poor

## Poor households spend more of their budget on food

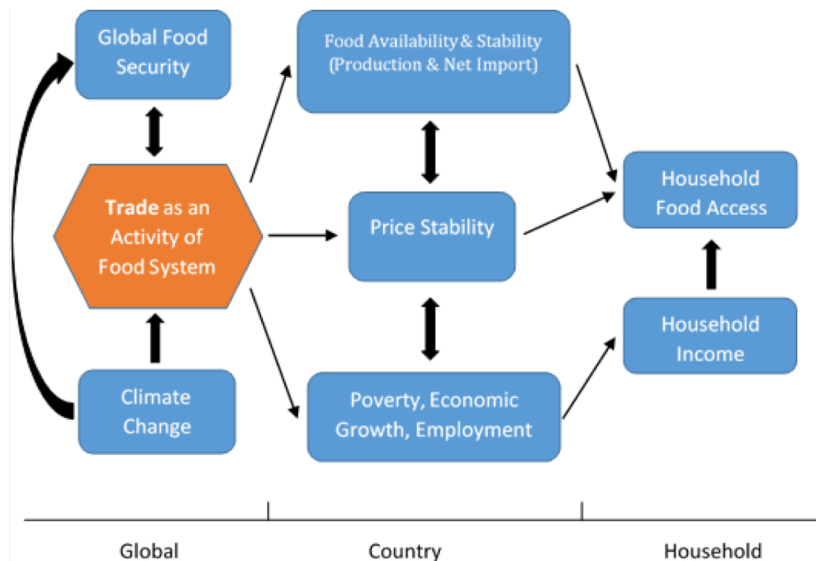
Percent of household budget spent on food



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SOURCE: WORLD BANK

## Effects on food security



Source: Brown et al. (2017)

## Effects on food security

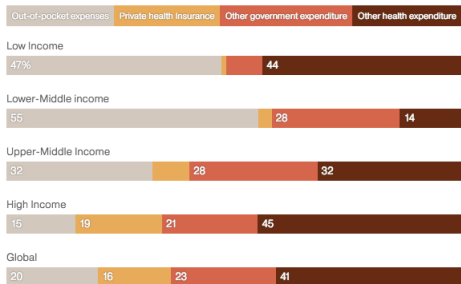
- ▶ Price affects food affordability, which integrates food prices with income for purchasing food.
- ▶ Trade in agricultural commodities and food can reduce price volatility and enhance stability for both producers and consumers by enabling areas of food production surpluses to supply areas of deficit.
- ▶ Extreme temperatures, heavy rainfall events, drought, sea-level rise, and storm surge can damage road, rail, and shipping infrastructure.

# Climate change on health expenditures

- ▶ Disease expected to rise due to the higher temperature.
- ▶ The poor usually pay more out of pocket healthcare will likely be the most affected.

## In poor countries, half of all health expenditures are paid out-of-pocket

Percent total share of health care expenditure between different income levels in 2011



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SOURCE: WORLD BANK

# What can be done?

- ▶ Climate-informed development needs to be complemented with targeted adaptation interventions and a more robust safety net system
  - ▶ Climate information ready for people to know ahead (& early warning system), if possible, to plan for their economic activities
  - ▶ Climate-smart agriculture and protected ecosystems
  - ▶ Land use regulations and more infrastructure for natural hazards
  - ▶ Better health infrastructure and universal health care
  - ▶ Social safety nets and financial tools

# What can be done?

Reference: Witsanu Attavanich

- ▶ To obtain practical adaptation strategies and mitigate the risks, climate change impact studies are needed for all crops and livestock and the analysis should cover all food system activities with the participation from all parties
- ▶ To encourage the appropriate adaptation, public relations may be implemented to all stakeholders to create their understanding and recognition on climate change impacts
- ▶ Government should raise the importance of potential climate change problems as the major priority (Right now, no direct budgets)
- ▶ Supporting the agglomeration of small farmers to receive the useful information, improve their bargaining power, and reduce costs of production

# Poorer households need different types of solutions

