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Peacekeeping the Commons: UN Peacekeeping Moderates the Effects of Climate Change on Intercommunal Conflict

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Introduction

Literature Review

- The causal relationship between climate change and conflict is widely contested among scholars.
  - Many researchers agree that climate change and variability may increase the risk and occurrence of violent conflict (Burke et al., 2009; Adger et al., 2014; Hsiang et al., 2014; Cane et al., 2014; Bollfrass & Shaver, 2015).
  - However, there have been divergent outcomes when utilizing different research designs/datasets; leading many scholars to claim that there is a lack of robust empirical evidence for the climate-conflict causal relationship (Koubi, 2019).
- There is broad consensus among scholars that institutions are key moderators of climate-related intercommunal violence.
  - Foundational research on the relationship between environmental conditions and violence emphasizes the importance of institutions (Homer-Dixon, 2001).
  - Past empirical research has demonstrated that institutions are necessary for adapting to climatic stressors and preventing them from evolving into violent conflict (Paul et al., 2016).
  - According to Ostrom (1990), social institutions allow communities to manage resources for collective benefits and reduce competition over scarce resources that induce intercommunal conflict.
  - *In essence, institutions create the conditions for the necessary cooperation to avoid climate-induced conflict.*

My Argument

- I posit that local deployments of UN Peacekeeping Operations (UNPKO) moderate the effects of climatic shocks on intercommunal violence because they strengthen the institutions necessary to promote cooperation in the face of resource scarcity.
- Climatic shocks impact both the supply and governance of common-pool resources (CPRs).
- As a result, CPR institutions break down during climatic shocks, increasing the risk of violent conflict between communities who rely on CPRs for their livelihood.
- UN Peacekeeping Operations reverse this trend through a set of activities ultimately strengthening the institutions that promote cooperation between CPR users during climate shocks.
  - These activities include building infrastructure that mitigate shifting CPR boundaries, promoting and establishing spaces for mediation between CPR users, and patrolling measures that increase security/information-gathering capabilities and dissuade draconian sanctions.
  - These UNPKO activities align with the seven design principles of effective CPR institutions laid out by Ostrom (1990).

Methodology

Hypothesis

The local deployment of UNPKO reduces the probability of intercommunal violence in the midst of CPR disputes related to climate shocks, specifically in agro-pastoral communities in Mali.

Data & Methods

I test my hypotheses in Mali, for the following reasons:

- Extremely climate vulnerable, experiences rainfall shocks (drought)
- Has ongoing intercommunal violence between agriculturalists and pastoralists
- Has multiple deployments of UNPKO in intercommunal conflict hotspots

I combine data from four sources to construct variables related to my hypothesis:

- The Robust African Deployments of Peacekeeping Operations Dataset
  - Measure: presence or absence of UNPKO in cell i at time t
- The Armed Conflict Location and Event Database
  - Measure: presence or absence of any conflict (state or non-state) in cell i at time t
- The Ethnographic Atlas
  - Measure: transhumant pastoralism score of nearest neighboring ethnic group (0-1) of cell i at time t
- The Global Precipitation Climatology Centre
  - Measure: annual precipitation in cell i at time t (cm), annual precipitation experienced by own ethnic group and nearest neighboring ethnic group (cm)

I aggregate these data within 0.5 x 0.5-degree grid cells and over years, such that my unit of analysis is the grid-cell-year.

The goal of my analysis is to estimate whether lower levels of precipitation in the territory of transhumant pastoralists are less likely to increase the probability of conflict in neighboring grid cells when UN peacekeepers are deployed, relative to the scenario where no UN peacekeepers are deployed in grid cells neighboring the territories of transhumant pastoralists experiencing negative rainfall shocks.

I follow prior research on the relationship between rainfall and conflict involving transhumant pastoralists by using linear regression that includes grid cell and year fixed effects a set of covariates (McGuirk & Nunn, 2020). My regression additionally interacts my measure of rainfall in territory of transhumant pastoralists with my measure of UN peacekeeping to produce my desired estimate.

Results

First, I replicate existing research to demonstrate that lower levels of precipitation in the territory of transhumant pastoralists correlates with a higher probability of conflict in neighboring grid cells (Table 1, Model 1).

Table 1.

	Model 1	Model 2
Transhumant Pastoralism Rain	0.205 *	0.207 *
	(0.099)	(0.101)
UN Peacekeeping		-0.501 **
		(0.197)
Transhumant Pastoral Rain X UN Peacekeeping		-0.527 **
		(0.230)
Covariates specified?	Yes	Yes
Num. obs.	1800	1800
Num. groups: cell	300	300
Num. groups: cy	6	6
Adj. R^2 (full model)	0.443	0.444
Adj. R^2 (proj model)	0.008	0.008

My analyses provide support for my hypothesis: the probability of conflict in grid cells neighboring the territory of transhumant pastoralists experiencing lower levels of rainfall is lower when UN peacekeepers are deployed in comparison to when no UN peacekeepers are deployed (Table 1, Model 2).

Figure 1.

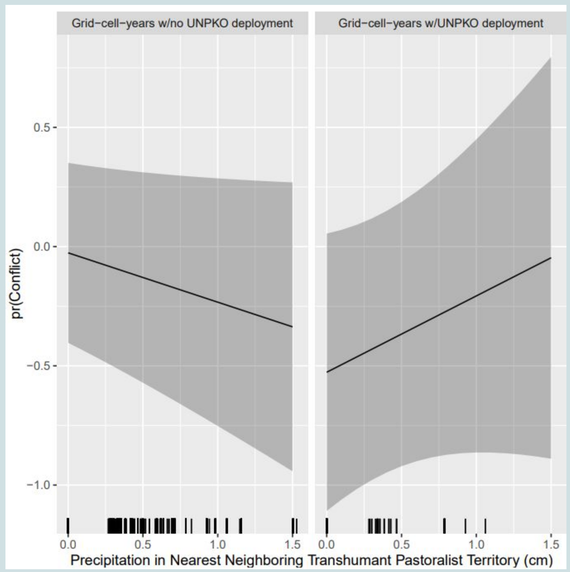

Figure 1 indicates that when precipitation in the nearest neighboring transhumant pastoralist territory is 0 cm, there is a higher probability of conflict in grid cells without UNPKO deployed compared to when there are UNPKO deployed.

Discussion

- These findings indicate that there is a connection between climate shocks (drought) and the probability of intercommunal conflict.
  - Academics should refocus the climate-conflict debate on intercommunal conflict, as opposed to civil wars and interstate conflict.
- They also suggest that the presence and activities undertaken by UNPKO who are deployed in climate vulnerable areas strengthen the institutions governing CPRs, in turn, promoting cooperation and decreasing conflict.
- This highlights that the UN should be increasingly integrating efforts to mitigate the effects of climate change in their peacekeeping missions.
  - Currently, 80% of UNPKO personnel are deployed in countries ranked as most exposed to climate change (Krampe, 2021).
- As climate change progresses and aggravates the risk of conflict over CPRs, the UN must concentrate on climate security.
  - Identify additional measures, authorities, and partnerships necessary to adequately plan for and address climate-related security risks (Krampe, 2021).
  - Regularly assess what climate risks deployments face locally and how it affects peacebuilding operations (Krampe, 2021).
  - Streamline knowledge and information sharing about climate security risks and how to manage them (Krampe, 2021).

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