

Climate Changes and Conflict Patterns



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Focus



- How is climate change contributing to local, national and international tensions
 - The links between ecological changes and conflict
 - Types of violence
 - Likelihood of increased violence
- How is climate change influencing migration patterns
 - Both spatial and temporal trends
 - Relative weight of climate change in influencing decision to move
 - Role of governments in mitigating or encouraging migration

Underlying Themes



- Root causes
 - Lack of access to power, resources amongst vulnerable populations
 - Poverty and unequal development
- Production of multiple vulnerabilities and the creation and structure of risk as it varies within and across countries
- Information on the indirect effects of climate is difficult to ascertain
 - Use GIS and statistical analysis for civil war study
 - Use case studies for migration study

Climate change and conflict hypotheses



- **Degradation:** Areas with high land degradation are more likely to experience armed conflict the greater the population growth.
- **Water pressure:** Areas with high freshwater scarcity are more likely to experience armed conflict the greater the population growth.
- **Population pressure:** Areas with high population density are more likely to experience conflict the greater the population growth.

Contextual Effects



- **Poverty:** The effect of demographic and environmental factor is stronger in poorer, rather than wealthier, states.
- **Political Instability:** Areas with demographic and environmental pressures are more likely to experience conflict during periods of regime collapse and transition.

Data



- **Global Grid analysis**
 - 100kmx100km squares
 - grid-year, time series set
- **Country Level Data**
 - GDP
 - Regime type score
- **Geospatial data**
 - Human Induced Soil Degradation (1km res/1990)
 - Easily Available Fresh Water (1km res/1990)
 - Population Density (1km/ 1990 and 1995)
 - Conflict Data (point/radius of 300km/1990-2004)

Civil War and Climate Change Results



- Very high land degradation and water scarcity are not related to higher conflict risk.
- There is a threshold effect where medium to high levels of degradation are associated with very minute increases in war risk.
- Population density and growth are related to higher conflict risk.
- Environmental pressures are not more likely to cause conflict in poorer states.
- Environmental pressures are not more likely to cause conflict during times of instability.

Communal Conflicts



- UACD communal conflict since 2002
 - Out of 53 recorded, 18 involved “land/water/scarcity” issues; 19 involved ‘political disputes’ unrelated to resource availability; 7 involved cattle/criminal/grazing issues; and 13 were noted with ‘unknown cause’; 2 involved compounded disasters.
 - Somalia, Sudan, Ethiopia, Kenya experienced the most communal conflict
 - Groups that experienced ‘political conflicts’ were PREGs- Politically Relevant Ethnic Communities where at least group of the conflicting dyad were ‘politically affiliated’ with the ruling regime

Main Findings on Migration and Climate



- Disasters vary considerably in their potential to instigate migration
- Individuals and communities in the developing world incorporate environmental risks into their livelihoods
- Labour migration intensifies as a response to chronic environmental hazards
- Distress migration patterns are shaped by assets, social networks and available aid
- Migrations are typically internal and short term and not related to conflict risk

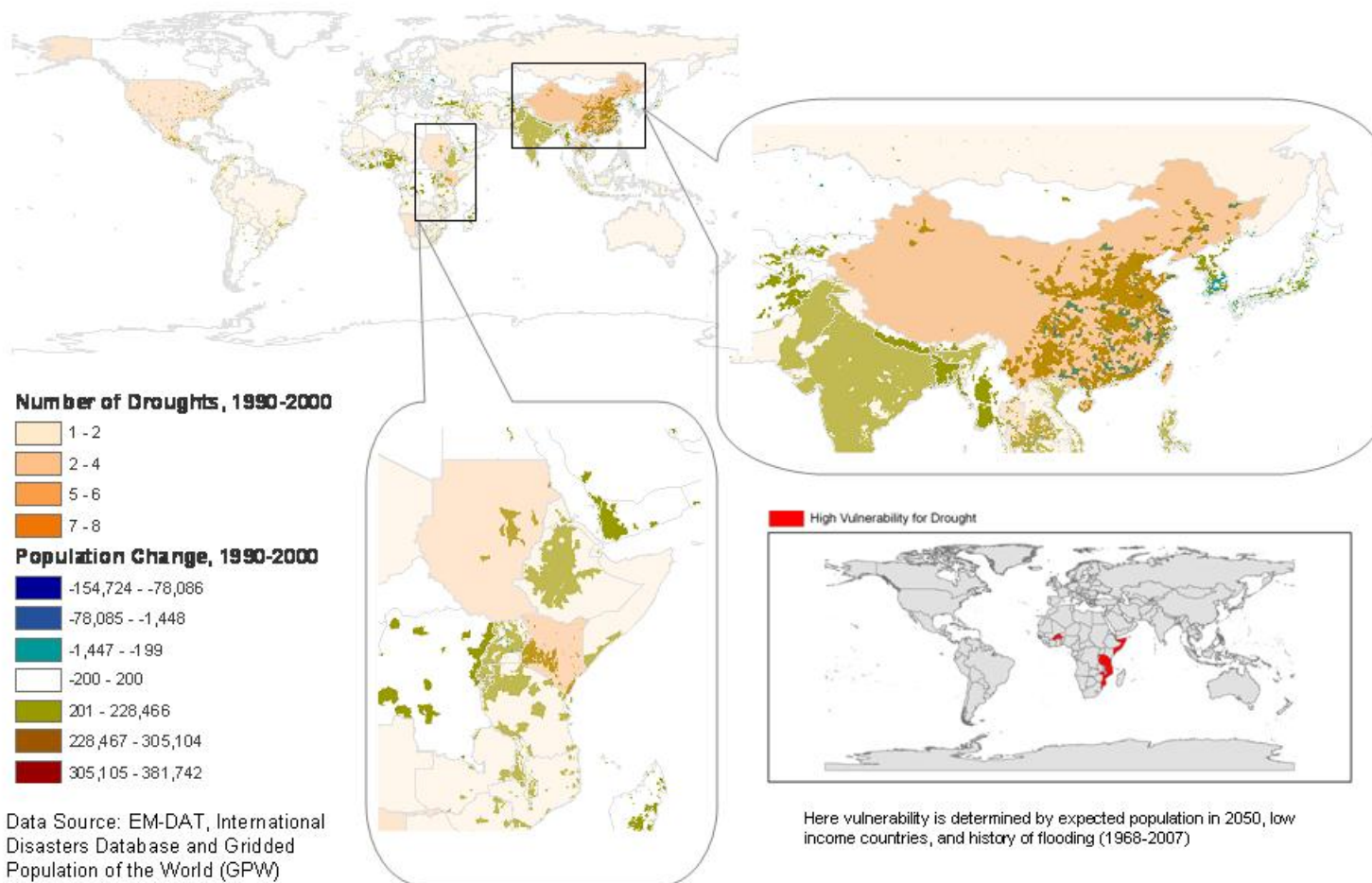
Labour Migration



- Intensifies as a reaction to chronic environmental hazards
- Is typically internal, temporary and circular

Direct Climate Changes	Indirect Climate Changes	Type of Movement	Time Span
Gradual climate change	Chronic disasters such as drought, degradation	Seasonal labor migration. Temporary circulation	Seasonal
Gradual climate change	Chronic disasters- drought/ degradation	Contract labor migration	Yearly
Sudden or gradual climate change	Natural disasters/ severe drought/ Famine/Floods	Forced/distress migration	Temporary
Sudden or gradual climate change	Extreme Temperatures/ Sea Level Rise	Permanent migration	Lifetime

Significant Population Change is Occurring in Locations Where Drought May Be Exacerbated



Government Policies on Environmental Migration



- Policies influence vulnerability and coping
 - To increase resilience
 - To reduce hazard vulnerability
 - To encourage adaptation
- Policies influence labour and distress migration
 - To strengthen rural-urban connections and employment
 - To reduce controls on movement
 - Treat disaster victims in-situ and organize safer relief
 - To direct and organize relocation

Difficult cases



- **Worst case scenarios**
 - **Sea Level Rise**
 - ✦ Little population
 - ✦ Complicated issue
 - ✦ Those with neighboring agreement
 - ✦ Increased labor migration is already occurring
 - **Compounded disasters**
 - ✦ Particularly recurrence of droughts and famines
 - ✦ Areas with pronounced political instability

Migration and Conflict



- There is evidence linking increased population pressure to higher rates of civil war and increased violence due to refugees.
- Anecdotal accounts of communal conflict as a result of certain migration patterns do not consider political climate
- The policies of both sending and receiving countries influence these dynamics

Conclusions



- Previous migration estimates are incorrect in that they do not consider how people incorporate risks into their livelihoods
- Local development underlies resilience to environmental hazards
- Political vulnerability of groups underlies conflict risk
- Repeated disasters compounded with insufficient assets and assistance is the worst case scenario

Current approaches to EN-SEC



- Environment-security narrative does not address vulnerability, marginalization, ability of groups to challenge government or settled populations.
- The communities most likely to be negatively affected by disasters and long term climate changes are highly vulnerable partially due to their overall marginality and peripheral status that is evident before any ecological changes occur