

# Land Grabbing, Water Scarcity and Civil Conflicts in Africa

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# Introduction

- The role of weather stress (drought) on the probability of social violence is a robust empirical patterns in the literature in Sub-Saharan Africa.
- For the current team: Couttenier and Soubeyran, 2015 and 2016 or Laurent-Lucchetti et al, 2016a and 2016b.

# Introduction (cont.)

- Main idea: scarcity of renewable resources (i.e. water)...
  - ...in combination with other institutional and social factors...
  - ...triggers violent outcomes such as ethnic clashes and insurgencies.
- ⇒ Water stress by itself does not create violence (trigger conflicts from underlying tensions).

# Mechanisms

In Sub-Saharan Africa: 65% of the population is farming, represents 30% of GDP. 95% of cropland are rainfed, less than 5% irrigated.

- ⇒ Droughts can cause large reductions in agricultural income.
- ⇒ ...can lead to increase in food prices in urban areas.
- ⇒ ... can increase competition over water and land. Tensions among users (farmers, herders, ethnic groups...).
- ⇒ ...and also threatens food security and livelihood.

# This Project (I)

- Does Land Grabbing in Sub-Saharan Africa increase the effect of water scarcity on social violence ?

⇒ Land grabbing denotes the transfer of the right to own or use the land from local communities to foreign investors through large-scale land acquisitions (more than 200 ha per deal).

⇒ In 2010 the World Bank estimated that about 45 million ha had been acquired since 2008.

# This Project (II)

- Rulli et al. (2013) show that this land grabbing phenomenon is associated with a substantial increase in the local use of freshwater resources.
- The per capita volume of “grabbed water” exceeds by an order of magnitude the average water use in a region.

=> Less irrigation water in the surrounding and downstream areas. Does it enhance the effect of water scarcity on social violence ?

# This Project (III)

- New dataset provided by the NGO Land Matrix records around 1000 geocoded landgrabbing deals in SSA.
- We are completing information for each deal (size and implementation date).
- We will use geocoded information at the cell level (0.5\*0.5 degrees) on drought measure (SPEI indicator), riots and local conflicts, availability of blue water (rivers and lake), croplands, growing seasons, ethnic groups, population density, mining activity...

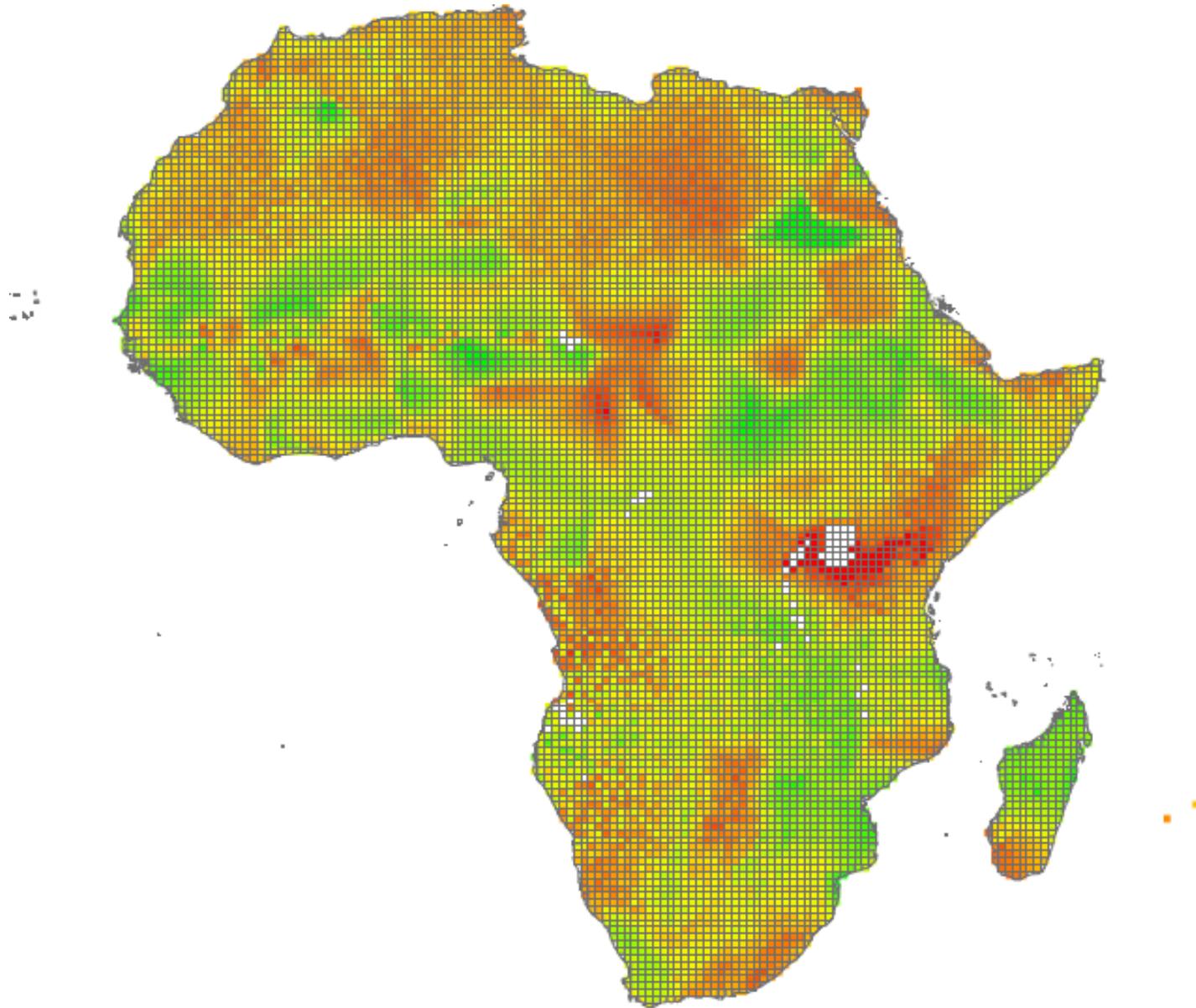
# And more... ?

- Continuation of the project: can we use insurance schemes to reduce the impact of water scarcity on agricultural income (and eventually on violence) ?
- Need comprehensive data on weather-based insurance in the region (geocoded).

# The Grid



# The SPEI (July 2010 here)



# Riots (1990-2011)

