

DEVELOPING AN EARLY WARNING SYSTEM FOR INTRASTATE
CONFLICT IN SUB-SAHARAN AFRICA

by

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For Caitlin

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ABSTRACT

Intrastate conflicts in Sub-Saharan Africa are a development tragedy and a security dilemma that requires more prevention and better intervention from the international community. Such engagement necessitates a robust early warning system, which can determine, with a sufficient degree of accuracy, the countries most at risk of experiencing intrastate conflict. This research summarizes and critiques current efforts to conceptualize intrastate conflict in Sub-Saharan Africa and determine what factors best explain the likelihood of intrastate conflict onset. The research examines the challenges of empirically modelling the human behaviour that underlies intrastate conflict, as well as some promising avenues for overcoming challenges posed by data issues and existing methodological shortcomings. The research concludes that with improved data and research design, and more attention being paid to how statistical significance reflects pathway(s) to violence, the development of an intrastate conflict early warning system is possible.

LIST OF ABBREVIATIONS USED

GDP	Gross Domestic Product
LSMS	Living Standards Measurement Study
SLI	Standard of Living Indexes
UN	United Nations
WHO	World Health Organization

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CHAPTER 1 INTRODUCTION

The latter half of the twentieth century has been marked by a shift in the nature of armed conflict from interstate to intrastate, most commonly in the form of civil-war and/or state failure (Collier et al., 2003; J.D. Fearon & Laitin, 2004; Human Security Centre, 2005). In the 1990s, fully 95 percent of all armed conflicts were intrastate affairs (Human Security Centre, 2005). “These conflicts were almost exclusively in poor developing countries” (Addison & Murshed, 2005, p. 3).

In contrast to previous descriptions of intrastate conflict, which were nominally referred to as low-intensity conflicts, intrastate conflicts since 1970 have exhibited both increased duration and lethality. Intrastate conflicts in Africa, Asia, and Latin America have lasted years or decades, with minimal military capacity being able to accomplish almost unlimited political ends, such as complete regime change (Hoyt, 2003, p. 218).

Intrastate conflicts have become increasingly bloody, with the line between soldier and noncombatant concomitantly blurred (Sarkees, Wayman, & Singer, 2003; Snow, 1996).¹ “In World War I, 14 per cent of the deaths were civilians; today it is estimated that this number has risen to over 75 per cent” (Heyzer, 2005, p. 53). In recent conflicts there has been a disturbing trend towards the deliberate targeting of civilian populations, for example, in Iraq by the recently disenfranchised Sunni minority against the newly empowered Shi‘a majority, in Sudan by the local *janjaweed* Muslim Arab

¹ Lacina and Gleditsch (2005) argue that modern conflicts are *less* bloody, with a marked reduction in battle deaths (deaths caused by immediate warfare) between the Cold War era and post-Cold War era. However, their conception of persons killed during a conflict includes both combatants and civilians killed during direct warfare, and thus does not distinguish whether the immediate impact on civilians has increased. The notion that modern conflicts are more bloody may be a reflection of the extreme forms of violence that have been exhibited in recent conflicts, such as the cutting off of civilians’ hands, and not a reflection of absolute numbers of direct fatalities.

militias against black-Africans, and in Uganda by the Lord's Resistance Army against civilian populations, and more specifically children (M.G. Marshall, 2005a).

The shift in the nature of conflict has laid bare inadequacies in the international regime that exists to prevent, mitigate, and respond to conflict. There are three key areas where the current international regime is inadequate. Firstly, the international community lacks a coherent and reliable early warning system for identifying which countries are most at risk of experiencing intrastate conflict. Secondly, even where impending intrastate conflicts are identified or intrastate conflicts are occurring, the international community is constrained by the international law that governs third-party military responses. Finally, even if the causes of intrastate conflict could be identified and appropriate development policy responses constructed, and even if international law more readily permitted third-party military responses to ongoing intrastate conflicts, there remains a weak and diminishing political will in Canada, as well as in other members of the international community, to respond to intrastate conflicts in such a manner that they can be prevented or halted.

This dissertation addresses the first barrier to crafting an effective response to intrastate conflict—the development of an effective early warning system. Chapter 2 discusses the negative impact of intrastate conflict on development and security, and makes the case that we desperately need an early warning system. Chapter 3 summarizes and critiques the various theoretical conceptualizations of intrastate conflict in Sub-Saharan Africa. Special emphasis is paid to the “rational view” of conflict and the qualitative and quantitative studies that have emerged, which attempt to determine what factors are most closely correlated with the onset of intrastate conflict. The empirical and

methodological shortcomings of the quantitative studies are examined in Chapter 4. Chapter 4 also outlines recent work that has emerged to remedy some of these shortcomings. Chapter 5 concludes with a discussion of directions for future research on developing an intrastate early warning system for Sub-Saharan Africa.

CHAPTER 2 THE CONSEQUENCES OF INTRASTATE CONFLICT

2.1 THE NEGATIVE IMPACT OF INTRASTATE CONFLICT ON DEVELOPMENT

The negative impacts of intrastate conflict on development and security are widely-documented (Bayer & Rupert, 2004; Collier, 1999; Cranna, 1994; I. Elbadawi, 1999; I. A. Elbadawi & Ndung'u, 2005; Ghobarah, Huth, & Russett, 2003; Stewart, Huang, Wang, Stewart, & FitzGerald, 2001; World Bank, 2003b). Intrastate conflict is negatively correlated with development, both in the orthodox economic growth sense and with more recently emphasized dimensions, such as human development. Intrastate conflict is also negatively correlated with security, both in the sense of national or international security and with more recent conceptions of human security. —Human development” and —human security” are distinct (but closely related) concepts. —They are people-centred; they are multi-dimensional; they have broad views on human fulfilment in the long term; and they address [or impact] chronic poverty” (Alkire, 2003, p. 35). They are also both frequently the victim of intrastate conflict, though not always for the same reasons.

—Conflict and post-conflict countries face a development tragedy” (I. A. Elbadawi & Ndung'u, 2005, p. 20). The United Kingdom’s Department for International Development (2001), the United Nations (2000), and the World Bank (World Bank, 2003a) all recognize that internal conflict can be a key determinant of poor development success. There is a bi-causal relationship between poverty and conflict. Conflict and post-conflict countries have an average Human Development Index twenty percent lower

than other low-income, highly-indebted poor countries (I. A. Elbadawi & Ndung'u, 2005; World Bank, 2001). "In Sub-Saharan Africa one in every five people is directly affected by civil war" (I. A. Elbadawi & Ndung'u, 2005, p. 18). The World Bank (2000) considers breaking this trap to be one of the principle challenges facing Sub-Saharan Africa.

Intrastate conflicts are often more damaging to developing countries than interstate conflicts because they undermine both state institutions (such as property rights) and organizations (such as the police) (Collier, 1999). In contrast, interstate conflicts can result in the strengthening of the state (Herbst, 1990).

Intrastate conflicts directly impact the GDP of developing countries through four general effects. The most obvious effect is through the direct damage of economic resources and/or inputs such as physical capital (for example, the destruction of bridges used for transport) and human capital (such as the killing or maiming of the labour force) (Collier, 1999). A second effect occurs through the disruption of society and the concomitant social order. Putnam (1993) argues that social capital results in reductions to transaction costs, in part because norms of trust between community members reduce the need for formal contracts. Social disruption, particularly if it is prolonged, can reduce the level of social capital in a developing country, which raises transaction costs (Knight, Loayza, & Villanueva, 1996). A third effect is the diversion of output-enhancing activities to the war effort, such as shifting resources from the police, who uphold the countries legal framework, to the military, who conduct the war (Knight, et al., 1996). In the short-term, such reallocation may maintain or increase GDP, but in the long-term the effects of reallocation are negative. The fourth effect is that of dissaving throughout the

economy, as citizens respond to temporary income losses, and private agents move assets (human, physical, and financial) out of the country.

All of these effects serve to potentially lower both the level and growth rate of GDP, as they “reduce the stock of the endogenous [growth] factor” (Collier, 1999, p. 172). Collier (1999) finds that a civil war of 15 years in duration, lowers GDP by 30 percent. Stewart, Huang & Wang (2001) support this general finding in their analysis of 16 conflict ridden countries, finding that in 15 of the 16 cases, GDP per capita fell during the conflict years.² Employing a Markov process analysis, Blomberg & Hess (2002) examined the relationship between intrastate conflict and recession; their result is less deterministic, but still troubling: “conflicts cause the transitional probability from expansion to recession to increase from 24% to 27%” (Blomberg & Hess, 2002, p. 85). In contrast, Murdoch & Sandler (2002) developed three models to evaluate the impact of civil war on the long-run steady-state level of GDP per capita, the long-run growth of GDP per capita, and the short-term growth of GDP per capita. While the negative impact of civil war on short-term growth of GDP per capita was strong and statistically significant, the empirical evidence of a long-term (defined as 25 years) impact was poor.

Intrastate conflicts also affect other macroeconomic variables. In Sub-Saharan Africa, conflict and post-conflict countries face inflation rates about twice as high as the Sub-Saharan African average, and overall fiscal deficits some 90 percent higher (I. A. Elbadawi & Ndung'u, 2005). If these findings were not bad enough, the negative effects of intrastate conflict tend to last long beyond the time of peaceful resolution (Collier, et al., 2003; I. A. Elbadawi & Ndung'u, 2005).

² See also Blomberg & Hess (2002) and Elbadawi (1999) for additional examples.

The negative consequences of intrastate conflict also extend beyond the borders of the conflict-ridden state. A gravity model would predict that as GDP falls, bilateral trade also decreases (Tinbergen, 1962). Further, trade relies on a stable environment, which is disrupted by intrastate conflict (Dixon & Moon, 1993; Olson, 1993). Bayer & Rupert (2004, p. 710) find that “civil wars, generally considered monadic phenomena, do impact dyadic trade.” In fact, intrastate conflicts decrease bilateral trade by one-third. “This finding indicates that traders are worried not only about instability in the relations between the two capitals but also about instability within one trading partner” (Bayer & Rupert, 2004, p. 710). Further, the longer the intrastate conflict continues, the more difficult it is for traders to enter into new relationships with the conflict-ridden state (Collier, 2000). In general then, intrastate conflict sharply reduces the benefits of trade for developing countries (Benn, 2005).

Intrastate conflicts not only affect bilateral trading relationships, they also affect entire regions (M. E. Brown & Rosecrance, 2002; Cranna, 1994). Intrastate conflicts can affect transportation throughout a region, and cause an influx of refugees into neighbouring countries, which can become a significant economic, social and political burden. In effect, there may be an intrastate conflict “contagion” (Bayer & Rupert, 2004). Indeed, Murdoch & Sandler (2002) find that intrastate conflict has a negative impact on income-per-capita growth in neighbouring countries. One channel through which this contagion can spread is the perceived need, real or unreal, for neighbouring countries to bolster their military spending, at the expense of output-enhancing spending, in order to safeguard against the potential spillover of the neighbouring conflict (Murdoch & Sandler, 2002). Murdoch & Sandler (2002) argue that this channel is

empirically supported because the length of a country's border with a conflict-ridden state is negatively correlated with a reduction in GDP per capita in the same country. Another possible channel of conflict contagion is the increased flow of refugees. Salehyan and Gleditsch (2006, p. 339) argue that refugees can lead to the spread of violence through the expansion of rebel social networks and by posing negative externalities for receiving area." Using an empirical analysis controlling for other factors, Salehyan and Gleditsch found that refugee flows from neighbouring states³ had a positive, and statistically significant, correlation with the incidence of intrastate conflict.

While the economic consequences of intrastate conflicts have obvious ramifications for well-being in conflict and post-conflict countries, intrastate conflicts also have more immediate and direct impacts on the populations of conflict and post-conflict countries in the form of loss of life and subjection to extreme forms of violence. Lacina and Gleditsch (2005) show that for intrastate conflicts in Africa, battle deaths⁴ are responsible for no more than thirty percent of the total deaths caused in any conflict, and in the most extreme case only three percent of total deaths. This disparity derives from the observation that while poorly equipped and organized armed factions may not have the capacity to cause large-scale battle deaths, the weak state structures of many developing countries mean that it may not require great military capacity to collapse the infrastructure of health and human security and cause a full-blown humanitarian crisis" (Lacina & Gleditsch, 2005, pp. 159-160). Consequently, insecurity, displacement,

³ A "neighbouring state" was defined as a state within 100 km from the state that experienced an intrastate conflict.

⁴ "Battle deaths are deaths resulting directly from violence inflicted through the use of armed force by a party to an armed conflict during contested combat," they include deaths of noncombatants (Lacina & Gleditsch, 2005, p. 162).

deprivation, and disease are the real culprits of fatalities in intrastate conflicts. Moreover, intrastate conflicts have long-term public health consequences that result in further fatalities long after the cessation of hostilities (Black, Morris, & Bryce, 2003; Ghobarah, et al., 2003; Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; Murray, King, Lopez, Tomijima, & Krug, 2002). For example, in a cross-section multivariate analysis of 177 countries, using disability adjusted life year data from the World Health Organization, Ghobarah et al. (2003) conclude that in the year 1999, the civil wars during the period 1991 – 1997 were responsible for 8.01 million disability-years—a number “only slightly below WHO’s estimate for the immediate losses from all the wars fought in 1999” (Ghobarah, et al., 2003, p. 200). Put another way, in the year 1999, the lingering negative health effects of civil wars during the period 1991 – 1997 amounted to almost an equivalent impact as the civil wars occurring in 1999. Clearly death attributable to civil war does not stop when the violence ceases.

In addition to the tragedy of loss of life in conflict and post-conflict countries, ordinary citizens have also been subjected to wanton acts of “extremely brutal forms of violence” (Mkandawire, 2002). Equally depressing has been the targeting of such violence based on gender. “In conflicts throughout the world, violence against women has been used as a weapon of war, not just to violate the women, but to humiliate the men of the other side, and to erode the social and moral fabric of entire communities across generations” (Heyzer, 2005, p. 54). Merger (2011) argues that the extreme forms of such violence, evident in modern intrastate conflict in Africa, are a product of globalization and the changing nature of conflict in the late twentieth and early twenty-first centuries.

The psychological devastation of such forms of violence on individuals and communities is apparent, but the long-term consequences for social and sustainable development remain an understudied area. What has started to emerge is an indication that conflicts do not affect genders equally. In an empirical analysis, Plümper & Neumayer (2006) regressed the ratio of female to male life expectancy against a host of independent variables, including variables for various types of conflict. The authors found that the female to male life expectancy ratio was negatively correlated with both interstate and intrastate conflict, with an even more pronounced effect for ethnic civil wars. What this means is that conflict tends to reduce the life expectancy for females in a country by a greater degree than it does males.

2.2 THE NEGATIVE IMPACT OF INTRASTATE CONFLICT ON SECURITY

Intrastate conflict is also detrimental for security. The national insecurity caused by intrastate conflict is self-evident, but intrastate conflict also has security implications regionally and internationally. Regionally, the flow of internally displaced persons from within the conflict-ridden country to neighbouring countries can have severely destabilizing affects on those neighbours called upon to absorb internally displaced person flows. For example, the displacement of persons, as a result of the 1994 Rwandan genocide, into what was then neighbouring Zaire, had profoundly destabilizing, and long lasting, effects on the entire Great Lakes region (Sesay, 1998). Intrastate conflicts also negatively impact inter-regional trade, and have the potential to morph into interstate conflicts. Internationally, there is increased recognition that the fragile and poorly governed states that precipitate and/or emerge from intrastate conflict have the potential

to facilitate international terrorism. These states foster the conditions that attract recruits to extremist ideology, and permit (or lack the resources to dissuade) lawlessness, enabling terrorist organizations to train and function unhindered (United Nations, 2004). The threat posed by such states has been explicitly recognized by the Government of Canada (Government of Canada, 2005).

2.3 RESPONDING TO INTRASTATE CONFLICT

Regardless of whether intrastate conflicts are viewed as a development tragedy or a security dilemma, it is clear that there is an urgent need for better prevention and earlier intervention. “The very nature of these changing wars and weapons requires fundamentally different forms of intervention. ‘Solutions’ to these conflicts are costly, difficult, and require extended commitments that few states can or will justify in the national interest” (Hoyt, 2003, p. 219). This was recognized by the United Nations Secretary General (United Nations, 2000, p. 5) in his report on the work of the organization:

In recent years the international community has agreed that preventing armed conflict is critical to achieving lasting human security. Conflict prevention, as I put it in my millennium report, is where it all begins. Shifting from a culture of reaction to one of prevention is highly cost-effective both in human and in financial terms.

However, it is one thing to recognize that intrastate conflict poses a development and security dilemma. It is another thing to actually formulate a policy response that

predicts and prevents the initiation of such conflicts, responds to and mitigates the duration and intensity of such conflicts, or facilitates an end to violence and a fostering of post-conflict development.

While the United Nations system has proven effective at reducing the occurrence of interstate wars, its experience in preventing large-scale humanitarian crises, caused by intrastate conflicts, has been mixed (Hannay, 2005; M.G. Marshall, 2005b). “The UN deployment to Somalia ended in humiliation, as did missions to the Balkans and Rwanda, dimming enthusiasm for multilateral international intervention in civil conflicts” (Lacina & Gleditsch, 2005, p. 160). The international response to intrastate conflict has been poor at best.

The genocide in Rwanda is one example, albeit an extreme example, of the complete and utter inefficiency of the international community in responding to intrastate conflict. The Rwandan genocide saw the systematic slaughtering of 500,000 minority Tutsis by their compatriot majority Hutus (Kuperman, 2000).⁵ Western leaders were apprised of the build-up of an impending genocide, suggesting that prevention was possible (Dallaire, 2003). But, the international community did nothing, and only ~~the~~ military victory of the Rwandan Patriotic Front – a Tutsi guerrilla army based in the north

⁵ Precise estimates of the Tutsi death toll are difficult, in part, because distinguishing between Tutsis and Hutus can be problematic. Most of the death toll estimates use the knowledge that there were approximately 150,000 surviving Tutsis. Then, by estimating the size of the Tutsi population prior to the genocide and subtracting the surviving Tutsis, the death toll can be approximated. Some estimates put the pre-genocide Tutsi population at 1,000,000, which would correspond with 850,000 deaths, but historical evidence suggests that the 500,000 estimate is more accurate. It should also be noted that an estimated 300,000 Hutus were also killed in the conflict.

of the country” – halted the killing (Holzgreffe, 2003:17).⁶ The decision to not act in Rwanda represented one of the most abject failures of the international community.

We all must recognize that...we have failed in our response to the agony of Rwanda, and thus have acquiesced in the continued loss of human life. Our readiness and capacity for action has been demonstrated to be inadequate at best, and deplorable at worst, owing to the absence of the collective political will (United Nations Security Council, 1994, p. 12).

In my view, the deplorable response to Rwanda was the consequence of much more difficult conundrums than simply a lack of collective political will. The failure of Rwanda resulted, in part, from the international community’s lack of an effective regime for responding to intrastate conflict, or more importantly, the threat of intrastate conflict. In the future, we simply must do better.

⁶ The indictment that the international community did *nothing* is perhaps an overstatement, but in a relative sense, the actions of the international community were extremely minimal and ineffective.

CHAPTER 3 FACTORS THAT LEAD TO INTRASTATE CONFLICT

3.1 COMPETING EXPLANATIONS OF INTRASTATE CONFLICT

Part of doing better requires earlier intervention in countries at risk of intrastate conflict in order to prevent conflict from starting in the first place. However, earlier intervention requires the ability to determine, with a sufficient degree of accuracy, which countries are most at risk of intrastate conflict, and to respond with the kinds of policies that will address a country's risk factors. The determination of country risk requires some form of early warning system that incorporates factors that make countries vulnerable to intrastate conflict. While early warning systems have been used to successfully forecast many types of "natural" disasters, the development of similar systems to predict intrastate conflict has been an even more formidable challenge (Schmeidl & Jenkins, 1998).

The challenges in predicting intrastate conflict are consequences of its multifaceted nature—an unsurprising characteristic given that conflicts are as diverse as their human participants. Nonetheless, a significant amount of work has been undertaken to develop indicators that correlate with and potentially explain intrastate conflict. This theoretical work is itself challenged by the paucity of reliable data in some countries. Predicting intrastate conflict is also challenged by popular conceptions of intrastate conflict, particularly in Sub-Saharan Africa, which serve to undermine searches for explanations of conflict.

There are four general competing theories or explanations of the onset of intrastate conflict in Sub-Saharan Africa: 1) the apocalyptic view, 2) the culturalist view, 3) the neopatrimonialist view and 4) the rational view (Mkandawire, 2002). This literature review is focused on the rational view, but it is important to also have an understanding of the other views, given their predominance in policy circles and popular discussions on intrastate conflict.

3.2 THE APOCALYPTIC VIEW

The apocalyptic view is best captured by the work of Kaplan (1994), who warned of the coming (and inevitable) anarchy in developing countries. He wrote at a time when there was considerable discord happening in West Africa. In the apocalyptic view, intrastate conflict is an inevitable event driven more by fate than rational action. It is a viewpoint often expressed in the bewilderment of mainstream media in the face of what, at least superficially, appears to be wanton violence (Mkandawire, 2002). “Indeed, mainstream perceptions of mass political violence typically emphasize ... anomic randomness, and anarchic irrationality; violence is deprived of meaning beyond its own finality and is equated with madness” (Kalyvas, 2006, p. 33). It was this sense of bewilderment with conflict in Africa that led the Economist (2000) to throw up its hands in disbelief and label the continent “Hopeless Africa.” Such responses continue to be prevalent, for example, in the media’s portrayal of recent post-election violence in Kenya or Côte d’Ivoire (M.G. Marshall, 2005b; Meehan, 2011).

In my opinion, the apocalyptic view is without merit. While in 1994, when Kaplan wrote about “The Coming Anarchy,” it may have seemed as though Sub-Saharan

Africa was indeed destined to such a fate, what actually emerged was a steep drop in conflict in that region; this trend has continued into the twenty-first century (Human Security Centre, 2005). Moreover, as will be discussed below, recent research has discovered statistical correlations between conflict and a number of factors. These results would not have been possible if conflict in Sub-Saharan Africa was truly characterized by anomic randomness.

3.3 THE CULTURALIST VIEW

Closely related to the apocalyptic view is the culturalist view, which sees intrastate violence as an irrational and atavistic pathology” most often associated with Africa (Kalyvas, 2006, p. 33). The culturalist view envisions intrastate conflict as the inevitable result of a continent or country deeply embedded within and shaped by a culture of violence (Mkandawire, 2002). For example, as Ellis (2003, p. 468) notes, aspects of the violence in the Liberian conflict had clear antecedents in the rituals of the initiation societies that were the mainstays of public order in much of Liberia in pre-republican times.” Some authors go so far as to distinguish between violence in the west and violence within Africa based solely on cultural differences. For example, Whitehead (2002, p. 192) suggests that

even careful analyses of Western forms of violence, such as of the Nazi genocide, are not necessarily relevant to the understanding of postcolonial ethnic violence, such as the genocides in Rwanda and Cambodia, precisely because

genocide ' is there mediated through cultural forms with which Westerners are often unfamiliar.

While culture will always be relevant to understanding the nature of conflict and violence, Mkandawire (2002) argues that proponents of the culturalist view take ~~h~~historical continuity and cultural relativism to absurd extremes" that can approach racism. Chappell (2005, p. 290) contends that such extreme cultural explanations, which fail to take ~~i~~nto account the structural changes caused by colonialism and its aftermath, sound suspiciously self-serving and raise questions about deeper outsider agendas."

Much depends on how ~~e~~culture" is defined. It is a contested word and concept with significant definitional diversity. Mkandawire (2003) argues that culturalists conflate context with culture. Culturalists mistake present political, economic, and social factors as evidence of culture rather than as a byproduct of history and context. In a response to Mkandawire, Ellis (2003) counters that all societies transmit coded historical knowledge by attaching meaning to forms of action, which are then pasted on forming part of the culture of a society. Both are right, and both are wrong. Historical context is not equivalent to culture, but at the same time, history is relevant to the structuring of culture. For example, the artificial manner in which colonial powers imposed borders in Africa is well-documented. These borders would ultimately become the borders of sovereign states post-independence. Clapham (2002) argues that such states frequently became a false mode of organization for many people, because they never reflected the predominant cultural norms and tribal structures when they were created, and that this, in turn, became a prominent factor in state collapse and failure in Africa. State collapse and

failure has been recognized as a factor in intrastate conflict, but whether such events are the result of culture or of history depends on how one defines each.

In my view, cultural explanations of conflict are important, but must be approached with extreme caution. Cultural explanations are useful for helping to explain discrete instances of violence at the micro level. Such explanations become much less useful for explaining entire conflicts, let alone trends in conflict at the macro level. The diversity of culture across Sub-Saharan Africa simply diminishes its utility as an explanatory factor for intrastate conflict across the continent.

3.4 THE NEOPATRIMONIALIST VIEW

The neopatrimonialist view suggests that poor governance is the primary cause of intrastate conflict and violence. According to this view, neopatrimonialism is “the distinctive institutional hallmark of African regimes” (Bratton & van de Walle, 1998, p. 277). Under these regimes, the executive controls all the spoils of the state through patronage. Violence is then a predictable or rational response by those who are systematically excluded by the regime (Mkandawire, 2002). This violence, coupled with weak governance structures, leads to intrastate conflict (Allen, 1999; Zartman, 1995).

The problem with this explanation, Mkandawire (2002) argues, is that neopatrimonialist regimes in Africa have collapsed without the presence of violence. However, the fact that some neopatrimonialist regimes have collapsed non-violently does not mean that such regime structures are irrelevant as causal factors in intrastate conflict in Sub-Saharan Africa. What these peaceful transitions mean is that governance structures are not determinative of the incidence of intrastate conflict, and that they may

not be causal factors in all cases. While neopatrimonialism may be relevant to some conflicts, if it is not relevant in most conflicts, then its utility in an early warning system is diminished.

3.5 THE RATIONAL VIEW

3.5.1 Non-Environmental Aspects

The rational view conceives intrastate conflict as a predictable and understandable response to a given set of circumstances. It argues that people choose conflict and violence for reasons that, at least for them, are reasonable and rationally justified and justifiable. The rational view seeks to identify the objective factors that are correlated with the incidence of intrastate conflict and extrapolate these results over large data sets or case studies to suggest causation. Under this view, violence is not random, not essentially cultural, and not caused solely by poor governance. Rather, human actors involved in intrastate conflict base their actions on rational considerations of their needs and interests, and those of their families, tribes, and neighbours. In other words, they act consciously in the best way they can. These considerations may include rational responses to a predatory neopatrimonialist state, but they may just as easily be based on other considerations altogether.

There is a growing body of literature on what rational considerations are most able to explain the incidence of intrastate conflict in Sub-Saharan Africa. Initially, many conflicts were explained as geopolitical manifestations or proxy conflicts linked to Cold War rivalries (Copson, 1991; Hampson, 1996). As the Cold War ended, other explanations emerged of conflict as a response to state repression or governance failure

(Zartman, 1995). Others saw ethnicity, religion, and land disputes as the precursors to intrastate conflict (Deng, 1997; Gurr, 2000; Kimenyi, 2005). These latter theories suggest that “sustained marginalisation and state-supported injustice” create grievances that, along with weak states, foster the conditions for intrastate conflict (Sawyer, 2004, p. 438). Qualitative analyses confirm the role of grievance in a number of intrastate conflicts. For example, Richards (2005, p. 588), in his study of West African intrastate conflict, concludes:

The resentments of impoverished villagers in Liberia and Sierra Leone are deeply rooted. Non-elite families do not enjoy secure land, labour and marital rights. Many young people view local systems of land tenure and marriage payments as instruments of chiefly exploitation. There is now enough evidence to suggest that land grabbing and the exploitation of labour through marriage have been equally powerful sources of conflict in rural Liberia.

At the same time, quantitative studies emerged that suggested intrastate conflict was more the result of economic self-interest than political or elite grievance (Collier, 1999, 2000; Collier, et al., 2003; Collier & Hoeffler, 1998; Collier & Hoeffler, 2002, 2004; Collier & Hoeffler, 2005; Collier & Sambanis, 2005; I. A. Elbadawi & Ndung'u, 2005; Lujala, Gleditsch, & Gilmore, 2005)

Under this explanation, intrastate conflict is driven by the greed of the actors involved, who benefit from rent-seeking opportunities made available by the conflict (Grossman, 1991, 1999). In their seminal paper on this topic, Collier & Hoeffler (2001)

hypothesized that primary commodity dependence and a large diaspora were proxies for the greed explanation — the former creates rent-seeking possibilities for rebels while the latter creates a group that can finance rebellion from overseas. Using non-nested tests to discriminate between the greed and grievance explanations, Collier & Hoeffler (2001) concluded that primary commodity exports (such as oil or diamonds) substantially increase conflict risk whereas grievance motives have little explanatory power.

Such economic explanations of intrastate conflict have been heavily contested (James D. Fearon, 2005; Humphreys, 2005; Nathan, 2008; Ross, 1999). Fearon (2005) shows that by making minor modifications to the Collier & Hoeffler model, the statistical significance of primary commodity dependence disappears. Fearon suggests that any significance of primary commodity dependence is actually related to the presence of oil exports, and argues that the pathway to conflict associated with oil is more related to the link between oil and weak governance rather than greed. Employing a finer natural resource database, Humphreys (2005) concludes that natural resources are linked to conflict through weak states mechanisms rather than greed. It is not the presence of natural resources that matter, but the state's inability to properly govern those resources and to maintain a monopoly on the use of force.

Cramer (2002) critiques the application of neoclassical economics to phenomena that are inherently social, and questions whether the assumptions that underlay such economic analyses can reasonably be applied to intrastate conflict situations. According to Cramer,

orthodox economic models of conflict begin with a set of arbitrary assumptions; efforts to test them empirically have

so far foundered on misleading use of proxies; and these models have not succeeded in incorporating the irreducibly social on which they depend. The emphasis on profitability at the margin or loot-seeking as a cause of war does not necessarily lead to, but certainly in instances has led to, a fetishizing of commodities. Yet how a war is paid for is not equivalent to what caused a war (p. 1856).

Cramer does not suggest that a political economy approach is irrelevant to an analysis of the causes of intrastate conflict; however, Cramer argues that the impact of political economic considerations is mediated through social relations, and that it is necessary to study these changing social relations in order to explain the incidence of intrastate conflict. Such change and analysis is not something that is easily captured by quantitative neoclassical economic analysis.

Others eschew the greed versus grievance debate altogether, and instead focus on the qualities of states themselves. Fearon & Laitin (2003) argue that conditions within a state that favour insurgency best explain the incidence of intrastate conflict. Using a logit analysis of civil war onset for the period 1945 – 1999, the authors reject democracy, anocracy, ethnic and religious fractionalization, and income inequality as factors relevant to the onset of conflict. Instead, the authors find that per capita income, population size, and instability, which they argue are indicators of state weakness, are all statistically significant factors associated with the onset of intrastate conflict. Fearon & Laitin (2003) also find that the percentage of mountainous geography in a country is positively associated with the onset of intrastate conflict. The authors suggest that geographic

features, such as mountains, provide havens from which insurgency groups can conduct guerrilla warfare campaigns.

Goldstone et al. (2005) and Goldstone et al. (2010), in work funded by the United States Central Intelligence Agency, surveyed literally hundreds of variables to determine their correlation with political instability two years prior to the onset of a destabilizing event. The study was concerned with political instability events in countries around the World, and “event” was defined much more broadly than just intrastate conflict, but the analysis remains relevant to the discussion of the causes of conflict. Surprisingly, Goldstone et al. found that rather simple regressions could explain the onset of 80 percent of events, and that by far the most important variable was the regime-type in a given state; this is to be contrasted with the Fearon & Laitin (2003) study which found that democracy and anocracy were neither substantively nor statistically significant. Goldstone et al. found that fully autocratic or democratic states displayed the most stability, whereas partially autocratic or democratic states,⁷ when combined with higher degrees of factionalism, displayed the most instability.

Current development policy planners appear to accept that there are a myriad of factors associated with intrastate conflict, and there is room for both greed, grievance, and state-focused explanations. For example, the United Kingdom’s Department for International Development (2001) concludes that the primary factors associated with intrastate conflict are weak states and state collapse, economic decline and economic

⁷ The authors developed a novel definition for “regime type” based on Polity IV data, and in particular, the “openness of executive recruitment” (EXREC) and “competitiveness of political participation” (PARCOMP) data subsets.

shock, historical factors, and natural resource wealth. More recently, the British Prime Minister's Strategy Unit (2005) states:

The most important factors associated with a high risk of intra-state violent conflict across many countries are: poverty (low levels of GDP per capita), fragile political institutions, and a recent history of violent conflict. Poverty may have a direct effect on the risk of conflict, but its main impact is likely to be indirect, reflecting the fact that poorer countries tend to have lower state capacity to mediate social and political conflicts and to respond effectively when they turn violent. Similarly, fragile political institutions are less able to cope with inter-group conflict and to restrain the actions of elites.

Other factors found to increase the risk of violent conflict, include regional conflict zones (bad neighbourhoods), the size of a country's diaspora, the presence of natural resources, ethnic dominance and inter-group inequalities. The presence of oil is associated with the onset of war – particularly wars of secession. The presence of drugs and gems seem to prolong existing wars rather than trigger new wars. As is the case with diasporas, these natural resources probably play a role in financing ongoing conflict.

3.5.2 Environmental Aspects

One factor that has been largely absent from much of this discussion is the environment. In the early 1990s, a growing body of literature posited environmental degradation and scarcity as a security issue (N. Brown, 1989; Dodds & Pippard, 2005; Gleick, 1989; Sheehan, 2005; Westing, 1986). It was argued that the environment was a security issue because scarcity would either lead to wars over resources or exacerbate pre-existing tensions within a state. Such views remain in force today (Barnett & Adger, 2007; O. Brown, 2010; O. Brown & McLeman, 2009).

Uvin (1998), in his work on the Rwandan genocide, summarizes three schools of thought that pervade the environment and conflict literature: 1) the “Hard” Malthusian school, 2) the “Soft” Malthusian school, and 3) the “Anti” Malthusian school. The “Hard” Malthusian school

holds that social conflict and communal violence are the unavoidable results of overpopulation and ecological resource scarcity. Under conditions of severe population and land imbalance—when countries have exceeded their ‘carrying capacity’ (that is, the number of people that can be fed using their natural resources)—the only outcome possible is famine and/or conflict (pp. 180-181).

The “Soft” Malthusian school takes the view that resource scarcity is associated with an increased risk of conflict, but that such conflict is not inevitable because other variables may intervene to diminish the risk; for example, a society with a high degree of social capital could engage in utilitarian resource-sharing schemes that diminish the impact of

scarcity on the society. The third school does not believe there is any negative association between resource scarcity and conflict. Proponents of this school argue that increased population can lead to increased innovation to ameliorate scarcity issues or that “ecological resource scarcity [is] the product of human agency rather than a fixed situation” (Uvin, 1998, p. 181). Under this last school, “the intermediary variables—the history, politics, and economics of states and societies—become all-important; they become the independent variables that explain the outcome” (Uvin, 1998, p. 184).

Some of the earliest empirical work to test the role of environmental scarcity in conflict was conducted by Homer-Dixon at the University of Toronto (Thomas F. Homer-Dixon, 1991; T.F. Homer-Dixon, 1993; Percival & Homer-Dixon, 1996, 1998). Homer-Dixon (1993) noted that intrastate conflicts were more likely when there were organized factions in a society that viewed the existing political and economic system as unfair and these factions believed both that non-violent measures were not available for addressing their grievances and that the state was unstable. Homer-Dixon posited that environmental scarcity could foster conflict by increasing the perceptions of inequality and state instability, making the conditions for intrastate conflict more pronounced. Under this hypothesis, environmental issues are not primary, but secondary factors that reinforce, strengthen or exacerbate other more primary factors.

Employing a case study methodology to test this hypothesis, Homer-Dixon (1999) concluded that environmental scarcity is linked to intrastate conflict. He also predicted that such conflicts would increase in the decades to come—a prediction that has yet to be borne out empirically. Homer-Dixon (1999, p. 176) determined that

[s]carcity's role in such violence, however, is often obscure and indirect. It interacts with political, economic, and other factors to generate harsh social effects that in turn help produce violence. Analysts often interpret these social effects as the conflict's principal causes, thus overlooking scarcity's influence as an underlying stress.

A number of other case studies of individual countries have supported the connection between environmental scarcity and intrastate conflict. For example, while Uvin (1998, p. 201) concludes that the Rwandan genocide “did not automatically follow from the facts of ecological resource scarcity”—an adoption of the “Anti” Malthusian school—he does admit that structural constraints, notably land pressure, erosion and poverty, were important causal factors. However, according to Uvin, these ecological factors cannot be separated from the economic and political processes that were ongoing in Rwanda.

Employing a case study of Kenya during the period 1991 – 1993, Kahl (1998) argues that environmental scarcity and degradation can create grievances that can be exploited by elites for political gain. The notion that elites within a state may use environmental stress to foment strife is supported by Fujii's (2009) study of the Rwandan conflict. More recently, in their post-conflict environmental assessment of Sudan, the United Nations Environment Program (2007, p. 95) argues that “environmental issues have been and continue to be contributing causes of conflict” in Darfur.

At the same time, other case study analyses have focused on the role of environmental policies as a conflict avoidance or peace building tool (Carter & Ndegwa, 2002; Conca & Dabelko, 2003; Matthew, Halle, & Switzer, 2002). Hagman (2005) argues that there ought to be more such analyses since they provide a null hypothesis to the presumption that environmental scarcity leads to conflict.

In response to the work of Homer-Dixon and others, scholars have attempted to employ quantitative methodologies to assess the role of environmental scarcity in intrastate conflict. For example, Hauge & Ellingsen (1998) employ two cross-sectional models for a large *N* study for the period 1980 – 1992. The authors conclude that

countries suffering from environmental degradation - and in particular from land degradation - are more prone to civil conflict. However, economic factors are far more important in predicting domestic armed conflict than are environmental factors (p. 314).

Another example is the work of Tir & Diehl (1998), who analyzed the relationship between population growth and the military involvement of states in international conflicts. The authors conclude that there is a modest positive relationship between the two variables that supports the notion of environmental conflicts.

These quantitative results have been cast in doubt by more recent work. For example, Thiesen (2008) was unable to replicate the results of Hauge & Ellingsen, and using an improved data set, rejected these results entirely. Urdal (2005), employing a quantitative cross-national time-series study for the period 1950 – 2000, was unable to find “strong empirical support for neo-Malthusian concerns” (p. 430). Population growth

was not linked to a greater risk of conflict. In fact, the results suggested “that scarcity of potentially productive land is associated with a decreased risk of armed conflict” (p. 430). Urdal argues this supports the conclusion that populations will adapt and respond to scarcity in ways that minimize conflict. In a more recent econometric study, Buhaug (2010) rejects a link between short-term national climatic variability and the incidence of intrastate conflict.

Beyond these econometric re-evaluations, the early case study work, including the work of Homer-Dixon, has been heavily criticized for theoretical reasons (Buhaug, Gleditsch, & Theisen, 2008; Dalby, 2000; Gleditsch, 1998). Gleditsch (1998) argues that the model employed by Homer-Dixon is too complex to test and lacks a control group. He also contends that the potential for violence in the future cannot be an empirical tool for explaining the conflicts of the past and present. Gleditsch further argues that environmental accounting is problematic, especially for small countries.

Buhaug (2010) comments on quality issues related to the environmental data used in the preceding literature. He notes that the available data tends to be national level data, and observes that establishing linkages between environmental scarcity and conflict (if they are to be established at all) may depend on the attainment of quality sub-national data.

Hagman (2005, p. 17) contends that the methodological approaches employed thus far are ill-suited to the study of environmental scarcity and conflict:

Neither the inductive case study approach nor the deductive statistical analyses of environmental conflict convincingly explain how human agency and the natural environment

relate to each other on the theoretical level. This is not an inherent weakness of the respective qualitative and quantitative techniques adopted. Rather it is the expression of a positivist perception of social reality that falls short of more sociological thinking about agency, ecology, and physical violence.

Buhaug, Gleditsch & Theisen (2008) contend that future research in this area must address both the fact that the incidence of intrastate conflict is decreasing despite increasing environmental scarcity, and the fact that the empirical foundations for linkages between the two have thus far proven tenuous.

Several single-case analyses suggest that resource scarcity contribute to outbreak of organized violence, though always in interaction with exogenous conflict-promoting factors. The statistical literature, in contrast, has failed to converge on any significant and robust association between resource scarcity and civil war. Although we cannot rule out the possibility of no general linkage, substantial limitations in data and research designs leave a lot to be desired (Buhaug, et al., 2008, p. 3).

The authors contend that the current state of the empirical research leaves much room for improvement, particularly within quantitative methodologies. The authors note nine areas that they believe are important to such improvement:

- 1) increase focus on plausible catalysts of conflict;

- 2) increase focus on natural disasters;
- 3) investigate the agency of involved individuals;
- 4) collect time-varying measures of resource availability;
- 5) develop disaggregated research designs;
- 6) acknowledge and account for regional implications;
- 7) widen the definition of conflict to include non-state conflicts;
- 8) explore the influence of climate change for the course and outcome of ongoing conflicts; and
- 9) combine research traditions to test complex relationships in a systematic and generalizable manner (Buhaug, et al., 2008, p. 3).

The authors conclude that the current state of the environmental scarcity and conflict literature has few immediate implications to provide to policy advisors.

CHAPTER 4 CHALLENGES TO EMPIRICAL ANALYSES OF INTRASTATE CONFLICT

The case for more prevention and better intervention, in order to alleviate the serious development and security consequences of intrastate conflict, has already been made (McNeill, 2003; Prime Minister's Strategy Unit, 2005). This echoes current research on so-called “natural disasters,” which suggests that prevention is both possible and cost-effective (World Bank, 2010). However, developing an early warning system to forecast a country’s risk of intrastate conflict is no easy task. Intrastate conflict involves human actors with diverse backgrounds and motivations. Each country that experiences intrastate conflict is unique. Consequently, designing empirical models to evaluate the causes of conflict in a large N data set is quite challenging. As Albert Einstein once said: “Not everything that can be counted counts, and not everything that counts can be counted.” This statement most certainly applies to empirical research on intrastate conflict.

The current condition of intrastate conflict faces two general challenges—challenges that are often associated with attempts to apply numbers to human behaviour. Firstly, the data used to undertake empirical analyses of intrastate conflict is questionable. Secondly, there are serious methodological concerns and shortcomings that call into question the robustness of existing empirical research, and diminish its utility in constructing development policies in response to a country’s risk of experiencing intrastate conflict.

4.1 QUALITY, CONSISTENCY AND RELIABILITY OF DEVELOPING COUNTRY DATA AND ITS IMPACT ON INTRASTATE CONFLICT ANALYSES

One of the most obvious shortcomings of empirical research on intrastate conflict is the quality and consistency of the data that is used. Many developing countries lack the resources to properly staff and operate national statistics units. Atkinson & Brandolini (2001, p. 771) argue that “[i]mprovements over half a century in national accounts make users of macroeconomic statistics reasonably confident that the data correspond to the underlying analytical concepts” and that reliance on the United Nations System of National Accounts ensures comparability between countries; however, according to Atkinson & Brandolini (2001), the same cannot be said for other types of data. The authors suggest that the same confidence cannot be placed, for example, in income distribution data, which suffers from inconsistent measurement over time, and diverging definitions across countries.

Moreover, in countries that experience intrastate conflict, particularly for prolonged periods of time, the likelihood that quality and consistency of data will diminish is almost certain. Where data collection requires state-led collection and aggregation, an ongoing intrastate conflict may prevent the availability of *any* data from emerging, let alone reliable data. For example, in a country like Somalia, which has been without a functional central government for more than two decades, the idea that reliable economic, human development or environmental data can nonetheless be produced is somewhat farcical. This ought to concern academics attempting empirical analyses of intrastate conflict, because it suggests that the very event that is being studied can disrupt the quality and consistency of data in the exact year being studied.

In response, development organizations have attempted to create their own data sets. For example, the World Bank established the Living Standards Measurement Study (LSMS) in order to improve “the accuracy, timeliness and policy relevance of household survey data collected by government statistical offices in developing countries” (Grosh & Glewwe, 1998, p. 187). Grosh & Glewwe (1998), who are both Senior Economists with the World Bank, argue that “compared to other household surveys conducted in developing countries, the quality of LSMS data is well above average.” However, comparably better does not necessarily translate into reliable and consistent data, particularly where intrastate conflict is concerned.

Montgomery, Gragnolati, Burke & Paredes (2000, p. 155) acknowledge the utility of surveys like the LSMS, especially given the constraints faced by developing countries in statistical data acquisition:

The collection of accurate income data is a demanding task; it must compete for survey resources against higher priority modules on health, mortality, fertility, and children's schooling. Household consumption expenditures are preferred to measures of income on some theoretical grounds, and consumption data are somewhat easier to gather. Nevertheless, the proper measurement of consumption is also a costly undertaking.

However, when Montgomery, Gragnolati, Burke & Paredes (2000, p. 170) developed standard of living indices (SLI) based on the LSMS data they found “that the SLI are

very weak predictors of consumption per adult; their partial R2 values are extremely low.”

When such variable income data is used for further studies, the results can be equally variable. For example, Houweling, Kunst & Mackenbach (2003) ask whether the indicator of economic status used matters when measuring health inequality among children in developing countries. The authors noted the difficulty of obtaining household economic data in developing countries, especially where self-subsistence agriculture forms a significant part of a country’s economy:

[I]n countries where a large part of the population works in self-subsistence agriculture or the informal sector, expressing income or expenditure levels in monetary values can be extremely time-consuming and suffers important reliability problems (Houweling, et al., 2003).

The authors compared various data sets on household income, including available World Bank data, and found that the measure of economic status used did matter. The use of a specific data set impacted both the magnitude and substantive effect of the economic measure on health inequality, “in some cases ranging up to a 60% change in observed inequality” (Houweling, et al., 2003).

Given that empirical analyses of intrastate conflict are based both indirectly and directly on such data as is discussed above, it should come as no surprise that quality and consistency issues can have serious affects on empirical results. For example, an

empirical analysis by Montalvo & Reynal-Querol (2005) finds that ethnic polarization⁸ is positively correlated with the incidence of intrastate conflict whereas fractionalization⁹ is not. On this basis, the authors argue that it is not heterogeneity per se that makes a country at risk of intrastate conflict, but rather a specific type of heterogeneity, that is, a majority ethnic group combined with a large ethnic minority group.¹⁰ The authors “check” the robustness of their results based on three different data sets of ethnic heterogeneity; the effect and statistical significance of ethnic polarization is maintained across the data sets, but the coefficient is heavily dependent on which data set is used. The use of one data set suggested an impact for ethnic polarization that was almost double the use of another data set.

Another shortcoming of the data employed in the vast majority of empirical analyses of intrastate conflict is that it is not disaggregated, that is, the studies employ country-level data. The primary reason for this is likely that disaggregated data is not readily available in most countries. The consequence of not using disaggregated data is that the studies implicitly assume the onset of intrastate conflict will be uniform across a country. Aas Rustad, Buhaug, Falch & Gates (2011) argue, convincingly in my view, that “all conflict is local.” Intrastate conflict, especially at the initial stages, tends to not

⁸ Ethnic polarization is measured by the equation: $RQ = 1 - \sum_{i=1}^N \left(\frac{1/2 - \eta_i}{1/2} \right)^2 \eta_i$, where η_i is the proportion of people who belong to the ethnic group i , and N is the number of groups in a country.

⁹ Fractionalization is measured by the equation: $FRAC = 1 - \sum_{i=1}^N \eta_i^2$, where η_i is the proportion of people who belong to the ethnic group i , and N is the number of groups in a country.

¹⁰ As can be seen from the equation for ethnic polarization, RQ approaches 1 in a country with only two ethnic groups as the proportion of each group approaches fifty percent.

engulf entire countries. As such, country-level data may mask the true impact of a given factor at the local level, i.e. at the very place where a conflict is instigated.

For example, it may not be the presence of natural resources in a country that presents a risk of intrastate conflict, but rather the presence of natural resources in an area of the country over which the state has diminished control. It may not be environmental degradation at the national level, but rather environmental degradation in an area of the country where a cohesive ethnic minority is located. Studies that employ sub-national data may solve these issues, but such studies are rare (See e.g. Aas Rustad, et al., 2011).

4.2 ASSUMPTIONS AND SHORTCOMINGS OF CURRENT METHODOLOGIES APPLIED TO EMPIRICAL ANALYSES OF INTRASTATE CONFLICT

In addition to issues with the data employed in empirical analyses of intrastate conflict, there are also issues with the methodologies used. The vast majority of studies use some form of conditional logistic regression. Such models assume that increasing a variable will produce a more significant impact, positively or negatively, on the likelihood of intrastate conflict onset. However, where an individual's response to a factor diminishes or changes over time, its relevance in predicting intrastate conflict may diminish or change over time. For example, there is a wide body of literature on the diminishing marginal utility returns to income per capita (Diener, Sandvik, & Diener, 1993; Frey & Stutzer, 2002; Veenhoven, 1989, 1991). If this literature holds, it may not be that there is a tipping point in the income per capita data that is relevant, rather than the absolute value in a given country.

One of the aspects of the conditional logistic regression studies examining the causes of intrastate conflict, is the refusal of authors to consider mixed methodological

approaches. By and large, the authors of the papers discussed in this dissertation have tended to restrict the situation of their studies against only other empirical analyses. This narrow-mindedness overlooks a rich body of qualitative, single-country or regional case studies that could serve to inform the reliability of subsequent empirical studies. In what appears to be an unfortunate example of academic hubris, the majority of authors fail to discuss whether there could be multiple explanations for conflict that are not necessarily borne out by their specific data sets, and instead appear to relish in the statistical rejection of the significance of variables identified by previous scholarly efforts. In my view, when the empirical analyses are assessed against available case studies, it is likely that greed, grievance, and state-focused explanations of intrastate conflict are all relevant.

The Goldstone et al. (2010) case-control methodology improves on some of the shortcomings of conditional logistic regression models. However, the Goldstone et al. methodology makes a number of assumptions in its selection of control countries that are not necessarily justifiable, such as requiring control countries to be of a certain population size. Moreover, the case-control methodology assumes that the same set of factors will produce similar effects in both the country experiencing intrastate conflict and the control country. This may be a safe assumption in epidemiological studies, from which the case-control method is borrowed, in that human beings cannot control how their body responds to a disease, making the comparison between study populations and control populations more viable. In the case of intrastate conflict, where actors make what appears to them to be rational choices—choices that are mediated by cultural factors—the ability to compare countries that experience intrastate conflict with control countries diminishes. This is especially so where the significance of a factor is its

relativity rather than its absolute value. The case-control method, like the conditional logistic regression method, also breaks down where the significance of a factor is related to its *relative* value rather than its *absolute* value. There is evidence that for relationships, such as the relationship between income and utility, the key consideration is relative income and not absolute income (Clark, Frijters, & Shields, 2008). If grievance is a key driving force behind intrastate conflict, then it is the perceived injustice, rather than the absolute injustice, that matters. The same may ultimately be proven true for other indicators used in empirical analyses of intrastate conflict.

Further, neither the conditional logistic regression nor the case-control methodologies take into consideration the impact of triggers, such as natural disasters or assassinations. It may be these triggers that most explain the onset of intrastate conflict in a given country. This is another case where mixed methods would be useful, and individual case country studies could be used to analyse what relevant factors were present in a country beyond those identified by empirical analyses.

4.3 IMPROVING ON EXISTING RESEARCH DESIGN

There have been a number of promising recent studies of intrastate conflict that begin to remedy some of the issues discussed above.

On the data side, Aas Rustad, Buhaug, Falch & Gates (2011) provide an empirical analysis that incorporates triggers, such as natural disasters, into the model. Important work and debate is taking place on how to conceptualize and measure democracy (Monty G. Marshall, 2011; Ringen, 2011). There is also an emerging body of literature on the importance and measurement of subjective well-being (Diener, Helliwell, & Kahneman,

2010; Helliwell & Barrington-Leigh, 2010). Relatively new environmental indicators, such as the ecological footprint, provide the possibility to calculate ecological constraint at the sub-national level. As these data improvements continue, new opportunities may appear for improvement in empirical intrastate conflict analyses.

On the methodological side, some studies have emerged that attempt to solve one of the key issues with empirical analysis: Data can provide evidence of statistical correlation, but this does not establish causation. The statistical significance of a given factor in the onset of intrastate conflict tends not to explain the pathway(s) through which the identified factors lead to conflict. Statistical correlation and significance does not explain why human beings take a particular action and why others, faced with seemingly similar circumstances, do not take the same action.

David & Gagné (2006/2007) suggest that in the context of resources, different resources may have different pathways.

Depending on the resource in question, different factors will come into play at different stages of the conflict. A comprehensive framework must therefore accommodate change and interaction, allowing for the fact that the key factors vary widely and change over time (David & Gagné, 2006/2007, pp. 16-17).

The relevance of various factors may also shift over time. As a result, Ballentine & Sherman (2003, p. 6) suggest that "[a]n analysis of the shifting interplay between economic and other factors over time will be an important step towards a more comprehensive framework of contemporary conflicts."

MacCulloch (2005) addresses these issues by changing the dependent variable from a measure for the onset of intrastate conflict to a measure for an individual's preference for revolt. MacCulloch concludes that an increase in inequality increases revolutionary support within a population. It is not the relevance of inequality that is important for this discussion, but the fact that the methodological approach taken by MacCulloch identifies the impact of factors on the human actors that participate in intrastate conflict. In my view, this is key to developing an intrastate early warning system because it is human behaviour that drives intrastate conflict.

Another interesting advance is the use of fuzzy-set analysis to examine the behaviour of insurgent groups (Metelits, 2009). Metelits (2009, pp. 678-679) provides a useful explanation of the benefits of fuzzy-set analysis:

In general, this type of analysis demonstrates that no one case compares precisely with another case; all cases are different. This approach emphasizes general law-like relationships between conditions (Skaaning 2005). As such, the different parts are defined in relation to one another. This means that changing a significant part of a case transforms the nature of the case as a whole. Fuzzy-set analysis further views causation as conjunctural. In other words, I do not claim that the same causal conditions operate similarly across cases. The impact of one condition may depend on the presence or absence of other causal conditions. Furthermore, several varying conditions may

satisfy a general causal requirement (Ragin 2000). The method, then, helps reveal whether a certain outcome (e.g., coercive behavior) is brought about by dissimilar and/or conjunctural causes (e.g., the presence of active rivalry and illicit resources or the presence of active rivalry and a need for resources).

It would be very interesting to see a fuzzy-set analysis applied to the onset of intrastate conflict, because such an approach might more capably take into consideration some of the complexities with examining this type of human behaviour.

CHAPTER 5 CONCLUSION

The impacts of intrastate conflict on development and security in Sub-Saharan Africa are palpable. There is a strong case for more prevention and earlier intervention to prevent, mitigate, and halt intrastate conflicts. Such action requires, *inter alia*, a reliable early warning system to forecast which countries are most at risk of intrastate conflict, and for what reasons.

In constructing an early warning system, it is necessary to appreciate that intrastate conflict is precipitated by human actors who make rationale decisions, mediated by cultural norms, for the betterment of themselves, their families and communities. Case studies of countries that have experienced intrastate conflict can identify relevant factors associated with the onset of conflict, but such methodologies are not easily extrapolated to other countries. An effective early warning system must be generalizable to other countries, and it must be predictive.

Initial quantitative empirical analyses of intrastate conflict have begun the process of identifying factor(s) that are correlated with the onset of intrastate conflict in large N data sets. However, these studies suffer from shortcomings with the data and methodologies used. As a result, it cannot be said that there is certainty in what factors are best to be included in an early warning system for intrastate conflict.

As new and better quality data becomes available, the opportunities for improved empirical analyses will emerge. Such studies should attempt to use sub-national data linked to the geographic onset of intrastate conflict, as well as methodologies that better

capture the unique nature of human behavioural decision-making processes that underly intrastate conflict.

By making these improvements, there is an increased likelihood that future empirical analyses will provide results that evince both statistical correlation between factors and the onset of conflict, as well as information on the pathways through which these factors affect the onset of conflict. Until then, one must be cautious in developing an early warning system based on the current available quantitative evidence, and instead base decisions on country-specific knowledge.

Part of any future research program ought to include some discussion of the development, design and implementation of policies to respond to the identified risk factors; this is an area that is woefully inadequate in the current research. With that said, policy decision-makers need not wait for increased “certainty” in which factors are important in order to act. Many of the factors already identified, such as democracy, infant mortality, inequality, poverty, polarization, and state institutions are worthy development considerations regardless of whether they are closely linked to the onset of intrastate conflict.

However, given the scarce nature of development finance, it is important that a robust early warning system be developed in order to ensure that development dollars are used effectively in conflict prevention. If this is done, significant improvements to development and human security may be possible, particularly in Sub-Saharan African where intrastate conflict has had such extreme negative effects.

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