

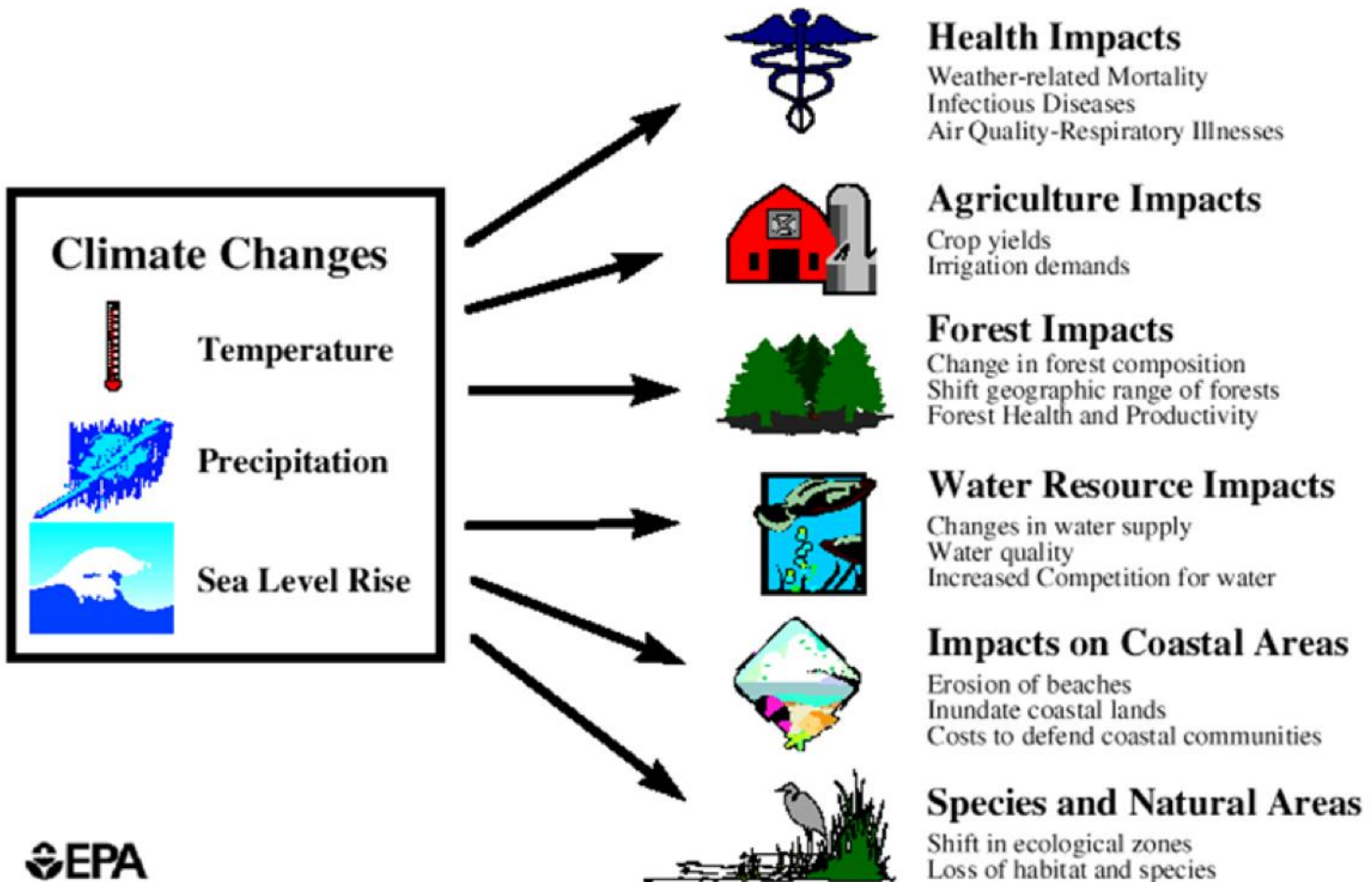


# Climate Change & the Poor

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EE461 2/2021

# Some predictions

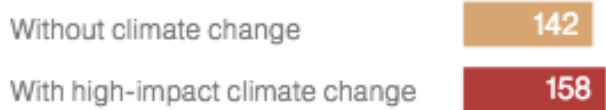


# Some predictions

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

Number of people in extreme poverty, in millions

### Prosperity scenario\*



### Poverty scenario\*



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

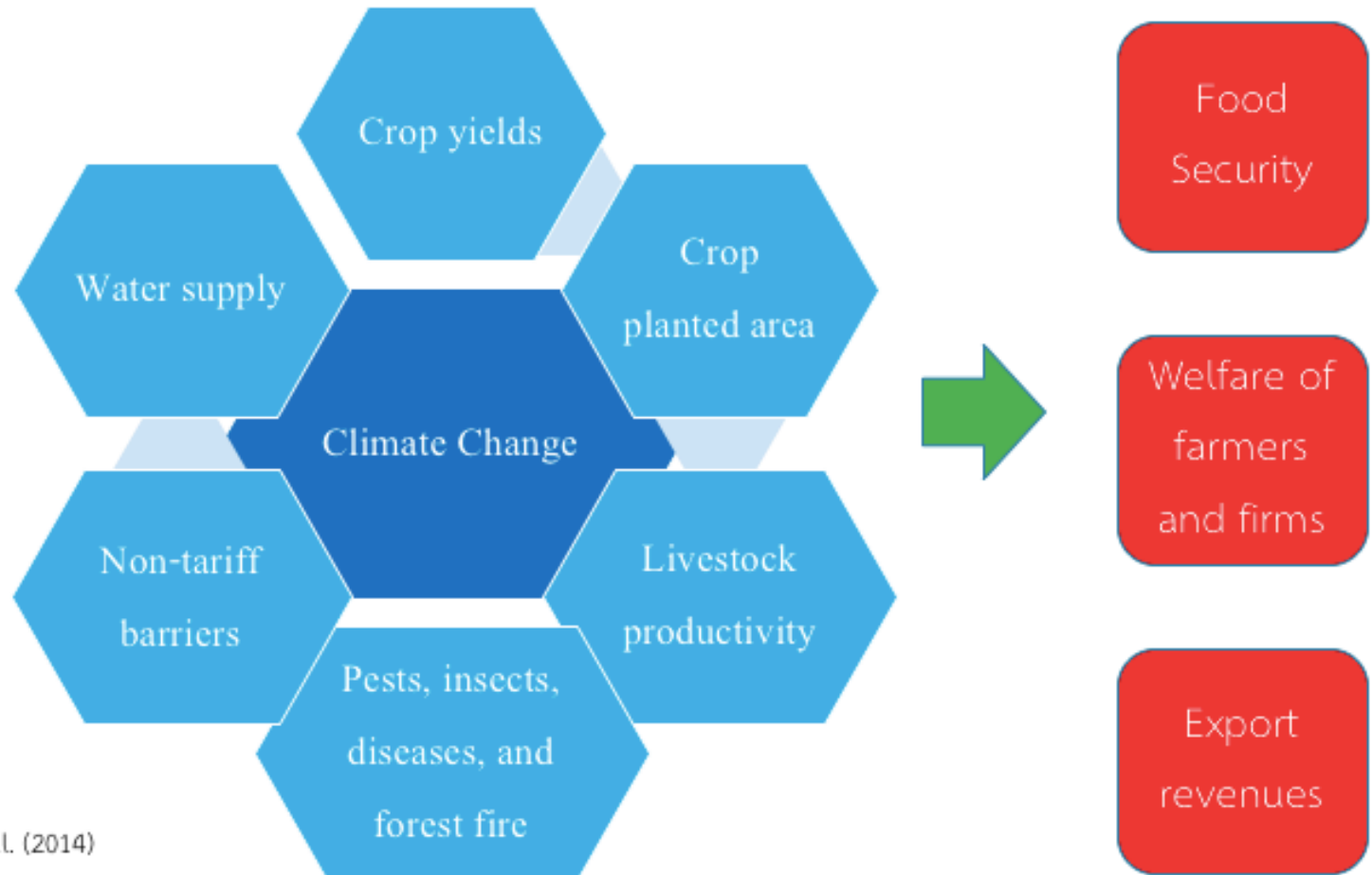


\*Scenarios developed based on different social and economic policies

# 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

# Climate change: Effects on Agriculture

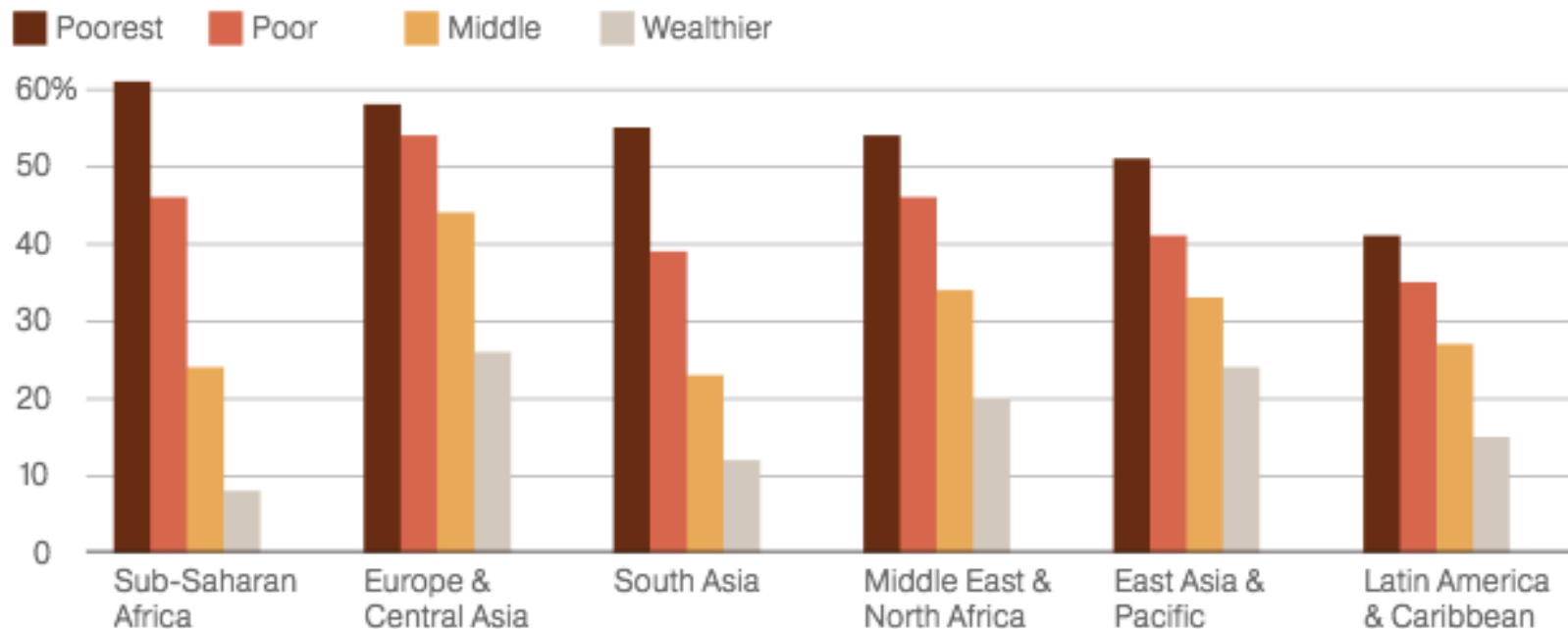


Source: [McCarl et al. \(2014\)](#)

# 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



NG STAFF

SOURCE: WORLD BANK

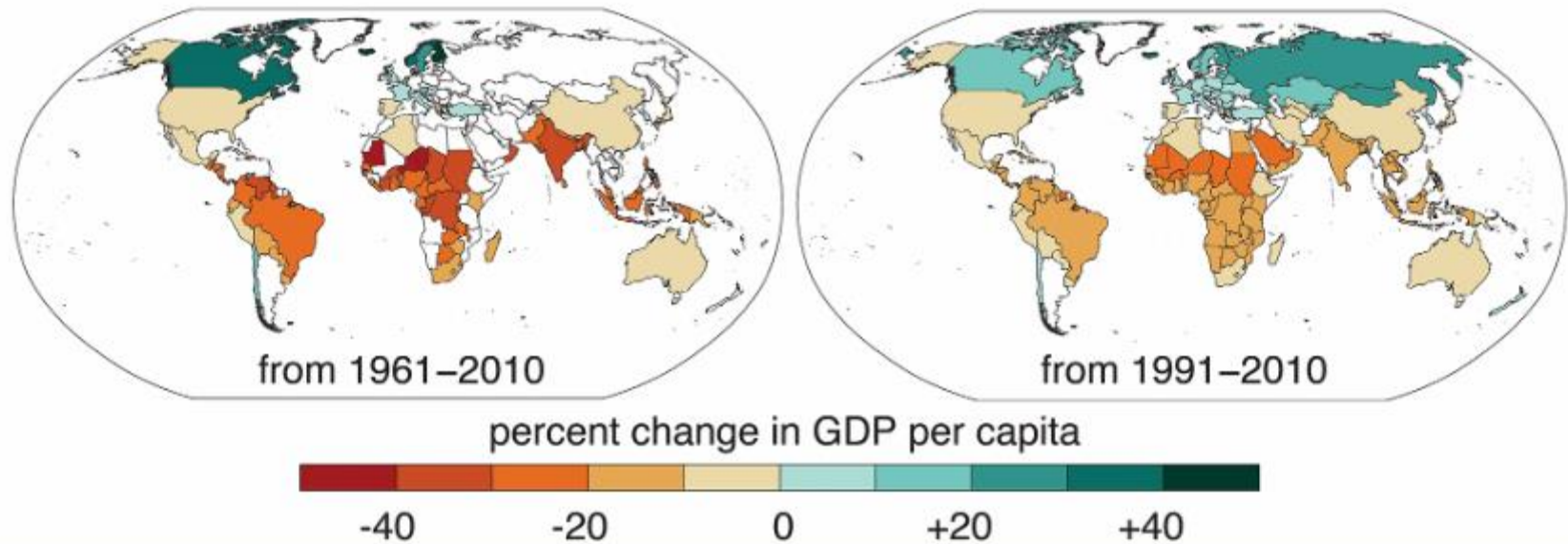


# Effects on food security

- 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 has worsened global economic inequality

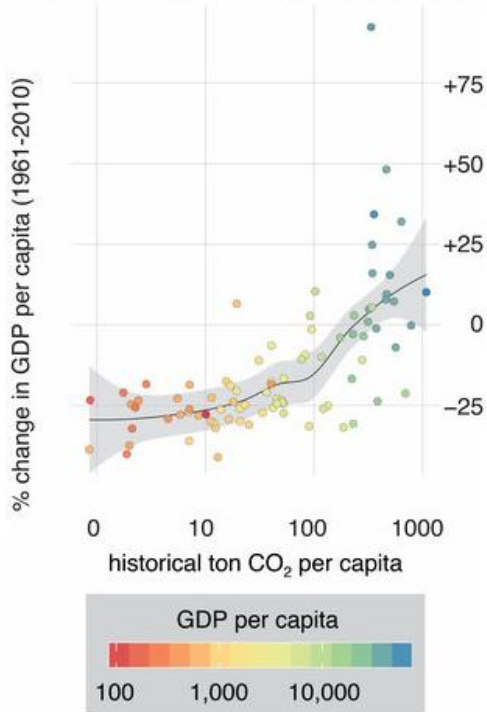
## Economic Impact of Historical Global Warming



The map on the left shows countries where per capita GDP increased or decreased as a result of global warming between 1961 and 2010. The map on the right shows the same information from 1991, after economic data became available for more countries. (Image credit: Noah Diffenbaugh and Marshall Burke)

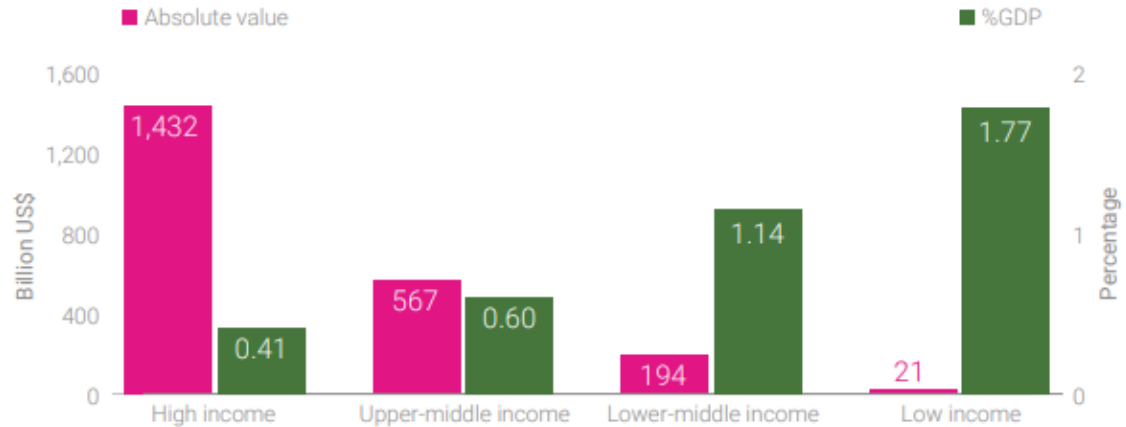
<https://earth.stanford.edu/news/climate-change-has-worsened-global-economic-inequality>

### Relationship Between Economic Impact of Global Warming, Wealth, and Historical Carbon Emissions



Countries with high historical emissions are among those that have enjoyed the highest per capita GDP and fastest economic growth since the 1960s, while those with relatively low historical emissions have seen per capita GDP decline. (Image credit: Noah Diffenbaugh and Marshall Burke)

### Climate-related economic losses by country income group, 1998-2017



Source: CRED and UNISDR (2018).

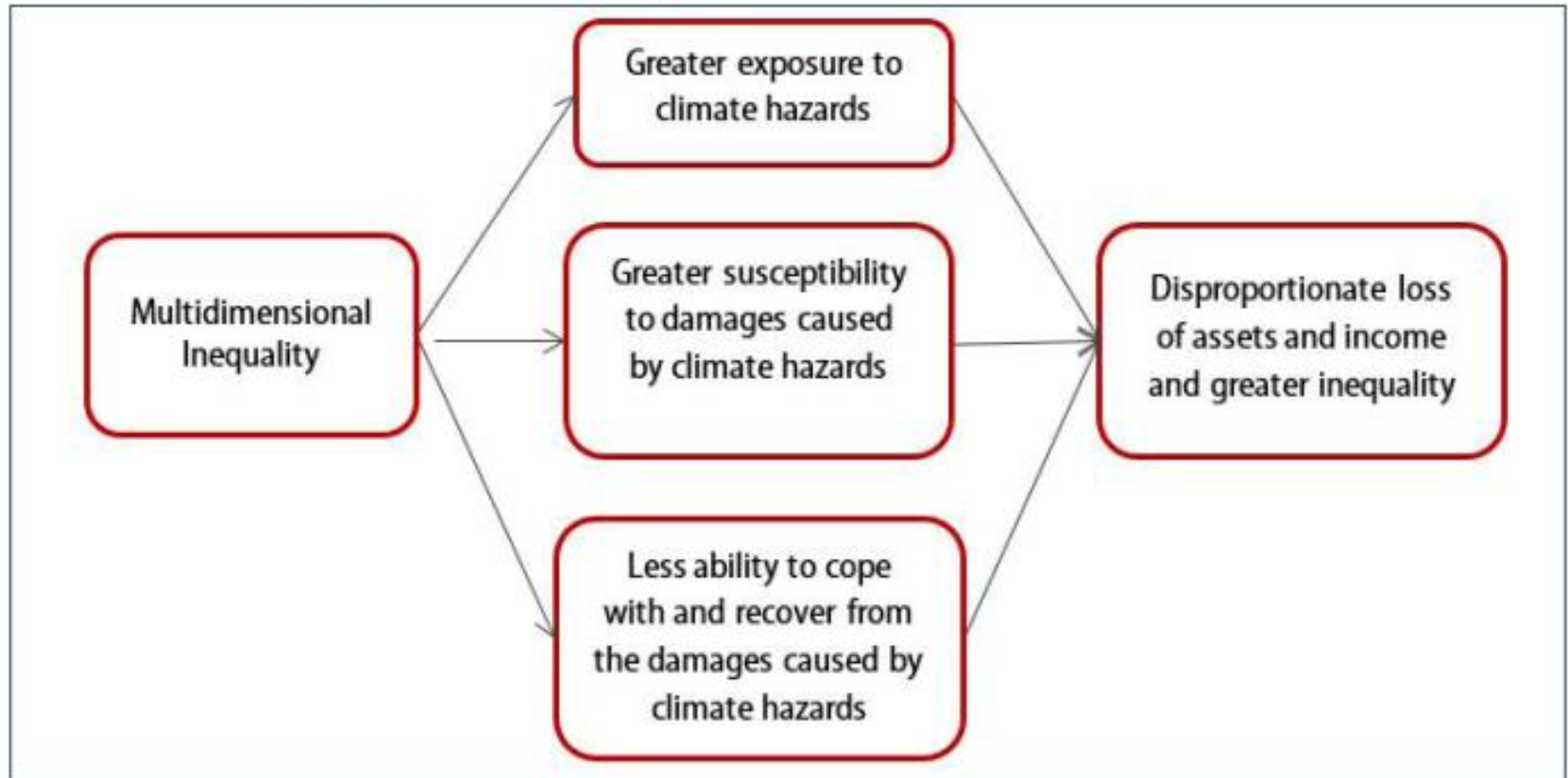
Note: Economic losses are defined as the amount of damage to property, crops and livestock due to climate-related disasters (floods, landslides, storms, extreme temperatures, droughts and wildfires). For each disaster, the absolute value of loss registered corresponds to the damage value at the moment of the event, adjusted to 2017 US\$ using the consumer price index for the United States of America (with 2010 as the base index value of 100) from the World Bank (as of June 2018). Economic losses as a percentage of GDP for each income group are calculated by averaging the corresponding percentages for all countries within the group.

The economic consequences of heightened vulnerability and reduced readiness among low- and lower-middle-income countries are substantial and have implications for their future development. Losses relative to GDP were far more substantial in lower-income countries.

# Climate change: Increasing Inequality

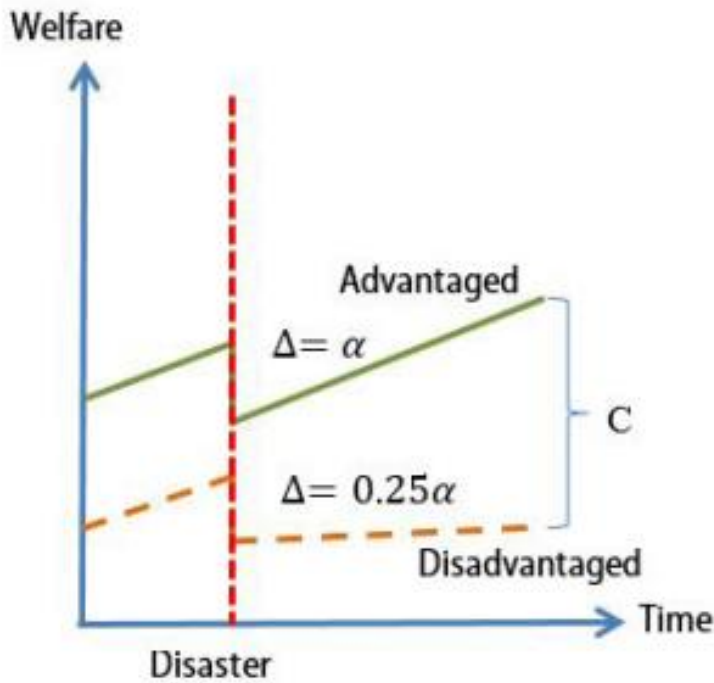
<https://www.youtube.com/watch?v=fHF4HHeOtkc>

## Three effects of inequality on disadvantaged groups



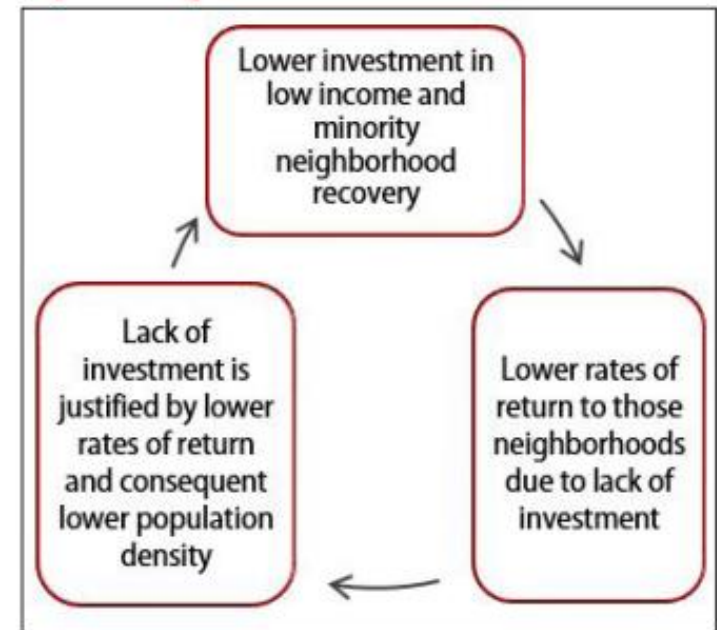
Climate Change and Social Inequality  
S. Nazrul Islam and John Winkel (2017)

# Climate change: Increasing Inequality



- Differential rates of recovery from climate disasters of wealthy and poor households [based on Mutter (2015)]

Vicious circle between recovery effort and non-return of African-Americans of New Orleans city following Hurricane Katarina



# 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

