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Political Marginalization, Climate Change, and Conflict in African Sahel States

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This article discusses the probability of increased communal conflict in African states due to the "political vulnerability" of groups to climate change. From an initial examination of communal conflicts in Sub-Saharan Africa, the risk of conflict depends largely on the size and political importance of ethnic groups. Environmental issues can be catalysts to low-level conflict in marginalized communities, but the critical factor is the extent of political and economic marginalization. Small, politically insignificant ethnic groups experience most conflicts related to environmental pressures. This framework informs a prediction of where we should expect to see high levels of politically induced vulnerability and resultant intra- and intercommunal conflicts.

Climate changes are expected to disproportionately affect developing states. In addition to major physical exposure, it is posited that climate changes will alter the political stability of poor and underdeveloped states, making environmentally related violence more likely (Homer-Dixon 1994; Homer-Dixon 1999; Baechler 1999). Many point to the frequency and intensity of wars related to resource scarcity and distribution, arguing that current conflicts in Darfur, Somalia, and Mali are evidence of this trend (Schwartz and Randall 2003; Byers and Dragojlovic 2004). Others contend that although climate change is an insufficient cause of conflict, it may exacerbate current tensions and inequalities (Barnett 2001; Brauch 2002; Pervis and Busby 2004).

After over two decades of research on resources, degradation and conflict, we have few concrete conclusions. Many scholars now agree that long-term environmental degradation (for example, soil erosion, etc.) has a limited or insignificant role in generating civil or international wars (Raleigh and Urdal 2007; see reviews by Theisen 2008; Salehyan 2008; Homer-Dixon 1991). Further, the risk and propensity for increases in communal conflict is speculative. Meier, Bond, and Bond (2007) find that "environmental factors do appear to influence pastoral conflict if only in the constraints they pose on those making the tactical decision to engage in communal raids" (2007:733). In short, studies of environmental security consistently reiterate that the "political and economic characteristics" of countries are the strongest indicators of conflict risk (see Raleigh and Urdal 2007 for a review). This conclusion is in line with findings within climate change research which posit that the risk of adverse consequences due to climate change is related to the preexisting political, economic and physical vulnerability of communities (McGregor 1994; Cutter 1996; Wisner, Blaikie, and Cannon 2004; Eriksen, Brown, and Kelly 2005; Pelling and Dill 2006). However, the environmental-security literature has not offered a serious investigation into the processes of governing and the creation of political vulnerability.

This article develops a theoretical framework to explain how political and economic vulnerability to climate change influences the propensity for communal conflict across ethnic groups. It is built on three main points: first, a political topography[1] of African states is explained based on the political power of ethnic communities. Ethnic groups within African states can be distinguished by whether they are "politically relevant" or "politically irrelevant." "Political relevance" is a function of a given ethnic community's importance in national level politics. On the other hand, communities characterized by "political irrelevance" are effectively excluded from the national level political agenda within African states. A group's relevance, in turn, dictates their political exclusion and discrimination, which are widely believed to underlie economic marginalization (Gurr 1993; Scarritt 1994). As a result, areas where these groups reside have low levels of public goods access and government capacity.

Political–economic exclusion narrows the range of options available to communities when confronting adverse physical changes. Areas of low capacity and political irrelevance are not likely to be able to mount a significant campaign against the government to redress increasing vulnerability to climate change, and governments are less likely to expend scarce public goods to groups deemed "nonthreatening."

Groups engage in different types of conflict due to the constraints of size, ability, and power potential. Within conflict literature, there is limited evidence that the most marginalized groups create or sustain rebel campaigns. Although too weak to threaten government power, these communities may initiate violence against other groups or be the victims of similar violence. Governments may negotiate with larger groups to prevent violence, but potentially exacerbate the risk of marginal groups by ignoring local issues, such as resource access.

The third point is that violence over access to resources in politically irrelevant areas is often chronic and a product of "self-governing." This condition can be exacerbated in situations where access to abundant or scarce resources continues to be a function of local ethnic affiliation and politics. In short, intergroup violence is a common way to mediate access to resources critical to a sustained livelihood in a space of minimal, if not hostile, governments.

The fourth and final point is that the ability to predict political instability due to environmental causes is best accomplished through a spatial approach. Group level vulnerability can be assessed quantitatively and mapped based on the level of political exclusion and economic marginalization. The likelihood of intra- and intergroup conflict is believed to be a function of previous conflict histories, resource capture abilities and group characteristics. By mapping zones of marginalization and extreme poverty, we can devise scenarios in which a group's preexisting vulnerability is likely to give rise to a range of adverse social consequences.

This article is divided into four sections. The first reviews the literature on climate change vulnerability and its relationship to political instability. Two main strands of the "resource-security" literature are summarized: the environmental-security literature broadly considers physical vulnerability to be the most critical link between adverse climate changes and conflict. Conversely, the political ecology literature considers how political institutions and participation in a structured political economy create vulnerabilities which, in turn, shape a community's reaction to ecological change. This article generally supports a political ecology perspective.

The second section expands on political and economic vulnerability. A framework is developed to assess how preexisting structural conditions and post-disaster government responses shape a community's reaction to adverse environmental change. The third section considers the applicability of this

[1]Boone (2003) created this term to describe variation in government power over space.

framework to intergroup resource conflicts in the Sahel Belt and Horn of Africa. This area of arid and semi-arid lands (ASAL) is characterized by climate stress, which has produced high levels of yearly variability, uncertainty, and extreme events such as drought and famine. Case study literature widely concludes that intra- and intergroup violence can only be understood as a way to mediate access to resources in areas characterized by a hostile or sporadic government presence.

The fourth section discusses the possibilities and pitfalls of conflict prediction based on local level governance data and climate models.

Variable Vulnerabilities and Political Instability

To address the social consequences of climate change, researchers increasingly rely on a conceptual framework that emphasizes the different capabilities and vulnerabilities of countries and groups. Vulnerability is a concept used to determine the risk to individuals, households, and communities relative to adverse changes in their environment. The construction is based on the ability of communities to anticipate, cope with, resist, and recover from a disaster (Adger 2000). Vulnerability to ecological disaster may be only partially based on physical exposure (Downing, Ringius, Hulme, and Waughray 1997; McLeman and Smit 2006) as the hazards literature suggests that the root of vulnerability stems from location and social disadvantages, including poverty and political marginalization (Cutter 1996). Limited assets and political power reduces access to resources and, in turn, narrows the range of options available in times of stress (see Blaikie, Cannon, Davis, and Wisner 1994; Adger 1999; Adger and Kelly 1999).

Any measure of vulnerability (or marginal status) cannot be regarded as static. Not all poor communities are vulnerable, and those that are, are not all vulnerable in the same way (Bankoff, Frerks, and Hilhorst 2004). Widespread indicators of economic vulnerability include assets, type of employment, and future income potential. Among social factors shaping vulnerability are political institutions, marginalization, minority status, education, gender, and age. Finally, physical vulnerability affects the geography of livelihoods and hazards through previous disasters, resource depletion and scarcity (Wisner et al. 2004).

In specifically addressing the potential for conflict, two literatures use vulnerability to shape their approach. The "environmental-security" discourse assigns a primary role to ecological causes in conflict and focuses mainly on resource "scarcity." This framework has been challenged frequently, as critics note that it over-predicts conflicts and defines the role of political institutions poorly (see Levy 1995; Hartmann 1998; Theisen 2008).

Political vulnerability and conflict is, to date, mainly addressed through a political economy framework in the political ecology literature. It emphasizes the way mechanisms of the political economy create and sustain marginalization and exclusion in both developed and developing states. However, the political ecology literature also over predicts and under-defines conflict and has, thus far, rejected quantification.

Environmental Security

The "environmental-security" literature has three main characteristics: it privileges the physical environment in determining conflict risk within and across states; it increasingly incorporates "distribution" issues and marginalization into models of conflict. Both are regarded as functions of the physical proximity and access to scarce resources, and both are considered mediated by rising populations and its pressures on nonrenewable resources (Baechler 1999; Homer-Dixon 1999; Kahl 2006); finally, rapid population growth, degradation

and maldistribution of renewable resources and regime instability are believed to act as major agents in inciting violence. In short, poorer states are likely to both experience resource scarcity and suffer more from it due to regime weakness. The inability to address these factors in generally regarded as a failure of government policy.

In general, Barnett (2000:279) succinctly criticizes this type of literature for engaging in *negative argumentation,* in which connections between the environment and conflict are assumed, and blanket assertions about highly complex political contexts (that is, "state failure" or "bad" governance) are the link between the two. In addition, these studies purport to consider the politics of developing countries, yet none consider the powerful effect of political marginalization and exclusion borne as a result of patronage politics or checkered capacity and access across state territory. The dynamics of marginalization and political exclusion are important components to conflict literature, but receive little critical attention in the environmental-security discourse.

Political Ecology of Conflict

Political ecologists primarily consider how the politics of resource and risk distribution affect political instability and unequal governing processes, broadly defined (see Cutter 1996; Peet and Watts 1996; Watts and Bohle 1998; Peluso and Watts 2001). Political ecology studies reiterate the importance of hierarchical relationships, local land/water access issues, relative resource use, and ethnic group membership. Case studies find that armed and organized violence only superficially appear to be about water/land/scarcity, but reflect larger tensions within and between social groups (see Turner 2004).

Adherents to this framework seldom address climate change as distinct from other changes in the environment. Instead, this perspective emphasizes that we live in a politicized environment where the costs and benefits associated with environmental change are unequally distributed among actors (Bailey and Bryant 2003). Mal-distribution is reinforced by existing social and economic inequalities, which also have political implications in the altered power of actors in relation to one another. This effect is apparent on the international scale, where climate changes exacerbated by developed countries seriously affect the capabilities of developing countries, especially those economically dependent on the environment. Further, developing countries are pressured to incorporate adaptive and mitigation policies against climate change. Strained budgets, resource dependence, and unstable political environments increase vulnerability.

Vulnerability can be best understood through a multilevel approach: it is built on everyday issues, such as strained livelihoods and marginal social status. These may contribute to poor land management practices, resource pressures, and increasing reliance on degraded resources. It is compounded by "episodic issues" such as flooding or droughts (Bailey and Bryant 2003:30). Therefore, the distribution of costs involved in everyday and episodic changes is not random. The poor and otherwise marginalized members of society are disproportionately affected by all disasters and climate change. Framed in this way, uneven distribution of public goods and increasing climate risks is evidence of "policy success" on the part of regimes seeking to minimize governance in areas of low political significance and limit threats emanating from marginalized communities (see Keen 1994; Devereux 2000).

There are several drawbacks to the political ecology discourse: its resistance to defining conflict specifically and quantifying measures has both restricted adherence to its framework and contributions to the environmental-security discourse, of which it is often critical (see Watts and Peet 1996). Conflict is presented as a

reaction to micro and macro political economies and distribution policies and may be either violent or "structural." In short, structural violence can beget direct physical violence.

Political and Economic Vulnerability Revisited

This article formalizes a political ecology framework in relation to conflict risk on the local level due to increased climatic uncertainty in African states. It does so by incorporating insights from the literature on African governance patterns and conflict. The framework presented describes how political institutions create economic and social risks, which can be exacerbated by physical risks. It tracks the political and ecological dimensions of vulnerability in marginalized communities assuming that (i) the economically marginalized and politically excluded may reside in less developed and more degraded areas compared to the rest of the state (such as ASAL); (ii) climate changes and disasters often affect politically peripheral regions hardest, catalyzing regional political tensions; and (iii) existing inequalities can be exacerbated by post-disaster governmental responses and manipulation (Zolberg, Suhrke, and Aguayo 1989; Suhrke 1994; Raleigh and Jordan 2009).

The two main determinants of both political and economic marginalization in this framework are *client networks* and *state capacity*. These represent separate axes of vulnerability and are difficult to distinguish in practice, as political marginalization begets economic marginalization.

The actors within the frameworks are *local ethnic communities* and *governments* in African states. The political realm is defined by ethno-political groups, which are "constantly molded by political interaction with other groups and the state" (Scarritt and McMillan 1995:325). Ethnic groups are the best unit for analysis since ethnic relations underlie much, if not all, political activity in sub-Saharan Africa. As Scarritt and Mozaffer (1999:85) note, "ethnicity, relative to other bases of social cleavages, is a cost effective strategic resource for organizing collective political action. Ethnic cleavages, therefore, are the dominant ones in electoral and party opposition." Hence, ethnic groups, although neither permanent nor static, are relatively stable, important social and political units within African states in the long term.

Patrimonial Politics, Government Exclusion, and Political Irrelevancy

Patrimonial politics are the bedrock of African political systems. Neopatrimonalism is based on patron–client political relationships in which the goal is the maintenance of a single authority through which access to public and private resources flows. This system has led to a hybrid structure in which personalized rule coexists with modern bureaucracy, resulting in a largely ineffective governing body (Clapham 1986; Chabal and Daloz 1999; Van de Walle 2001; Bøås and Dunn 2006). The basis of patron–client relationships may vary depending on the situation of the state, but is largely shaped by ethnic identities. Through neopatrimonial institutions, ethnicity becomes a vehicle for private patronage and public goods provision between ruling coalitions and local communities (Habyarimana, Humphreys, Posner, and Weinstein 2007). In turn, the legitimacy of the African political elite "derives from their ability to nourish the clientele on which their power rests" (Chabal and Daloz 1999:15). Neopatrimonial practices thereby ensure access to power by a defined portion of the population and a centralization of power by those who hold formal office. These political practices force leaders to "fall back on much narrower bases than those provided by mass mobilization; bases dictated by organizational powers and supporting of specific social groupings" (Migdal 2001:62).

Scarritt (1994) notes that political agendas are framed in ethnic terms because groups are overwhelmingly concentrated in one geographical area. In sub-Saharan Africa, ethnic homelands are considered spatially distinct as nearly 70% of African minorities are concentrated in one contiguous geographical area (Scarritt and McMillan 1995:328). As each regime may find that different groups or regions form a legitimate base of support, different groups and regions assume a different political weight over time, according to regime needs. Such accommodation occurs at the local/regional level, where the relative positions of local strongmen and political patrons devise webs of exchange that determine allocation of state resources at the national level, where local pockets of support can guarantee overall stability for the regime (Migdal 2001).

Within African states, there exist "politically relevant" and "politically irrelevant" communities in reference to political decision making within a state (see Scarritt and Mozaffer 1999; Posner 2004). Political relevance refers to ethnoregional communities who take part in and are regarded as fundamental to the political process within states, whether in elections, public good provision or neopatrimonal networks. A politically relevant group can occupy various roles for a sitting regime (it may be allied to the government, hostile, or a crucial group for collusion). Communities who are hostile to the sitting regime may be temporarily marginalized from a sitting government but remain "relevant" in that they hold an important position within the political calculus of a state. Groups are "politically irrelevant" if they neither garner government attention (regardless of regime) nor participate in or shape the national political agenda within a state. Small ethnic communities living in peripheral areas are likely to be "irrelevant."[2] This variation produces a "topography of government power." Such a topography underscores public good distribution nationally and locally (Clapham 1986; Chabal and Daloz 1999; Boone 2003).

As a result of political exclusion, African political relations reveal jarring evidence of uneven political representation and interests across space. In many African states, ethnic groups are not represented in accordance with their population (Enloe 1980; Horowitz 1985). Over time, this imbalance has become increasingly apparent. Sixty-five percent of African ethno-politicial minorities encounter disadvantages in gaining access to top political, civil service, and military positions, as well as rights to organize or obtain legal protection (Scarritt and McMillan 1995:328–329). Compared to the global average, a higher percentage (70%) of political and economic discrimination experienced by African ethno-political groups is severe. State-based policies and practices shape the nature of political discrimination, and "political and economic differentials are essentially the products of discrimination" (Scarritt and McMillan 1995:328–329). Ethnic contests for power serve mainly to perpetuate disproportional government representation.

Many authors have specifically noted the disadvantaged position and low political weight of those living in marginal lands, or with nomadic/pastoral livelihoods. These groups can largely be designated as "politically irrelevant." As ethnicity is strongly linked to access to resources in African states, particularly access to land rights (Klopp 2001; Homewood, Coast, and Thompson 2004; Unruh 2005), a government's recognition and support of local authority structures and customary institutions can depend on the degree to which it perceives such arrangements to be to its advantage. This is particularly important with respect to negotiating who gets access to land. Groups that are not considered

[2]However, this is not determinate as groups can be politically peripheral without being geographically peripheral. For example, small groups such as the Banyamulenge in the Democratic Republic of Congo have a strong impact on Congolese politics, yet many small language communities that are spread throughout Congo have very little to no participation in national politics (Young 1985).

part of the political base are effectively not considered stewards (Thébaud and Batterbury 2001). For example, many Sahelian states do not acknowledge the specific nature of pastoral land use. Thébaud and Batterbury (2001) note the inconsistent role of the state in assisting or constraining pastoral livelihoods and the negative discourse about pastoralism that circulates in government and development agencies. Others note that pastoralists have been severely affected by economic and institutional changes that take place outside the realm of pastoral influence (Blaikie et al. 1994). In short, the type of livelihood is linked to policy formulation processes that neglect the pastoral production system (Homewood et al. 2004; Malley, Taeb, Matsumoto, and Takeya 2008).

Low Government Capacity and Marginalization

In practice, African governments do not have effective access or sovereignty across their full territories. This capacity weakness affects the ability (or impetus) of states to provide basic social services. Hence, the geography of government control is quite varied, creating spaces of governance and non-governance (Clapham 1986; Herbst 2000; Boone 2003). Areas of absent government rule can be effectively unincorporated (Herbst 2000), whereas other areas may be under constant control by the state if they are economically important or are the homeland of the regime's political base (Clapham 1986). Boone (2003) notes that the topography of African power is subject to major changes as regimes change and the ethnic alliances that form the political base shift. Further, she finds government control is based on the political economy of individual states and regimes' relationships with local power brokers. For example, areas without cash crops or a strong rural hierarchy are non-incorporated by the state. Herbst (2000) supports this notion in his static interpretation of African governing power; he specifically notes that drought-prone Saharan and Sahelian states have large, unincorporated hinterlands.

Such political exclusion creates economic inequalities, which is starkly evident in the livelihoods of pastoral communities within African states. Severe variation in government client networks and capacity is supported by evidence that general social services, physical infrastructure, and political representation are routinely well below national averages in remote and low population density pastoral areas (Watts and Peet 1996:10; Coast 2002). As noted in Smith, Barrett and Box: "pastoralists represent a relatively political minority viewed as powerless by their governments. There has been little state or colonial impact outside of administration in the pastoral areas. Much of the public services, famine relief...have been provided by...NGOs, especially in Kenya. In general, physical and institutional infrastructure is weaker in pastoral areas than in cropping zones and urban areas" (Smith, Barrett, and Box 2000:1949).

The Masai of Kenya provide an appropriate example of the interaction between physical and social vulnerabilities. They are considered marginalized, as access to social services, physical infrastructure, and political representation are routinely well below national averages in remote and low population density pastoral areas (Coast 2002). If drought struck large swaths of Masai and non-Masai territory, Masai would be most vulnerable to severe and crippling economic effects because their ability to withstand disaster is inhibited by forces beyond their control.

Economic development strongly impacts the abilities of communities to withstand gradual and extreme climatic events (Findley 1994; Maxwell 1999:301; Mula 1999:318; Meze-Hausken 2000). The availability of markets, access to infrastructure, and the promise and delivery of aid affect the ability of families to prepare for and withstand environmental hazards or changes (Eriksen et al. 2005). How a household reacts to environmental hazards depends on the severity of the

change, their particular vulnerabilities, and available assets and strategies (Mortimore 1989; Meze-Hausken 2000).

Specifically, a severe ecological situation like drought brings into stark focus the ways in which income diversity and dynamic coping strategies form the basis of rural livelihoods (Sabates-Wheeler, Devereux, Mitchell, Tanner, Davies, and Leavy 2008). Dispersed grazing, inter-household transfers and loans, use of credit, rationing, sale of assets, commodity trading, relief aid, and migration are typical drought/famine survival strategies influenced by land access agreements and access to markets (Corbett 1988).

Further, the more severe the ecological change, the more coping strategies depend on external forces and aid. Although coping strategies are less important during nondrought periods (Eriksen et al. 2005), the maintenance of indigenous coping institutions is crucial to continued inhabitation of marginal lands (McCabe 1990).

Post-Disaster Aid, Relief, and Responses by Government

Evidence suggests that the ways in which governments respond to disasters are largely predicated on the kind of political relationships that existed before the crisis (Pelling and Dill 2006). Many case studies of African famine and drought patterns support this assertion, as the government responses appear to depend on willingness to avoid crisis, tailor relief efforts to need, and appeal for aid. The relative importance or weight of communities to current regimes is often demonstrated by the speed with which aid relief reaches them (see Cutler 1993; Keen 1994). As remote, rural people do not constitute a threat to the established regimes, their struggles, climatic or otherwise, can be ignored to no great effect on the stability of the government. However, if drought or famines threaten towns or cities, action is usually swift as urban unrest is worrying to governments. Relief aid is dispersed according to "political weight": urban areas see relief first, followed by politically important rural areas. Peripheral rural areas are last. This effect is best illustrated by example: the Kenyan droughts of 1985–1986 affected the homelands of two large ethnic groups, both considered politically important. The Kenyan government attended swiftly to relief efforts in order to minimize reproach (Cutler 1993). Smaller, pastoral communities affected by the drought in Kenya were forced to move into aid camps, in both Sudan and Uganda (McCabe 1990). Drought migrants in the Bandiagara plateau in Sahel are typically marginalized, dispersed and mobile, operating without significant government assistance (De Bruijn and Van Dijk 2003). There is extensive evidence that government officials from Mali and Niger embezzled relief aid intended for marginalized drought victims of the Northern Sahel in the 1980s, which they instead used to construct "drought castles" for elites in wealthier parts of the state (see Bourgeot 1990; Klute 1995; Benjaminsen 2008).

The economic and political health of each country profoundly influences its relief response. In a comparison of drought/famine impacts in Botswana, Ethiopia, Kenya, Mali, Mozambique, and Sudan during the 1980s, migration patterns, economic impacts, and government responses differed dramatically due to pre-disaster contexts, internal responses and international relationships. In Kenya and Botswana, pre-famine trading relationships provided insurance against economic failure, while international relief flowed to responsive governments. Migration and mortality rates were strongly affected by infrastructure and type of available relief. While Kenya depended primarily on normal market channels to distribute relief, Botswana's decentralized program focused on household entitlements and labor. Other states constructed extensive relief complexes and relied on free food distribution.

Consequences of Increased Environmental Uncertainty

The social and political consequences of high marginalization coupled with increased stress and insufficient government response are (i) increased risk of communal violence over access; (ii) heightened levels of distress migration to relief; and (iii) increased poverty and decreased coping strategies during periods of compounded disasters. While politically "relevant" and larger social groups have environmental pressures mediated by government intervention pre- and post-disaster (roads, hospitals, relief aid, coping assistance), politically "irrelevant" groups do not have access to such services. Disasters create increasing poverty over time and distress migration in the short term (Table 1 reviews the characteristics of politically marginalized groups).

Increased climatic uncertainly may lead to increased conflicts across traditionally hostile groups and neighbors. Case studies and a small sample of ethnic conflict data confirm three characteristics of violence in areas of political and economic marginalization. The first is that group size dictates the likelihood and type of conflict pattern. Small, politically irrelevant groups are unlikely to be engaged in chronic conflict at the local level. Second, violence in ASAL is a "chronic" condition, stemming from "self-governance" and group regulation over livelihoods and wealth. In recent years, violence has become more intense due to the availability of weaponry (Young 2006).

TABLE 1. High Political Marginalization/High Economic Marginalization

Characteristics
Politically irrelevant: marginalized communities with no or limited government placements (for example, small language group or local ethnic communities)
Homelands with consistent low levels of public good provision across different regimes (for example, schools/hospitals/security)
High levels of group and individual poverty
Distant from functioning markets and urban/peri-urban settlements
Groups subject to chronic violence related to resource access
Who
Pastoral communities (for example, Pokot in Kenya)
Nomadic groups (for example, Fulani)
Small ethnic groups (for example, Saho)
Highly dispersed groups in low density areas (for example, Somali in Ethiopia)
Where
Rural, arid, and semi-arid lands (areas of low population density and degraded lands; (for example, Sahel Belt)
Low state capacity (for example, Northern Mali)
Pastoral/farming frontlines (for example, Western Sudan)
High susceptibility to chronic disasters (for example, Southern and western Ethiopia)
Possible exposure to climate change
Direct: high-areas susceptible to severe climate variability, drought, famines
Indirect: high-areas with high levels of degradation, food insecurity, water insecurity
Government response to disaster and aid/relief
Limited response to disasters
Reliance on NGO and international community
Sociopolitical consequences to climate change
Possible increased levels of resource related conflict
Distress migration
Increased labor migration
Increased rural poverty

Violence in Politically Irrelevant Areas

African conflict literature presents a compelling case that political exclusion alone may lead to increased conflict, but with many caveats (see Horowitz 1985; Gurr 1993). It has become increasingly clear that marginalization, inequality and exclusion are motivations for conflict, but do not entirely explain its occurrence. "It is a profound and repeated finding that the mere facts of poverty and inequality or even increases in these conditions do not lead to political and ethnic violence" (Goldstone 2002:8).

At the very least, opportunities to create and sustain a violent political movement must be present for a group to succeed in armed rebellion against even a weak state. Political stability or instability is based on reciprocal relationships—between states, between state and elite, and between state, elite, and popular groups (Goldstone 2002). Especially in African cases, local or regional groups may engage in communal violence to solve local issues. The state may or may not be actively involved.

Although groups are motivated to justify a campaign against the government, they lack the opportunity to level a significant threat. These opportunities are available to particular groups, or alternatively, only certain groups within society are capable of creating and sustaining a violent campaign. Small, marginalized groups are not considered threats to regimes because their grievances will not attract sufficient support from larger, more powerful groups in society. Findings in the quantitative literature related to ethnic fractionalization and polarization mean to capture this dynamic (Azam 2001; Montalvo and Reynal-Querol 2005). In order for popular discontent to create large-scale conflicts, there must be elite leadership to mobilize popular groups and creating links between them. In contrast, communal conflict tends to be structured in the form of "ethnic militias."

Uppsala Conflict Data has recently begun to collect information on communal/ethnic violence in Africa from 2002 to 2008 (UCDP 2009). Disputes in the Sahel and Horn countries comprise most of the list. The participants in the communal conflicts are overwhelmingly "politically irrelevant" in that they belong to a language or clan.[3] Of the 54 cases (105 conflict dyads) reviewed, 22 involved access to "land/water rights," five over "territory," five over cattle rustling and crime, nine over local or national politics and 14 classified under "unknown" cause. Seventeen cases or 26 conflict dyad actors were "politically relevant." Of the "politically relevant" groups who engaged in conflict, all are traditionally regarded as pastoralist communities (for example, Afar in Ethiopia and Fulani in Nigeria) and are politically and economically marginalized by the sitting regimes. Although this is a basic assessment, it is clear that a focus on environmental resources as sources for conflicts misses the broader issue of how marginalization shapes ethnic group interactions and reactions to scarcity or issues over distribution.

Patterns of communal conflict in pastoral areas of the Sahel are frequently regarded as a "chronic" condition by researchers in this area. Violence across ethnic or livelihood groups (that is, pastoralists and agriculturalists) is a normal process and does not signify a direct relationship between scarcity and conflict

[3]Each group can be assigned a "political weight" based on the concept of "ethno-political groups," which according to Scarritt and Mozaffer (1999) are cleavages evident in contests for political power. Scarritt and Mozaffer (1999) go further by specifying groups by their relevance based on level, and aggregate into cleavages across four possible categories within a country. The categories include groups of no known political relevance (Language/Clan), Lower Level groups which are politically relevant and allied but ethnically dissimilar (Low), Middle level cleavages of groups that are allied, but ethnically distinct (Middle), and possible National Level dichotomies (National). Groups can be politically relevant in one state and not in the neighboring state (that is, Zaghawa in Chad and Sudan). Although group coalitions are dynamic, Scarritt and Mozaffer (1999) note that these groups are those that have been politically salient since Independence.

or abundance and conflict. It is typically presented as part of a strategy by those living in areas of minimal government intervention to regulate access to critical livelihood components such as water and land and to acquire wealth to sustain groups through uncertain ecological conditions (Davies and Hossain 1997; Johnson 1997; Mirzeler and Young 2000; Lind 2003; Longley and Maxwell 2003). In recent years, the proliferation of guns has made typically low-level exchanges more intense and frequent.

The few case studies that have addressed armed and organized violence conclude that these struggles reflect tensions within and between social groups. For example, Turner (2004) finds that conflict is related to local issues surrounding access to cropland and pasture, encroachment, or to changes in federal policy and weak local leadership in the resource poor Sahel region. Conflict is therefore based on relational instead of absolute scarcity, and is designed to control access to key resources over the long term (Turner 2004:877). Bassett (1988) notes that communal conflicts between groups in relatively abundant areas in Northern Ivory Coast and central Cameroon were caused by national food security policies interacting with local land-tenure rights and use agreements. Thébaud and Batterbury (2001:76) conclude that pastoral conflict in Eastern Niger is based in the increased isolation of these communities, limited access to basic services and difficulties herding cattle outside of confined areas.

While conflict in east African rangelands has been variously presented as resource competition between minority and majority ethnic groups, part of a direct response of marginalized people to systematic dispossession, or orchestrated events stage-managed by elites seeking to retain monopoly on power and resources (Klopp 2001), no evidence links the onset of such events to a direct scarcity of resources. Indeed, conflict in the Turkana and Masalit regions of Kenya show spatial and temporal variation that appears related to the presence and function of local markets (Witsenburg and Wario Roba 2007).

From past evidence of persistent climatic uncertainty, conflict remains a possibility across many ethnic communities within ASAL and peripheral areas. In addition, studies confirm that increasing levels of conflict in areas affected with famine or drought leads to "complex emergencies" (see Keen 2008). While we have yet to ascertain any broad patterns to communal conflict, three conclusions guide a future study of violence in marginal areas. First, not all groups participate in communal violence. Groups involved in the communal violence noted by the Uppsala Peace and Conflict Data set are not "politically relevant" ethnic communities. This reiterates that communal violence occurs between groups who are not part of the national political discourse, instead such groups operate and fight on the local level. Finally, areas of scarcity see persistent conflict, but no definitive relationship between seasonal or yearly scarcity and conflict is presently evident. Second, it is presented as a chronic, yet normal, condition in ASAL. And third, violence is strategic and used to increase wealth or acquire control of resources unregulated by another authority.

Predictive Possibilities and Unanswered Questions

It is broadly certain that climate change will, within the next 20–50 years, be more about disasters such as drought, floods, and windstorms. There are concerns regarding increased conflict, intensified migration and rising levels of destitution among marginalized communities in developing states. The advantage of an early warning, prediction or risk assessment is that preparation can be put in place to minimize damage and maximize relief. There exist multiple early warning models for famine, drought and other ecological conditions. However, these disasters continue to occur, often with startling human cost.

This article presents evidence that suggests groups with the highest physical vulnerability are also not likely to receive adequate relief. Further, predicting the future risks of conflict within ASAL of African states is made even more difficult by the fact there is little consensus over what kinds of climate change are likely across Africa. As the framework presented here argues, political vulnerability is an overlooked yet critical component of overall vulnerability to the adverse affects of climate change, in particular climate security. To that end, the link between climate change and conflict is mediated by the political weight and marginal status of groups. Although the status of marginal groups is unlikely to change, the economic poverty of groups can fluctuate, leaving areas more or less susceptible to distress migration, famine, or perhaps conflict.

Global risk-assessment models for conflict may be appropriate for civil war (see O'Brien 2010; Ward, Greenhill, and Bakke 2010), but they remain too crude to apply to subnational communal violence patterns. O'Brien and Ward et al. note that conflict prediction models display a lack of understanding about the phenomena of war, let alone the ability to predict it.

We can reasonably expect to determine where, within a state, communal conflict over resources is likely to occur, using fine-grained data and spatial methods. These patterns are more likely to be a function of low state capacity, local poverty and traditionally hostile relations across those living on disaster prone or degraded areas. If we contend that violence over access to water, land, and assets is likely to occur in areas and across groups who are politically and economic marginalized, then mapping and testing the extent of such vulnerabilities is indeed the first step to predicting social instability. The following four questions structure the framework for research on political and physical vulnerabilities of groups in ASAL:

1. What is the extent of marginalization and exclusion in politically relevant areas? Is there variation within and across states in the political vulnerability of pastoral and semipastoral groups?
2. Are there specific patterns of violence in politically irrelevant areas? If so, what role does scarcity play in both in initiating and structuring violence?
3. Have labor or distress migration patterns in pastoral and semipastoral areas of the Sahel increased due to variation in climate patterns? What role do national governments play in providing relief to minimize distress migration?
4. Is there a relationship between the functionality of local markets and the risk of conflict across ASAL during periods of ecological stress? If so, what are the market thresholds which trigger scarcity-related violence?

Advances in subnational data on communal violence, resources, accessibility, and political marginalization allow for a rigorous application of theories regarding the propensity of scarcity or abundance to cause conflict can be undertaken with such data. As an example of the possibilities of use, Figure 1 presents four images of Ethiopia. Image 1 presents the language and ethnic community homelands within Ethiopian states. This map is based on Ethnologue (2009) shapefiles, and is in sharp contrast to other mapped ethnic communities—notably Geo-Referenced Ethnic Groups (Weidmann, Rød, and Cederman 2010) which aggregates groups into the larger "relevant" ethnic community. The area of conflict is similar to the "high" areas of persistent drought, presented in Image 3 and the areas of low infrastructure, presented in Image 2. The homeland of those groups who engaged in some form of communal conflict is displayed in Image 4.[4] In using spatial and temporally disaggregated data in combination

[4]Finer grained conflict data are also available, which can track where groups fight over resources (see the presentation of armed conflict location and event data set in Raleigh, Hegre, Linke, and Karlsen 2010).

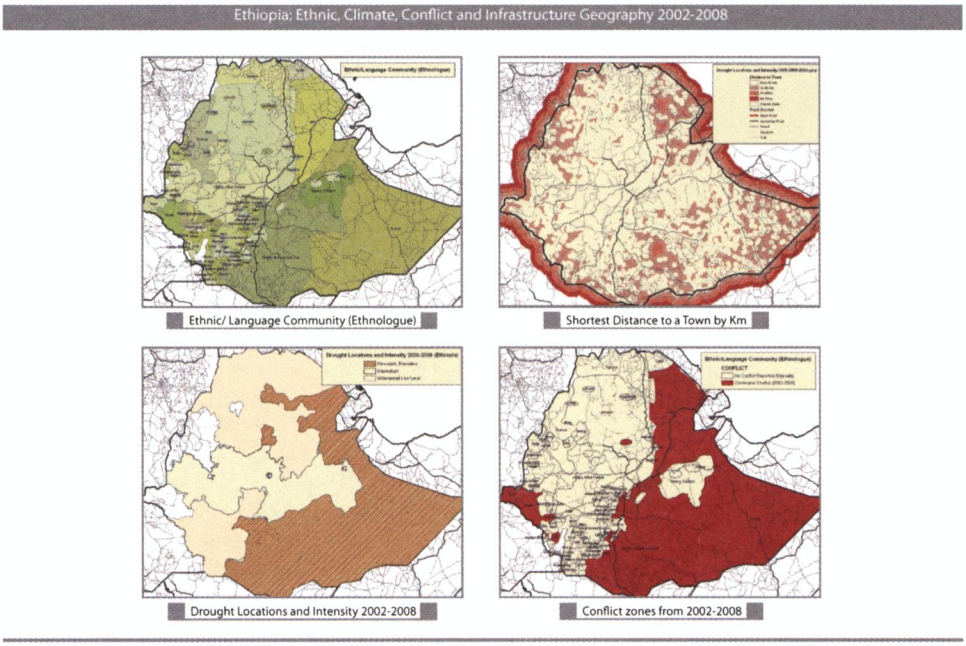

FIG 1. Climate, Conflict, and Capacity in Ethiopia

with spatial econometrics and data analysis, we allow for rigorous tests of the relationship between physical exposure, political and economic conditions and their effect on conflict.

Table 2 lists the available sub national data on African states. These data can be used to model causality and correlation, but just as importantly, they demonstrate the variability in conditions within states.

Many questions remain concerning communal conflict, underdevelopment and climate change: it is possible that certain groups are consistent offenders and that risk profiles differ significantly across pastoralists and farmers in ASAL. As Smith et al. (2000) note in their study of risk in East Africa, "as reflected in the spatial distribution of the risk measures, those that border hostile neighbors are particularly affected...insecurity can lead to the worst of all possibilities" (Smith et al. 2000:1953). Further, it is increasingly possible that distress migration occurs solely in areas where food security is low and states have low capacity. Without a complete understanding of how the rural poor cope in marginalized and physically degraded lands, we have little hope of predicting their actions in time of dire stresses such as climate change.

In conclusion, the present frameworks for incorporating environmental change into conflict patterns fail to appreciate how a group's vulnerability is a function of political and economic relationships on the local and national level. Both the environmental-security and political ecology literatures argue that the environment can lead to an increase in the intensity and frequency of communal conflict, yet the more rigorous studies dismiss physical vulnerability as the main factor in communal, civil, and international conflict. Indeed, the "environment" and climate change have great impacts on the abilities of subsistence farmers and pastoralists to sustain their livelihoods which are largely dependent on natural resources. Yet, exposure to physical changes are mediated or exacerbated by political marginalization and state capacity (Sabates-Wheeler et al. 2008). Violence in areas of low state capacity is a function of self-governance and

TABLE 2. Subnational Political and Economic Vulnerability Data

Variable	*Level*	*Where*	*Access*
Conflict	Local (village level)	1. ACLED (armed conflict location and event data)	1. http://www.acleddata.com Raleigh et al. 2010;
		2. Uppsala Conflict Data Project	2. http://www.pcr.uu.se/gpdatabase/search.php
Ethnic/language groups	Subnational (ethnic homelands)	1. Ethnologue	1. http://www.ethnologue.com/
		2. Geo-Referenced Ethnic Groups (GREG)	2. http://www.icr.ethz.ch/research/greg
Drought patterns	Subnational	1. Palmers Index	1. http://www.drought.noaa.gov/palmer.html
		2. Center for Epidemiology and Disasters (EM-DAT)	2. www.emdat.be
		3. Famine Early Warning System (FEWS-Net)	3. http://www.fews.net/Pages/default.aspx
Poverty	Subnational, global or select for countries	1. CIESIN Poverty data	1. http://sedac.ciesin.columbia.edu/povmap/
		2. IGAD data	2. http://www.igad-data.org/tiki-index.php?page = land+use
Infrastructure	Subnational/local	1. Digital Map of World	1. http://www.maproom.psu.edu/cgi-bin/dcw/dcwarea.cgi?Africa
		2. DIVA-data	2. http://biogeo.berkeley.edu/bgm/gdata.php
		3. IGAD (East Africa)	3. http://www.igad-data.org/tiki-index.php?page = land+use
Agriculture/ water/land cover	Subnational/local	1. FAO Network	1. http://www.fao.org/geonetwork/srv/en/main.home
		2. UNEP	2. http://geodata.grid.unep.ch/
		3. USAID	3. http://www.fews.net/Pages/default.aspx
		4. IGAD(East Africa)	4. http://www.igad-data.org/tiki-index.php?page = land+use
Minority status	Group Level	1. Minorities at Risk	1. http://www.cidcm.umd.edu/mar/
		2. Ethnic Power Relations	2. http://dvn.iq.harvard.edu/dvn/dv/epr/faces/study/StudyPage.xhtml?studyId = 36583
Population	1 km	1. CIESIN	1. http://sedac.ciesin.columbia.edu/gpw/
		2. IGAD (East Africa)	2. http://www.igad-data.org/tiki-index.php?page = land+use
Health/school	Subnational	1. DHS	1. http://www.measuredhs.com/
		2. IGAD (East Africa)	2. http://www.igad-data.org/tiki-index.php?page = land+use

strategies to maximize access to scarce or abundant resources. Yet, in order to understand the poverty/climate/conflict interface, greater knowledge of each of these phenomena is necessary.

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