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THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA  
POLICY STUDIES INSTITUTE



UNIVERSITY OF  
COPENHAGEN



# Building Resilience to Climate Change in Ethiopia: Exploring Options for Action

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Policy Studies Institute and Development Economics Research Group (DERG) - University of Copenhagen

May 30th, 2019  
Elilly International Hotel  
Addis Ababa, Ethiopia



# Welcome

- We are excited to launch the collaborative research project 'Building Resilience to Climate Change in Ethiopia: Exploring options for action' today
- We appreciate the efforts made by PSI to arrange and host this event
- Team members:
  - UCPH: Finn Tarp (Project Coordinator, PI), Peter Fisker (Post doc), Tseday Mekasha (Post doc)
  - PSI/AAU: Tadesse Kuma (PI), Mekonnen Bekele, Hailemariam Tekelwold, Mintewab Bezabih, Tagel Gebrehiwot, Alemu Mekonnen, Hailu Elias

# Background and motivation

- Ethiopia's agricultural sector is vulnerable to recurrent climate related shocks. For instance the 2015-2016 El Niño-induced drought, affecting 10 million
- The livelihood of more than 80 percent of Ethiopia's population rely on rain fed agriculture;
- Ethiopia needs to adapt to climate change and achieve significant increase in agricultural productivity over the next decade
- Understanding 'what works best' in Ethiopia in terms of enhancing resilience to climate change is crucial
- The diversity in rainfall regimes across Ethiopia and the availability of detailed rural household survey data make Ethiopia an appropriate case to study resilience

# The project

## About

- Collaborative research project between Development Economics Group (DERG) of Copenhagen University and Policy Studies Institute (PSI), Ethiopia
- Focuses on building resilience to climate change in rural Ethiopia

**Project Life:** Runs for five years, starting April 1, 2019 – ending March 31, 2024

**Total Budget:** 11,077,028 DKK (~ US\$ 1.65 mill.)

**Source of Funding:** Ministry of Foreign Affairs of Denmark

# Overall aim

- To identify, evaluate and compare drivers of resilience to climate change in rural Ethiopia by examining actions taken at household and district/village level
  - Using existing survey data together with satellite measures of drought exposure and vegetation resilience
  - Conducting a particularly targeted survey on resilience enhancing actions
  - Analyzing the effects of large scale interventions including the Ethiopian Productive Safety Net Program (PSNP) and Sustainable Land Management Practices (SLPM)

## Long-term objectives

The project has three long term objectives:

1. Increasing existing knowledge about the drivers of resilience in Ethiopia;
2. Mutual learning and enhanced local human and institutional capacity to analyze the issue of resilience;
3. Improved policies relating to resilience and hence improvement in the living conditions of smallholder farmers in Ethiopia;

## Relevance i)

### **Synergy between project activities and National Development Priorities of Ethiopia including**

- Food security, disaster prevention and Preparedness strategy of the current Growth and Transformation Plan (GTP II)
- Climate Resilience Green Economy (CRGE): which is also one of the cross cutting issues in GTP II
- Disaster risk management and climate adaptation which is being mainstreamed into national development policies in Ethiopia. The project will be relevant in promoting evidence based policy in this regard.

## Relevance ii)

### **Contribute to Realization of several UN Sustainable Development Goals (SDGs)**

Direct link to:

- SDG Goal 1- No Poverty
- SDG Goal 2- Zero Hunger
- SDG Goal 13- Climate Action
- Comment on *leaving no one behind*

Indirect link to

- SDG Goal 9 - Building resilient infrastructure, industry and Innovation



## Relevance iii)

### **In line with Danish Country Programme for Ethiopia: 2018-2022**

- Particularly with the climate resilient forest livelihood part of the programme
- Research outputs of the project can be used as an input in guiding policy in development cooperation between Ethiopia and Denmark

# Work packages

To achieve its objectives, the project is structured into 5 work packages (WPs):

- **WP1: Identifying Resilience at Different Levels**
- **WP2: Identifying Resilience enhancing Local Innovative Actions**
- **WP3: Assessing the Impact of Local Innovative Actions identified in WP2**
- **WP4: Assessing the Impact of the Productive Safety Net Program on Household Resilience**
- **WP5: Evaluating the Effectiveness of Sustainable Land Management Practices (SLMP)**

# WP1: Identifying Resilience at Different Levels

- Is the **basis** for the remaining four work packages
- **Main Objective:** to identify which districts, villages and households are more resilient compared to others in terms of
  - i) Smoothing consumption expenditure in the face of severe droughts
  - ii) Vegetation Resilience: Farmers' ability to harvest sufficient crops despite long lasting dry spells
- Employ innovative approach using a quasi experimental set up
- Data:
  - Nationally representative Panel Survey namely the Ethiopian Socio Economic Survey (ESS)
  - Cross sectional Survey from Household Income, Consumption and Expenditure Survey

## WP2: Identifying Resilience enhancing Local Innovative Actions

- **Main Objective:** to conduct a focused follow up survey with a representative sample of resilient and non-resilient households, districts and villages
- Serves two purposes
  - To identify local innovative actions taken at household and community level that have led to a higher degree of resilience
  - To compare resilience across different agro-ecological zones, agricultural regimes and outcome measures
- A novel dataset with descriptive reports will be the main output of this WP

## WP3: Assessing the Impact of Local Innovative Actions identified in WP2

- **Main Objective:** To assess 'what works best' in terms of resilience building at household and community levels using dataset from WP2
- In particular, using measures of resilience defined in WP1 as an outcome, we assess the role of different innovative actions identified in WP2 in explaining the observed variation in the degree of resilience
- In doing so we compare resilience of households that are similar in all characteristics but differ in the options for actions available to them

## WP4: Assessing the Impact of the Productive Safety Net Program on Household Resilience

- **Main Objective:** To assess whether PSNP participation makes households more resilient to drought and if there is heterogeneous impact by transfer modality and gender;
- Outcomes of interest include consumption expenditure and child health outcomes
- Rely on the six rounds of PSNP surveys conducted over an eleven year period (2006-2016)

## WP5: Evaluating the Effectiveness of Sustainable Land Management Practices (SLMP)

- **SLPM:** is a multi donor project with a budget of around USD 100 million aimed at “reducing land degradation and improving land productivity in selected watersheds in targeted regions in Ethiopia”.
- **Main Objective-** Using dataset generated as part of WP2 together with new and updated satellite data on drought exposure, we aim to compare results of this large scale intervention to those assessed in WP3 and WP4

# Expectations for collaboration

- Both the University of Copenhagen and the Policy Research Institute hold great expectations for the coming collaboration
  - Research outputs will build on years of experience from both sides
  - Large complementarities between researcher profiles
  - Strong networks in Addis Ababa and internationally will help the project reach beyond the partner institutions