**SSRP project templates**

**Title:** Towards prediction of food security crisis and effective responses

**Theme:** Early warning systems, food security. Estimating effects of drought on food security in Kenya and Ethiopia.

**SDG’s:** 2. Zero hunger, 3. Good wealth and wellbeing, 1. No poverty,

**PI and Co PI details:**

*PI:* Martin Todd (Global Studies, Geography)

*Co –Investigators:* Annemie Maertens (Economics, BMEc), Lars Otto Naess (IDS), Pedram Rowhani (Global Studies, Geography), Dominic Kniveton (Global Studies, Geography)

**Project team**: National Drought Monitoring Agency (NDMA) in Kenya, besides PI and Co-PI Monika Novackova

**Where are you working:** Kenya, Ethiopia

**Project summary in 140 characters:** Estimating of effects of droughts on food security and improving of early warning system in Kenya and Ethiopia.

**Overview of project:** Extreme weather events such as droughts and floods have had disastrous consequences on food production and security. The aim of our project is to improve understanding of mechanisms of effects of these high impact events on food security and to improve existing early warning systems in Kenya and Ethiopia. The outputs of our project will contribute to timely identification of the most vulnerable areas, communities and individuals. This will lead to improvement of distribution of humanitarian aid, which is necessary for preventing or alleviating catastrophic consequences of extreme weather events on peoples live, health and well-being.

**Project description:**

We will identify which particular weather events lead to most harmful consequences on food security. We will also explore the underlying mechanisms of effects of droughts on food security by means of statistical analysis and econometric models. In particular, we will focus on estimating of effects of precipitation and various droughts indicators on food production, food prices and other aspects of human wellbeing applying panel regression models.

As the government of Kenya is relatively decentralised, many important decisions including those about public finances are made at county level. Therefore, our analysis will be conducted at county level. There are 47 counties in Kenya including 23 lying in arid and semi-arid areas, which are especially prone to droughts. The time focus of our analysis is between 1970 and present.

The source of our weather data is the Climate Research Unit (CRU). The yearly food production data and monthly food price data come from the Famine Early Warning Systems Network (FEWSN). For the main analysis, we will use yearly average of food prices as the yearly frequency is conformable with the yearly frequency of the production data. We will apply various methods of panel data analysis, including fixed effects and random effects controlling for potentially confounding variables. The different specifications and their varieties will be assessed and compared and we will use the preferred specification to infer conclusions.

**Timeline and funding:** April 2017-September 2018

**Photos:** Please provide photos to illustrate your project. If you do not have photos you have taken yourself, then please provide photos from the internet or elsewhere that well illustrate the subjects of your project.

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