

## ABSTRACT

Title of Dissertation            **BALANCING BELLIGERENTS OR FEEDING THE  
BEAST: TRANSFORMING CONFLICT TRAPS**

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Since the end of the Cold War, recurring civil conflicts have been the dominant form of violent armed conflict in the world, accounting for 70% of conflicts active between 2000-2013. Duration and intensity of episodes within recurring conflicts in Africa exhibit four behaviors characteristic of archetypal dynamic system structures. The overarching questions asked in this study are whether these patterns are robustly correlated with fundamental concepts of resiliency in dynamic systems that scale from micro-to macro levels; are they consistent with theoretical risk factors and causal mechanisms; and what are the policy implications.

Econometric analysis and dynamic systems modeling of 36 conflicts in Africa between 1989 -2014 are combined with process tracing in a case study of Somalia to evaluate correlations between state characteristics, peace operations and foreign aid on the likelihood of observed conflict patterns, test hypothesized causal mechanisms across scales, and develop policy recommendations for increasing human security while decreasing resiliency of belligerents. Findings are that observed conflict patterns scale

from micro to macro levels; are strongly correlated with state characteristics that proxy a mix of cooperative (e.g., gender equality) and coercive (e.g., security forces) conflict-balancing mechanisms; and are weakly correlated with UN and regional peace operations and humanitarian aid. Interactions between peace operations and aid interventions that effect conflict persistence at micro levels are not seen in macro level analysis, due to interdependent, micro-level feedback mechanisms, sequencing, and lagged effects.

This study finds that the dynamic system structures associated with observed conflict patterns contain tipping points between balancing mechanisms at the interface of micro-macro level interactions that are determined as much by factors related to **how** intervention policies are designed and implemented, as **what** they are. Policy implications are that reducing risk of conflict persistence requires that peace operations and aid interventions (1) simultaneously increase transparency, promote inclusivity (with emphasis on gender equality), and empower local civilian involvement in accountability measures at the local levels; (2) build bridges to horizontally and vertically integrate across levels; and (3) pave pathways towards conflict transformation mechanisms and justice that scale from the individual, to community, regional, and national levels.

# BALANCING BELLIGERENTS OR FEEDING THE BEAST: TRANSFORMING CONFLICT TRAPS

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## Overview

### Research Question

For the past twenty years, the rate of new onsets of armed civil conflicts has been declining worldwide. Syria notwithstanding, several factors have been suggested to explain this decline: the reduction of “proxy” conflicts (common during the Cold War) involving military interventions by powerful states on opposing sides; a decrease in political ideology as driver of violence (also common during the Cold War); the growing number of consolidated democracies; increasing recognition by the international community of secession as a legitimate way to defuse ethnic conflict; more substantial efforts by the international community to address internal factors seen as root causes of civil conflicts; and the increasingly interventionist nature of peacekeeping and peacebuilding activities by international organizations (Mack, 2006; Newman, 2009).

However, during this same time, conflict persistence<sup>1</sup> has been increasing, with repeated cycles of violence and recurring civil wars the dominant form of armed conflict in the world today (Backer et al., 2014; Cliffe & Roberts, 2011). For example, of 94 different civil conflicts that became active between 2000 and 2013, 65 were recurrences of past episodes. As a result, even as conflict terminations have increased, the overall number of ongoing civil conflicts in the world has not decreased at a commensurate level, while the number of uniformed personnel involved in peace operations surged to over

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<sup>1</sup> As used here, the term *conflict persistence* refers to violent, armed conflict between the same actors over the same issue for long periods of time (e.g. ten years or more). This is similar to (but more specific than) the definition used in the *Human Security Report 2012*, which defines a persistent conflict as “one that involves many years of fighting”(Mack, 2012).

100,000 in 2014.<sup>2</sup> Between 2003 and 2005 alone, these conflicts affected more than one billion people and resulted in an estimated \$270 billion in direct and spillover economic costs (*Human Security Report 2009-2010: The Causes of Peace and the Shrinking Costs of War*, 2011). Development aid to countries experiencing recurring conflict increased steadily in response, accounting for approximately 20% of all aid worldwide in 2014.<sup>3</sup>

This dissertation addresses the following questions:

- *Do existing predictors of conflict persistence (involving both internal and external factors) explain observed dynamics of civil conflict trajectories over time?*
- *Do third party military peace operations and aid interventions in these conflicts interact to reduce or increase risk of persistent conflict?*
- *What are implications for intervention policies most likely to diminish conflict persistence and simultaneously improve human security?*

This study finds that state characteristics are highly correlated with, and have strong explanatory power for, observed patterns of conflict persistence (overshoot and collapse, damped impulse, exponential, and oscillatory behaviors). The most significant factors proxy a mix of micro and macro conflict balancing mechanisms that include both cooperative and coercive behaviors. While most studies on conflict dynamics are conducted at either the macro or the micro level, it is the interaction between levels that produces some of the most important structural features, such as tipping points and shifts in polarity, which determine risk of conflict persistence.

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<sup>2</sup> Data sources: Providingforpeacekeeping.org (Perry & Smith, 2013; Bellamy & Williams, 2015)

<sup>3</sup> Data source: Aiddata.org (Tierney et al., 2011)

Similarly, military peace operations and aid interventions are found to interact at the mesa- and micro levels to effect conflict persistence. This study shows that what matters most in determining whether these interactions reduce or increase risk is how the interventions are implemented relative to each other, and not what the interventions are. Macro level econometric analysis is not useful for seeing these effects, due to sequencing and lag time effects on the balance between cooperative and coercive behaviors in dynamic system structures. Policy analysis to reduce conflict persistence requires the collection of data and use of methods that account for these complex system effects from the micro level to the macro level.

Because of the importance of these micro-macro level interactions, the study finds that reducing conflict persistence requires a focus on how intervention policies are designed and implemented as much as what they are.<sup>4</sup> Specifically, to reduce the risk of conflict persistence, there must be increased transparency in peace operations and aid interventions; these interventions must have local ownership at the community level and promote inclusivity, with particular emphasis the roles of women in peacebuilding (and not just the elite); and they must empower civilian involvement in accountability measures for security and law enforcement. Research is required in all these areas to understand stabilizing pathways for implementing such policies. Finally, the peacebuilding, state-building, and humanitarian goals that these interventions seek to

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<sup>4</sup> This finding echoes the theme of development as freedom, wherein the processes by which development activities advance nonmaterial benefits and different types of freedoms (political, social, economic) for members of society to “lead the kind of lives they have reason to value” are more important than development indicators such as income per capita or consumption (Sen, 2001). Recent trends and research by development practitioners in conflict settings reinforce this theme placing emphasis on social cohesion and inclusivity in analysis of political settlements (OECD, 2011), transparency, and accountability (OECD/UNDP, 2014). See also Kelsall (2016) and Berghof Foundation (2015).

achieve will not be sustainable if they are not eventually coupled with conflict transformation mechanisms that bring a sense of justice that scales from individuals, to communities, regional, and national levels.

## **Motivation**

Developing robust policies to diminish the persistence of armed civil conflict is important for three reasons. First, armed civil conflict exacts huge costs to human security (and the state economies and governing institutions upon which human security depends) that demand attention from a normative perspective. Second, the negative consequences of persistent armed conflict are not confined to the immediate locale of the conflict and often spillover into the surrounding region. Third, ignoring persistent armed conflict has historically damaged economic interests of the international community due to loss of trade and high cost of interventions (military or humanitarian) that eventually become necessary.

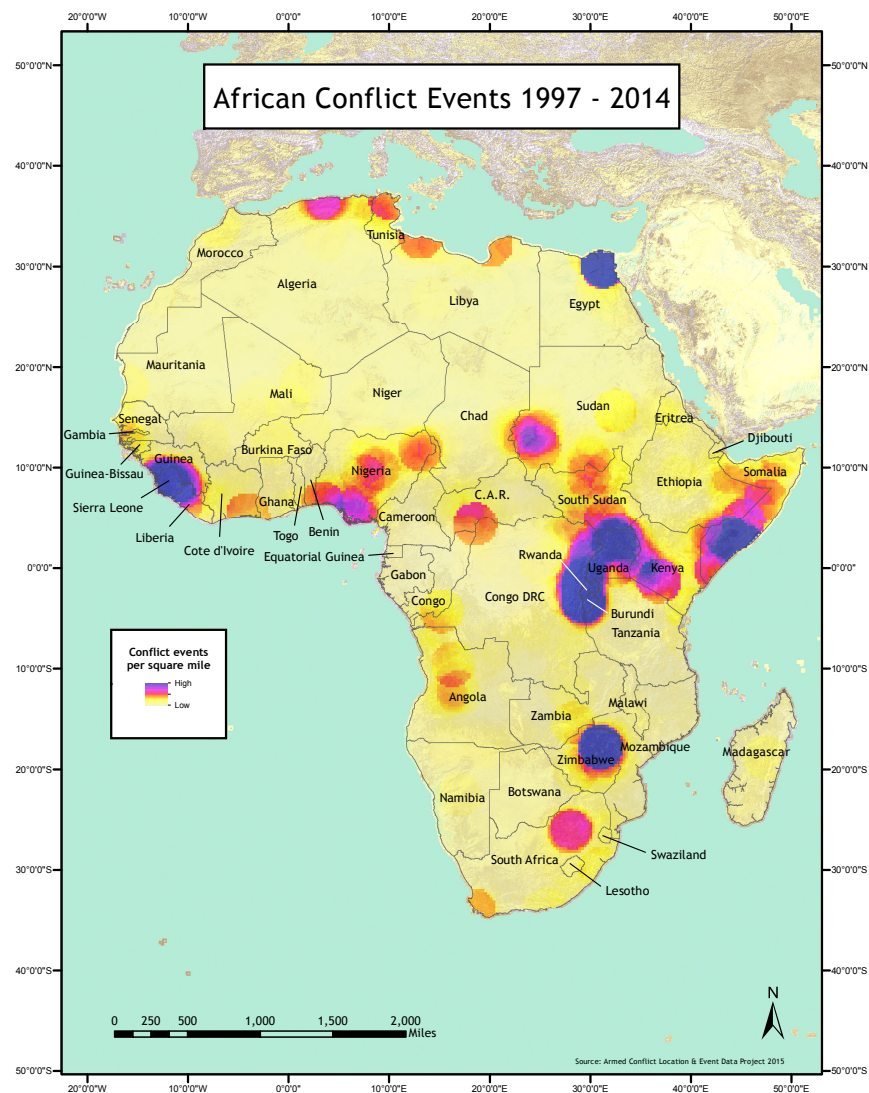
The devastating costs to human security—which include low levels of human development in addition to deaths from violence, disease, and malnutrition—are well documented (Cliffe & Roberts, 2011; Collier, 1999). Most of today's civil conflict and wars occur in developing countries with high poverty rates and low productivity that are exacerbated by the conflict. Average incomes at the end of civil wars are typically 15 percent lower than they would have been otherwise, driving even more people into extreme poverty. The time to recover from these economic costs can be decades as a result of lost infrastructure and capital flight that further reduce productivity, and increased military expenditures that tend to follow war (Collier, 2003). The loss of state

income, lack of accountability, and competition for resources that accompanies civil war further erodes already weak government institutions.

In addition to destroying productive capacities, conflict persistence tends to lock refugees and internally displaced persons (IDPs) into a perpetual state of homelessness and hopelessness. The UN High Commission for Refugees (UNHCR) reported a record 59.5 million persons forcibly displaced by persecution, conflict and violence worldwide at the end of 2014, with the average displaced person spending 17 years in displacement situation (*World at War: UNHCR Global Trends Forced Displacement in 2014*, 2015). This was a 16% increase from the year before, representing the highest annual increase recorded in a single year. Of these, 13.9 million were newly displaced. Almost 17 million of the persons of concern to UNCHR in 2014 were in Sub-Sahara Africa, with recurring conflicts in Sudan, Nigeria, and the DRC account for 70% of the regional total (Albuja et al., 2014).

The lack of human security for these refugees and IDPs presents humanitarian concerns of enormous proportions that can exacerbate grievances and trigger new conflicts in countries that bear the burden of receiving refugees. These and other spill over effects of conflict-generated instabilities provide a second motivation for the research. Persistent conflicts tend to cross-borders and become regional issues as demonstrated by conflicts across Africa (Figure 1). The rise of the extremist Islamic State (IS) in the Middle East and Africa illustrates that such instabilities may quickly spread regionally, while the Ebola outbreak in West Africa illustrates the risk of rapidly spreading global consequences. It is no coincidence that the Ebola outbreak that spread

across the globe in 2014 originated in Liberia, Guinea, and Sierra Leone—all countries having experienced varying degrees of conflict persistence over the past two decades.



**Figure 1 Heat Map of Geo-Located Conflict Event Frequency in Africa Illustrates Cross-Border Spillover Effects and Within-Country Localization of Conflict Events. Data Source: Armed Conflict Location and Event Data Project (ACLED) Version 5 (Raleigh et al., 2010)**

Third, the international community is more involved in interventions in armed civil conflicts today than it has been at any other time in history, with military

interventions in civil conflict being the most likely use of armed force involving both major powers and less powerful states in the coming decades (Pickering & Kisangani, 2009). External interventions involving coalitions of the willing, regional peacekeepers, and international peace operations<sup>5</sup> increased tenfold from an average of less than two per year during the Cold War to an average of more than 20 per year in the past decade (Hewitt et al., 2008). These interventions have entailed both Chapter VI and VII UN peacekeeping missions, and peace enforcement missions comprised of military coalitions of the willing and/or regional organizations acting under UN authorization or recognition. They involve increasing numbers of troop contributing countries (TCCs), rising dramatically from an average of just under fifty TCCs per year in 1990 to over 120 TCCs per year in 2014 (*Human security report 2009-2010*, 2011). At the same time, aid from the international community to these conflict affected countries has been rising steadily, with approximately \$50 billion USD in aid going to countries with recurring conflicts in 2014.<sup>6</sup> Of this, approximately 50% is in the form of emergency humanitarian relief.

In recent years, scholarly research has improved understanding of the macro-level conditions under which political instability is likely to break out, the dynamics of conflict escalation due to repression and instrumental violence, and the factors that impact conflict duration and termination. However, the ability to accurately predict where and when political instability will erupt into violent civil conflict, what policies will be most effective to prevent conflict, how to reduce the duration of conflict and increase the likelihood of sustainable peace are elusive goals of both academic and policy communities. In recent years, more than 200 independent variables have been

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<sup>5</sup> These statistics include all peace enforcement, peace keeping, and peacebuilding missions.

<sup>6</sup> Data retrieved from [www.aiddata.org](http://www.aiddata.org) on April 20, 2015.

quantitatively explored in the literature using large-N, cross-country comparative statistical analyses to improve understanding of the conditions that pose the highest risk of political instability, onset, and duration of armed civil conflict. There is some degree of consensus on the significance of fewer than thirty of variables for conflict onset, with a high degree of consensus on no more than seven (Dixon, 2009; Sambanis, 2002). Discrepancies and inconsistencies around contested variables are most commonly attributed to different theoretical frameworks, data limitations, lack of methods for exploring complex interaction effects between variables, different methods used to operationalize measurements, and scaling effects (Buhaug & Lujala, 2005; Collier & Hoeffler, 2001; Dixon, 2009; Hirshleifer, 2001; Sambanis, 2002).

In addition to theoretical understanding of correlations between risk and conflict, effective policy design must consider normative, material, economic, and political factors in context of causal mechanisms. Research designs based on large-N statistical studies do not lend themselves to context specific trade-off analyses. Incorporating system dynamics in the research design reveals new insights into possible causal mechanisms for observed correlations, and shows how those mechanisms are related to context in a framework that explores trade-offs between key policy levers. These trade-offs include short term and long-term goals for resiliency, human security,<sup>7</sup> and diminishment of conflict persistence.

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<sup>7</sup> Human security is a people-centric approach to conflict analysis that includes freedom from want as well as freedom from violence and the fear of violence (Mack, 2013; Reviron & Mahoney-Norris, 2011).



## Theoretical Framework

My theoretical framework draws on several research disciplines to formulate an integrative approach to policy analysis: political violence and armed civil conflict, interventions in civil conflict (security, development, and humanitarian aid) and complex adaptive systems, including structural system dynamics and socio-ecological resilience.<sup>8</sup> These theoretical foundations are summarized below and discussed in more detail in the literature review in Chapter 1.

Different research perspectives inform the development of theories for the co-evolution of civil conflict dynamics and third-party interventions—that of explaining conflict onset and duration; that of understanding the impact of foreign aid in conflict settings; that of explaining success or failure of peacekeeping operations; and that of understanding post-conflict stabilization and peacebuilding. Theories put forward across these perspectives to explain conflict persistence include economic risk-based decision-making by rational actors; identity-based decision-making by marginalized groups; opportunity-based decision-making by political actors; and security-based decision-making by competitors in a Hobbesian world. These theories associate different risk factors with conflict onset and those most often correlated with the cessation of hostilities and the duration of “spells of peace”.

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<sup>8</sup> Socio-ecological resilience is a concept introduced by Holling (1973) as a system property with three components: (1) the amount of disturbance a system can absorb and still remain with the same state or domain of attraction, (2) the degree to which the system is capable of self-organization (versus lack of organization, or organization forced by external factors), and (3) the degree to which the system can build and increase the capacity for learning and adaptation (Folke, 2006).

Each of these theories is supported with some evidence, with no one theory dominating in all contexts. As a result, the inter-relationship between the different risk factors and causal mechanisms for lasting peace versus conflict persistence that these theories identify remain an ongoing area of research. Many widely adopted theories relating security and development to persistent civil conflict are grounded in the conflict trap model, wherein civil wars weaken state economies, reduce human security and resiliency, and create leaders and organizations vested in violence in ways that create positive feedback loops for increased conflict risk (Collier et al., 2003).

These theories argue that low-income countries without effective development policies and strong governing institutions (to respond to and manage grievances) are at most risk of falling into a conflict trap (Collier & Sambanis, 2005; Goldstone et al., 2010). The relative explanatory power of development, political and security factors varies between researchers, with some focusing more on motivation—suggesting that perceived lack of legitimacy and inclusivity of governing institutions provide the most powerful explanans for conflict persistence (Call, 2012), while others attribute conflict persistence to structural factors – such as relative capacities involving state resources and reach (Holtermann, 2012; Merz, 2012; Ross, 2004). There is general agreement, however, that intervention strategies using aid and development for risk reduction are more effective at different phases during and after conflict (*Human Security Report 2009-2010: The Causes of Peace and the Shrinking Costs of War*, 2011). Sequencing scenarios are important, and the most likely scenarios for breaking the conflict trap are postulated to involve early emphasis on security measures (e.g., external military peace enforcement, peacekeepers, and police) to reduce violence between belligerents and

protect citizens, followed by a build up of aid and development programs, conditional upon reform of government institutions (Collier et al., 2003; Hultman, Kathman, & Shannon, 2014; Sambanis & Schulhofer-Wohl, 2008; Schirch, 2013; Urquhart, 2007). These scenarios may require two decades or more to significantly reduce risk of recurring violent conflict.

The necessity of security measures preceding aid and development programs is predicated on the logic of violence and hostilities in civil war. Empirical research has shown striking variations of violence within civil wars that are not explained by the macro-level causes of war (Verwimp, Justino, & Bruck, 2009). Some of the literature explains micro-level variations based on theories of political violence in which interactions between actors are shaped by the logic of asymmetric information (necessary to control territory), the dynamics of local rivalries and civilian constituencies (Fjelde & Hultman, 2014; Kalyvas, 2006; Kalyvas, 2012), local level economic grievances, which may be hidden from macro level statistics (Lu & Thies, 2011), and the exploitation of aid resources by belligerents (de Ree & Nillesen, 2009; Strandow, et al., 2010).

The types of security interventions in civil conflict seem to matter. Empirical analyses using disaggregated data on peace operations involving uniformed military personnel in civil conflict (e.g., size, mandate, and composition over time) has shown that increasing presence of uniformed UN peacekeeping troops reduces level of hostilities and may support enduring peace, independent of the type of conflict (Beardsley, 2011; Doyle & Sambanis, 2006; Fortna, 2004; Kathman, 2013). However, to date, the presence of non-UN uniformed peacekeeping troops has not been shown to have a statistically significant effect on successful peacebuilding (Sambanis & Schulhofer-Wohl, 2008),

while the presence of UN observers alone is associated with increased levels of hostility (Hultman et al., 2014; Kathman, 2013). On the other hand, changes in the balance power brought about by external armed military interventions lead to increased violence against citizens (Wood et al., 2012). The literature explains these empirical observations through rationalist theories grounded in the security dilemma, instrumental logic, and bargaining models. Key explanatory variables in these theories are the relative capacity of the intervening troops, and perceived neutrality.

Research has shown that humanitarian interventions in conflict settings where security is low (and hence where the aid is often most needed) can increase the risk of conflict and violence against citizens (Anderson, 1999; Balla & Reinhardt, 2008; Blouin & Pallage, 2008; Choi & Salehyan, 2013; de Ree & Nillesen, 2009; Nielsen et al., 2011; Strandow, 2014). The empirical observations are explained through various theoretic lenses that include greed and corruption, opportunity exploitation, exclusionary practices, and learned dependence (Busse & Gröning, 2009; Gizelis & Kosek, 2005; Natsios, 1995; Svensson, 2000; Tavares, 2003).

Studies of the impact of interventions on conflict persistence most often include interaction effects between belligerents and either peace operations or foreign aid but not all three, resulting in limited theorizing and testing of dynamic, interactive effects between peace operations, conflict, and humanitarian interventions and implications for conflict persistence. For example, studies have shown that both increased aid in conflict settings and foreign aid shocks (e.g., severe decreases in aid revenues) can increase the likelihood of violence against citizens (Nielsen et al., 2011; Strandow, 2014). However, these studies have not tested for the consequent demand that either scenario places on

peace operations and the subsequent effects, nor controlled for differing policies of NGOs to implement principles of neutrality. Conversely, studies have suggested that the presence of peace operations may reduce violence intensity and result in more lasting peace, but they are also associated with longer conflict durations (Beardsley, 2012; Doyle & Sambanis, 2006; Hultman et al., 2014). The consequent demands on aid organizations, their responses, and the subsequent effects have not been systematically tested.

The international community has responded to the research findings discussed above with four important trends. The first is an increased emphasis on development assistance as a means of conflict prevention.<sup>9</sup> The second is a growing role for Non-Governmental Organizations (NGOs) in providing aid through development and humanitarian relief at community levels in conflict settings (Aal, 2000). The third is donor emphasis on community resilience for aid programming in conflict settings (Buston & Smith, 2013; Mohamud & Kurtz, 2013a; USAID, 2013). Finally, multidimensional peace operations are increasingly deployed in active conflicts, including those that involve regional organizations and coalitions for peace enforcement activities as precursors to UN peacekeeping operations (Bellamy & Williams, 2015).

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<sup>9</sup> The US policy trend to emphasize development assistance in Africa over security assistance began in the early 1990s at end of the Cold War, based not so much on research into economic causes of civil war as belief in the democratic peace theory combined with perceptions of reduced national security threats as many communist regimes were being challenged internally (Orr, 1992). In constant 1995 dollars, US AID allocations to its democracy and governance initiatives targeting developing countries around the world grew from \$121 million to \$722 million per year from 1990 to 2003 (Scott & Steele, 2011). This trend was amplified after 9/11 when foreign aid became a key weapon in the US global war on terror (Korb, 2008). However, the impact of foreign development aid on democratization processes and reducing terrorism is contested in the literature.

Efforts by the relevant policy communities to coordinate across these domains tend to be operationally focused,<sup>10</sup> and lack theoretical understanding of interaction effects and their impact on resilience of risk factors across these domains at multiple levels (Irmer, 2009).<sup>11</sup> As pointed out in recent policy research by the World Bank, interactive effects are especially important to consider when resources that start out as exogenous factors (e.g., those introduced through peacekeepers, humanitarian aid) become endogenous to the system over time (Cliffe & Roberts, 2011).

There is also growing consensus that while macro-level studies (upon which much of the current wisdom on conflict management is based) provide important and useful insights for assessing conflict risk; they are insufficient to understand how local level incentives and constraints shape interactions between the civilian population and the armed actors that in turn influence conflict trajectories, dominant peace processes and long-term outcomes (Call, 2012; Justino, 2009; Sambanis, 2002; Verwimp et al., 2009). As a result, it is difficult to design policy interventions that account for local-level heterogeneity within conflicts, to ensure that interventions intended to increase resiliency of civilian populations do not also increase resiliency of combatants or spawn new grievances, and to understand the connections between local level interventions and macro level measures of conflict risk.

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<sup>10</sup> For example, the UN typically appoints a Deputy Special Representative of the Secretary-General (DSRSDG) and a Humanitarian Coordinator/Resident Coordinator of the UN country team to ensure effective coordination and integration of efforts in multi-dimensional peacekeeping operations. In emergencies, peacekeeping and civilian personnel may participate in cluster meetings and mission level Joint Project Teams to coordinate with work of humanitarian actors. The African Union Mission in Somalia (AMISOM) employs a similar model, while the Somalia NGO Consortium facilitates the exchange of information among members and between members and the peacekeeping community.

<sup>11</sup> Resilience as used here is the capacity of a system to absorb or re-organize in response to disturbance and stressors so as to maintain functionality (Walker et al., 2004).

Security and humanitarian aid organizations alike—e.g., US Department of Defense (USDOD), European Union Military Commission (EUMC), the World Bank, the US Agency for International Development (USAID), United Nations Security Council (UNSC), and the United Nations Development Program (UNDP)—recognize these interdependencies between different intervention vectors in civil conflict, and the need to consider multiple levels of policy implementation. They have accordingly called for more system-based approaches to doctrinal policy and operations in conflict settings.<sup>12</sup> However, as noted during the daylong debate on UNSC Resolution 2171, such approaches are often at risk of being “little more than a thematic vision”.<sup>13</sup>

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<sup>12</sup> For example, the *US Army Counterinsurgency Field Manual 3-24* published in 2006 calls for explicit consideration of interactions between peacekeeping, stabilization, and kinetic operations while prioritizing the security of citizens in order to defeat insurgents. In her foreword to the field manual, former US Deputy Assistant Secretary of Defense Sarah Sewall calls this systems approach a “radical departure” from previous military doctrine. The EUMC also adopted a systems approach in its revised Concept for Military Planning of 2008, which calls for the integrated use of a wide range of tools across “institutions and policy areas that comprise political, diplomatic, economic, humanitarian, and military actions.” <[http://register.consilium.europa.eu/doc/srv?l=EN&f=ST\\_10687\\_2008\\_INIT](http://register.consilium.europa.eu/doc/srv?l=EN&f=ST_10687_2008_INIT)>, accessed August 10, 2015. Similarly, in adopting Resolution 2171, which pledges a systems approach to conflict prevention, the UNSC recognized in 2014 that early warning, preventive diplomacy, mediation, deployment, peacekeeping, disarmament and peacebuilding are “interdependent, complementary and non-sequential” <<http://www.un.org/press/en/2014/sc11528.doc.htm>> accessed August 10, 2015. *The World Development Report of 2011* focuses on the interconnections between security, humanitarian relief, and development interventions. The report notes that failure to address the security of citizens, justice, access to resources, and economic development with a systems approach results in repeated cycles of violence in fragile states, and makes specific recommendations for layered approaches across multiple levels. <[http://siteresources.worldbank.org/INTWDRS/Resources/WDR2011\\_Overview.pdf](http://siteresources.worldbank.org/INTWDRS/Resources/WDR2011_Overview.pdf)> accessed August 10, 2015. Taking up this theme in 2012, the US AID hosted a summit on “Strengthening Country Systems” to explore ways to apply systems approaches being piloted by the Agency to the problems of aid effectiveness. <<http://usaidlearninglab.org/events/strengthening-country-systems-experience-summit>> accessed August 7, 2015. More recently, UNDP Administrator Helen Clark highlighted the need for systems approaches in her speech at the High Level Panel on Humanitarian Financing, July 14, 2015, “Building a New Vision to Address Long-term and Recurrent Humanitarian Crisis”. <<http://www.undp.org/content/undp/en/home/presscenter/speeches/2015/07/14/helen-clark-speech-at-high-level-event-on-building-a-new-vision-to-address-long-term-and-recurrent-humanitarian-crisis-.html>> accessed August 7, 2015.

<sup>13</sup> Remarks made by Carolyn Schwalger, Deputy Permanent Representative of New Zealand at the 7247<sup>th</sup> meeting of the United Nations Security Council, “Speakers in All-Day Debate Cite Early Warning, Mediation, Cooperation with Regional Organizations as Effective Tools,” UN Meetings Coverage and Press Releases, SC/11528, 21 August 2014. <<http://www.un.org/press/en/2014/sc11528.doc.htm>>, Accessed August 10 2015.

The research conducted for this dissertation attempts to bridge the gap from policy vision for a systems approach to theoretical understanding and implementation through a scalable framework using concepts of complex adaptive systems.<sup>14</sup> Dynamics in complex adaptive systems depend on the agency and motivation of interactive actors, the structures within which they interact, and emergent system properties. This theoretical framework (1) integrates motivational and structural theories of conflict and tests their explanatory power across levels; and (2) generates and tests new explanatory hypotheses for dynamic patterns of conflict persistence that includes interactive effects between peace operations and humanitarian aid interventions. Specifically, I use concepts from system dynamics and socio-ecological resiliency to (1) empirically examine how interactive effects between peace operations, humanitarian aid interventions, and endogenous structural factors shape conflict dynamics, (2) explain these interactive effects on patterns of conflict persistence and resiliency of different actors, and (3) discuss policy implications.

System dynamics provides both a theoretical framework and a quantitative methodology for policy analysis and design. Pioneered in the 1970s at the Massachusetts Institute of Technology, system dynamics emphasizes a continuous view of situations characterized by interdependence, mutual interaction, information feedback, and circular causality (Forrester, 1968; Donnatella Meadows, 2008). System dynamics has provided insights for diverse policy issues involving different levels of social, technical, political,

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<sup>14</sup> A complex adaptive system is one with characteristics of both randomness and structure in which self-organizing, goal-seeking entities interact in constrained, yet unpredictable ways that result in emergent system properties (Bar-Yam, 1997; Hayden, 2007; Holland, 1998).

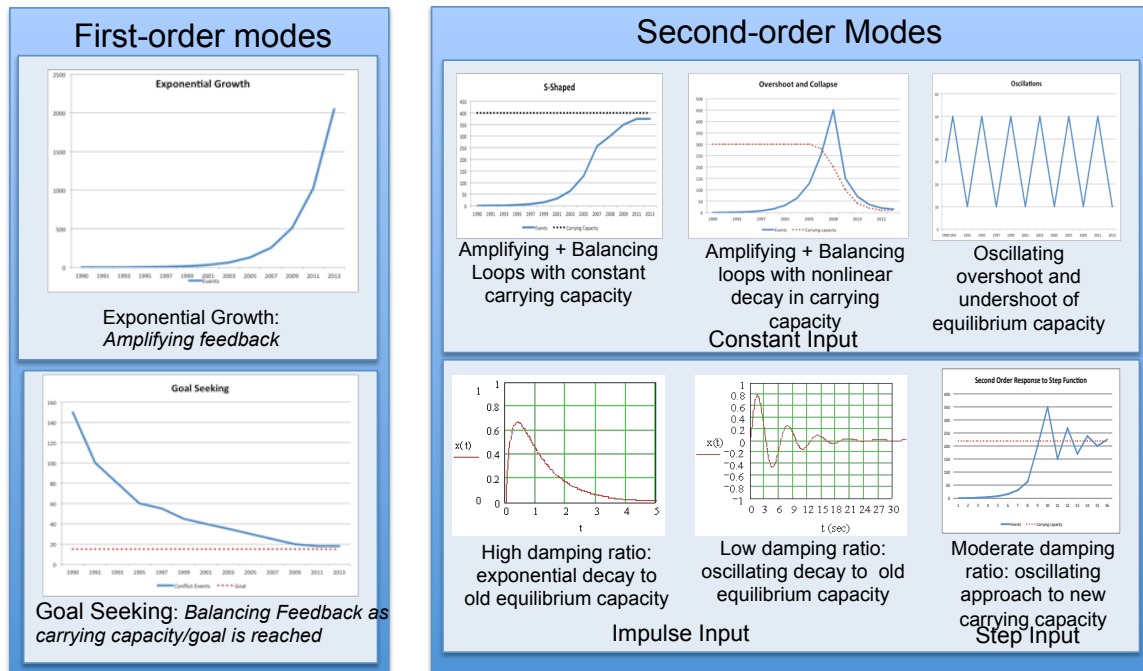


managerial, economic, and natural systems over a wide range of timeframes.<sup>15</sup> One of the earliest applications of system dynamics to complex policy analysis resulted in the prescient book, *Limits to Growth*, which sparked a global debate on environmental and societal consequences of unchecked development on a planet with finite resources that continues to this day (Meadows et al., 1972).

The concept of reference behaviors is fundamental to system dynamics. The premise is that there are a limited number of archetypal patterns (referred to as reference behaviors) of how system properties change over time that represent the dynamic state of a system (e.g., stable or unstable, resilient, equilibrium). Basic reference behaviors are exponential growth and decay, S-shaped growth, overshoot and collapse, and oscillations (Figure 2). System dynamics explains these behavior patterns as the result of underlying structures characterized by balancing and amplifying feedback loops between stocks and flows—and the delays within those loops—that determine growth rates, capacity to achieve goals, and the resultant system state (Coyle, 1998). Each feedback loop is a closed chain of causal influences and constitutes a unit of analysis for the system. Chapter 3 discusses the feedback loop structures that lead to these behaviors and application to theoretical understanding of conflict persistence in more detail.

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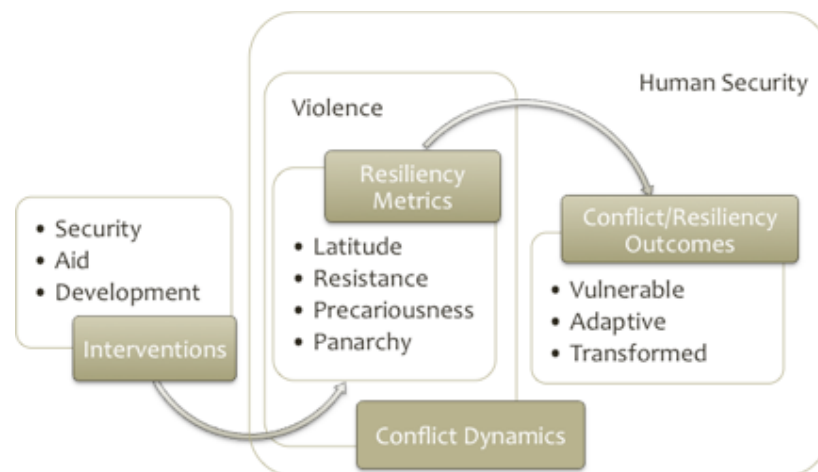
<sup>15</sup> Examples include US industrial competitiveness and climate change legislation; illegal drug use and criminal justice reform; corporate leadership, productivity, profitability, and innovation cycles; integrated nation-state economic and social policy planning; epidemiology and immune system responses; hospital surge capacity during crises; humanitarian relief during natural disasters; transportation systems, land use and economic regeneration in urban settings; sustainable water management in developing countries; and conduct of military operations during asymmetric warfare (Bruckner et al., 1989; Coyle et al., 1999; Gharajedaghi, 2006; Perelson, 2002; Richardson, 1991; Senge, 1990; Yuydken & Bassi, 2009).



**Figure 2 Reference Behaviors of Dynamic Systems Depend on Feedback Loops and Delays in Response to Changes**

Drawing on knowledge of the theoretical relationship between these reference behaviors and underlying causal structures, one can infer dominant structure from observed behavior patterns, and use that inferred knowledge to clarify causal mechanisms and better anticipate future behaviors and system properties (e.g., growth, resilience) that may obtain from policy interventions (Forrester, 1968; Sterman, 2000). For sustainable change in reference behaviors, interventions must affect variables that shift the relative strength of these feedback loops and their directionality. However, the underlying mechanisms through which the feedback loops operate are contained within the structure of the system itself (Sterman, 2000) and are often hidden from direct observation. Reducing the risk of conflict persistence while enhancing human security requires robust intervention strategies that strengthen balancing loops relative to reinforcing loops without increasing resiliency of belligerents.

Combining concepts of reference behaviors and structure from system dynamics and resiliency from socio-ecological research with findings in the conflict literature, my theoretical framework explores resiliency of belligerents and civilians as an endogenous explanatory variable that interact dynamically with interventions to affect the nature of conflict outcomes, where conflict outcomes are evaluated as the quasi-equilibrium state represented by reference behaviors, and resiliency is related to capacity and connectivity (Figure 3). This framing facilitates discovery of dynamic structural factors and processes as causal mechanisms for conflict persistence across different contexts. The approach requires granularity of conflict data than has only recently become available through two data sets on conflict events in Africa—the Uppsala Conflict Data Project Geo-Referenced Event Dataset (UCDP-GED) version 1.5-2011, 1989-2010 and the Armed Conflict Location and Event Dataset (ACLED) Version 5 1997-2014 (Raleigh et al., 2010; Sundberg et al., 2010; Sundberg & Melander, 2013).



**Figure 3 Theoretical Framework Integrating Structural Interventions in Conflict with Concepts of System Resiliency to Explain Patterns of Persistent Violence and Human Security**

In 34 cases of persistent conflict in 32 African countries between 1989-2014, the frequency of conflict events recorded in both datasets displays patterns that map to four of the reference behavior modes of system dynamics shown in Figure 2: overshoot and collapse (**Group A**), highly damped response to an impulse (**Group B**), exponential growth (**Group C**), and oscillations about a mean (**Group D**). The mappings are shown in Table 1. The protocol for selecting these cases and assigning reference behaviors is discussed in Chapter 2 and in Appendix A; differences in conflict events recorded by UCDP/GED and ACLED are discussed in Appendix B.

Only a few of the cases of overshoot and collapse (Group A) or damped impulse (Group B) appear to have achieved a state of relative peace in 2014, with more than ten years since the last episode of conflict recurrence (e.g., Sierra Leone, Angola). The case of Sierra Leone is an apparent instance of vulnerability (low resilience) on the part of all belligerents, whereas Angola is a case of adaptability with eventual transformation (aided by outside interventions). Many others have recently experienced or are currently in the midst of recurrent episodes of conflict (e.g., Mali, Central African Republic, Namibia, Liberia, Burundi, Chad, Lesotho). Some of these recurrences follow more than ten years of apparent peace (e.g., Mali, Lesotho, Liberia). The theory predicts that recurrence is due to a regeneration of capacity for overshoot and collapse, and either a withdrawal of an external constraint or an insertion of capacity from external sources for damped impulse.

Cases of exponential growth (Group C, which includes Somalia, Mozambique) and oscillatory behavior (Group D, which includes Ivory Coast, Ethiopia) display resiliency that supports continuous conflict. While some oscillatory behavior is present in

both of these groups, the primary difference between them is the increase in frequency of events relative to the amplitude of the oscillations. For exponential growth (Group C), increase in mean frequency of events significantly exceeds the amplitude of the oscillations; where as in oscillatory behavior (Group D), the amplitude of the oscillations exceeds the annual increase (or in some cases decrease) of the mean frequency of events. This suggests that for oscillatory behavior (Group D) balancing structures that dampen positive feedback (which increases capacity for conflict) are of the same order of influence as the amplifying structures.

System dynamics theory suggests that these reference behaviors result from different structures and processes characterized by feedback loops that are either balancing or amplifying, and whose relative strengths derive from resource constraints, perceived gaps in reaching goals, and delays in responding to changing conditions. These structures are discussed in more detail in Chapter 1. Building on existing knowledge from conflict and peacebuilding literature – my research tests whether this dynamic systems framework provides new insights to explain long-term trends of conflict persistence and variability, how they relate to resiliency and capacity of belligerents, and

**Table 1 Conflict Cases and Reference Behavior Types**

Country-Conflict	Behavior Type	Start date UCDP/PRIO	UCDP Conflict Type	# Active Violent Conflict Years		Conflict Events			Battle Related Fatalities		# Bel
						UCDP-GED (1989-2010)	ACLED (1997-2014)				
				UCDP-GED	ACLED		Violent	All	UCDP-GED (1989-2010)	ACLED (1997-2014)	UCDP-GED
Chad	a	1966	2	22	18	262	448	558	9200	5869	20
Burundi	a	1965	2	20	18	1349	2832	3028	11079	20650	6
Liberia	a	1980	2	15	18	550	595	1241	19422	1241	5
Namibia	a	1999	2	6	12	22	192	573	76	272	1
Rwanda	a	1990	2	10	18	467	503	583	168567	7581	4
South Africa-ANC	a		2	13	18	2653	889	921	5000	921	6
Subtotal a				86	102	5303	5459	6904	213344	36534	
Angola- UNITA	b	1975	2	17	14	1801	2454	2955	29616	145504	4
Congo-B	b	1993	2	14	17	181	258	332	15569	492	5
Guinea	b	2000	2	10	17	68	578	705	1042	3067	4
Guinea-Bissau	b	1998	2	4	16	22	133	209	706	956	2
Lesotho	b	1998	2	1	13	5	59	104	13	174	2
Mali	b	1990	1	14	18	69	579	966	1462	2368	4
Sierra Leone	b	1991	2	12	18	1416	1906	4574	13671	150	5
Subtotal b				72	113	3562	5967	9845	62079	152711	
Bukina Faso	c	1987	2	.	12	.	69	360	.	235	.
Cameroon	c	1960	2	13	18	25	246	362	359	0	3
DRC	c	1964	2	22	18	1593	6272	8876	93070	70353	7
Gabon	c	1964	2	.	10		16	107		19	2
Mauritania	c	2010	2	7	13	14	59	345	196	151	4
Mozambique	c	1977	2	6	17	263	301	561	5759	273	4
Nigeria-BH	c	1966	2	9	17	42	377	415	1438	7415	4
Somalia	c	1982	2	22	18	1564	12901	15150	20734	19700	12
Sudan	c	1971	3	22	18	1387	5038	6505	42146	53155	9
Subtotal c				101	141	4888	25279	32681	163702	151301	
Algeria	d	1992	2	21	18	3648	2014	2909	19695	11594	7
CAR-Seleka	d	2003	2	7	12	50	2137	2450	473	1766	5
CAR-political	d	1992	2	19	18	128	687	765	699	2837	5
Ivory Coast	d	2002	2	16	18	114	950	1564	1432	3957	7
Ethiopia-ONLF	d	1964	1	17	18	544	137	153	1207	1161	4
Ethiopia:Pol	d	1990	2	19	18	431	137	156	3871	1252	2
Kenya_Turk	d	1971	1	18	18	108	286	291	1151	1618	4
Kenya-Kik	d	1966	1	10	18	83	429	464	107	1070	4
Niger	d	1991	2	13	18	74	160	355	809	681	6
Nigeria-P	d	1966	3	20	18	228	499	521	3469	3190	4
Senegal	d	1988	1	20	18	257	222	815	2106	1381	2
Uganda	d	1971	2	22	18	1150	3448	4381	12817	14769	8
Zimbabwe	d	1967	2	9	18	53	4072	5075	341	354	2
Subtotal d				211	228	6868	15178	19899	48177	45630	

the impact of external interventions. This study systematically examines the explanatory power of the relationship between empirically derived conflict reference behaviors and hypothesized risk factors and causal mechanisms for the associated dynamic structures through the hypotheses presented below.

## Hypotheses

Four hypotheses grounded in the theoretical literature on civil conflict, interventions, and resiliencies in dynamic systems test the likelihood of each of the observed conflict reference behaviors. The hypotheses are derived by associating likelihood of each conflict reference behavior with predicted risk factors for conflict duration derived from country level characteristics (e.g., size and growth rate of economy, dependence on commodity exports, poverty, governance and institutional capacity, social cohesion, political exclusion); conflict characteristics (e.g., number and capacity of belligerent groups, state security capacity, wars on borders, type of war, sanctuary); and intervention characteristics (e.g., type, size and duration of intervention, intervention actor). Moreover, different combinations of these risk factors are hypothesized to result in different resiliency characteristics associated with each reference behavior.

Overshoot and collapse (Group A) and damped impulse (Group B) are both associated with relatively shorter episodes or continuous duration of conflict compared to exponential growth (Group C) or oscillatory behavior (Group D), implying stronger conflict balancing mechanisms, but the conflict balancing mechanisms between overshoot and collapse and damped impulse are hypothesized to be different. Overshoot and collapse is hypothesized to be associated with balancing mechanisms that are based on resource constraints coupled with higher opportunity costs cooperative conflict management; damped impulse is hypothesized to be associated with balancing mechanisms based on strong security response. Specifically:

*H-A*: Conflict dynamics of overshoot and collapse (**Group A**) are dominated by balancing feedback loops of first order systems with decaying carrying capacity (associated with high levels of precariousness of both state and belligerents, low levels of system latitude to support conflict but higher levels for cooperative conflict management). The decaying capacity is hypothesized to result from conflict resource bases that are sufficient to support an initial high conflict escalation rate but are insufficient to sustain high conflict rates when balanced by opportunity costs over time, absent large infusions of aid, peace operations, or other military interventions. Belligerents use high levels of indiscriminant violence through asymmetric strategies to attempt to increase reach relative to state and gain control of resources. Control of the resource base is inadequate to sustain the high levels of violence and the conflict collapses. Belligerents may be resilient at a later date if they maintain coherence and access to a resource based is reconstituted. All else being equal, this is less likely as long as the opportunity costs of conflict remain high.

These conditions are hypothesized to be most likely with relatively higher levels of GDP per capita but low GDP growth, smaller population size, stronger governance, lower levels of poverty, higher levels of state reach and equality, less dependence on commodity exports, and higher levels of social fragmentation. They should be more likely to be associated with lower levels of aid during periods of high conflict intensity, negotiated settlements without external military interventions, and more likely to be followed by an international peacekeeping presence and higher levels of aid during periods of lower conflict intensity. Overall percentage of humanitarian to total aid is comparatively low to moderate. The type of conflict is hypothesized to more likely to be



political with a relatively lower number of belligerent groups, and is less likely to involve nearby conflict on the border. Resilience of actors in Group A is likely to be low due to the collapse of capacity of primary contestants, with the exception of a victor when one exists.

***H-B:*** Conflict dynamics of damped impulse (**Group B**) are dominated by a strong state response to transient shock that creates temporarily high levels of relative reach and capacity for belligerents. Belligerents may be resilient at a later date if they maintain coherence and the conflict balancing force is relaxed. All else being equal, this is less likely as long as opportunity costs of conflict remain high. These conditions are predicted to be associated with a high level of exogenous system latitude (strong connections to external events), asymmetric precariousness between state and belligerents (related to capacities) and are hypothesized to be more likely in political conflict in the presence of conflict on borders or coups, coupled with higher likelihood of dependence on commodity exports (which will be correlated with higher GDP per capita), higher state security capacity, moderate state reach supported by external military intervention (by ad hoc coalitions or unilateral actors), stronger governance coupled with higher corruption, lower number of belligerent groups with higher likelihood of sanctuary, and lower populations. Aid shocks are more likely, but with a low to moderate percentage of the total expected to be in support of humanitarian relief. Resilience of actors in Group B depends on the strength of damping mechanism – whether it be through exogenous factors or internal transformation, relative to the impulse function

The underlying structure for exponential growth (Group C) is similar to that for overshoot and collapse (Group A), with the difference being that the combined potential for balancing loops from resource constraints, opportunity costs, or state reach and capacity are low compared to conflict resources and drivers. Oscillatory behavior (Group D) is the most common among complex systems, with relative parity between conflict amplifying and balancing mechanisms, and has the highest frequency of observations in the sample. The longer periods of continuous conflict observed in exponential growth and oscillatory behavior (Groups C and D) compared to overshoot and collapse (Groups A and B) are hypothesized to result from relatively stronger conflict reinforcing mechanisms compared to balancing mechanisms. However, the balance between these mechanisms is hypothesized to differ sufficiently between exponential growth and oscillatory behavior to generate distinct reference behaviors. Specifically,

***H-C:*** Conflict dynamics of exponential growth (**Group C**) are dominated by first order effects from conflict amplifying mechanisms (associated with low levels of belligerent precariousness) that overwhelm conflict-balancing mechanisms. These conditions are hypothesized to be most likely when state and belligerents have parity in capacity and reach in the context of low opportunity cost of conflict, so that each side engages in escalating, but moderated levels of violence commensurate with resources available. Fungible aid interventions amplify otherwise moderate belligerent reach and capacity while peace operations and other military interventions amplify otherwise low to moderate state capacity. All else being equal, the dynamic interactions between these interventions create resilience among all belligerents and the state, generating new

belligerents (or gatekeepers to allow resource flows to belligerents) that feed economies at many scales that are dependent on conflict persistence, with little incentives for peace settlements. These conditions are predicted to be correlated with lower dependence on commodity exports, lower GDP per capita; higher male youth unemployment; moderate levels of social fractionalization and ethnic polarization; more corruption and weaker governance; higher number of belligerent groups, with more influence from religious extremists; sanctuary for belligerent groups; higher levels of humanitarian aid as a percent of total but low levels of aid effectiveness. External interventions, if present, are hypothesized to be more likely to be regional or international peace enforcement missions rather than coalition or unilateral compared to other outcomes. Conflicts in Group C exhibit adaptive behaviors by belligerents unconstrained by capacity limitations. This should be ultimately unsustainable and reach a plateau at carrying capacity at which point one should see oscillatory behavior or a tipping point to overshoot and collapse.

**H-D:** Conflict dynamics of oscillatory behavior (**Group D**) are dominated by low to moderately damped responses in higher order systems where “higher order” implies more complexity of interactions between balancing and reinforcing feedback mechanisms (resulting in moderate to high levels of endogenous system latitude). The balancing mechanisms involve resource constraints and state strength, but neither are as strong as those in Group A or B due to lower opportunity costs and state capacity. Amplifying mechanisms are more persistent than those for overshoot and collapse or damped impulse, but not as strong as for exponential growth. These conditions are hypothesized to be most likely for conflict over land, and to be associated with low to medium GDP

per capita (supported by small to moderate reliance on commodity exports), higher poverty rates, weak governance, moderate state capacity coupled with low state reach, higher populations, a moderate number of belligerent groups, low ethnic polarization and higher social fragmentation with low equality measures. Cases in Group D exhibit resilient, adaptive behavior on the part of two or more belligerents and state. All else being equal, neither side has both the capacity and reach to prevail over the other, yet maintain adaptive capacity to perpetuate low intensity conflict over time as long as carrying capacity and the relatively low opportunity costs do not change

## **Research Contributions**

The research, practitioner, and policy communities lack consensus understanding of how security, aid, and development intervention vectors interact to shape conflict dynamics and outcomes, causal mechanisms for those dynamics and outcomes, and the relationships to resiliency of various actors in conflict. Such an understanding is critical for the layering and sequencing of complex interventions (Call, 2008; Fortna, 2008; Sambanis & Schulhofer-Wohl, 2008). However, most quantitative conflict research relies on cross-national statistical models that are more descriptive than structural or causal. As noted by Fearon (2010), these models

“have been of great value for making clearer which political, economic, and demographic factors are associated with higher propensity in the last 60 years, which factors are not, and which are associated with onset when you control for other factors. But for many covariates found to be statistically and substantively significant in these models, the argument for interpreting the estimated coefficients as causal effects is tenuous or speculative” (Fearon, 2010).

Factors that make causal interpretation difficult include inadequate data collection and analysis at local levels (where many of the interactions between intervention vectors occur) and across time; the paucity of studies that examine interaction between relief aid and peacekeeping in conflict; and a methodological gap in connecting micro-level agency with higher-level structural effects in complex systems. This research contributes understanding to the relationship between dynamic conflict patterns over time and feedback between exogenous and endogenous variables to fill this theoretical gap in the literature.

A unique contribution of this research to the literature is to differentiate among these causal mechanisms within conflicts of similar durations. For example, overshoot and collapse can be differentiated from damped impulse by relative and absolute depth of poverty measures, dependence on oil, ethnic polarization, measures of state reach and rebel sanctuary, amount of aid as a percentage of GDP, and presence of UN peace operations. Exponential growth can be differentiated from oscillatory dynamics by measures of polity, social fragmentation, state reach, and peace operations by regional organizations versus ad hoc coalitions, ratio of humanitarian to total aid, and ratio of military expenditures to aid.

Finally, these results show how different dynamics between mixed underlying causal mechanisms at micro and macro levels affect resilience of conflict actors. Using process tracing results and responses from 100 structured field interviews with peacekeeping troops, NGOs and INGOs and the policy community regarding the Somali conflict, a simple model is developed to provide insights for how these causal mechanisms affect balancing loops involving peace operations and belligerents and

reinforcing loops involving humanitarian interventions and local capacity to generate competitive market for peace and human security resources. Human security dilemmas emerge when the pursuit of short-term humanitarian relief, counter-terrorism or counterinsurgency goals confound the achievement of longer-term security and stabilization goals by increasing resilience of belligerents.

This study supplements existing data on military capacities deployed in peace operations in conflict settings, advances theoretical understanding into the relationship between interventions of aid and peace operations, and contributes to methodological tools for policy analysis combining the unique lens of system behaviors with econometric analyses for dynamic trend analysis over time. Specifically, this research illustrates how to integrate risk analysis based on econometric analysis with dynamic systems analysis to explore system structures and properties that drive complex systems behaviors that change over time. Further research should be conducted to extrapolate this methodology to show how structural changes in intervention strategies at the micro-level may propagate through system behavior at higher-level scales through the power of balancing loops. Mechanisms in the balancing loops become the policy levers and pathways most attractive and likely to reduce risk of conflict recurrence in the long term.

## **Chapter 1: Background**

In 1991, Mohamed Siad Barre was ousted from power in Somalia, after 22 years in power. As clan-based warlords fought for power, the world media presented images of a famine-driven humanitarian crisis demanding intervention by the international community to provide secure delivery of relief aid. The UN was unwilling and unable to conduct such operations alone, and requested the help of the US. At the time, United States Ambassador Oakley and the US Joint Chiefs of Staff argued that since humanitarian, political and security goals were so interdependent, an integrated policy between the United States (US) and the United Nations (UN) must be established. Progress had to occur concurrently along all the tracks of this three-track strategy. Without a stable government, functioning police forces, and long-term economic aid, Somalia would slide back toward disaster (Hirsch & Oakely, 1995; Poole, 2005).

UNITAF fulfilled its humanitarian task, but when the US and UN pulled out of Somalia in 1995, the mandates of the UNSOM I and UNSOM II peace operations were left unfulfilled. Security steadily eroded and political reconstruction was stillborn. Now more than twenty years later, the long shadows of these events are still felt, as underscored by the visit of US Secretary of State John Kerry to Mogadishu in May 2015, where he met with leaders of the struggling national government of Somalia and the world's largest military intervention force, AMISOM, to support efforts for political stability, security, and economic development in this ravaged country where Al Shabaab was born and continues to thrive and threaten the region. Current crises in Syria,

Afghanistan, Iraq, and Yemen are plagued by the same difficulty in developing intervention strategies that can simultaneously be militarily effective, address human security concerns, and support long term peacebuilding through political means.

Additional experiences in Sudan, Ethiopia, India, the DRC, Columbia, and Myanmar, to name a few, show that this trajectory of conflict persistence in spite of international interventions is not unique to Somalia or today's headline stories. More than 50% of the 28 armed intrastate conflicts listed by UCDP/PRIO in 2014 as active since 2010 were internationalized. All of these conflicts were initiated prior to 2000, with some (primarily in Asia) having roots that date back more than 50 years<sup>16</sup>. The conflicts are spread across four continents, and generate humanitarian crises, threats to security interests, and economic costs on an increasingly global scale. The countries in which these conflicts are located received almost \$44 billion USD in development assistance and aid from the international community in 2013<sup>17</sup>, and more than 130,000 peacekeeping troops from UN and regional organizations were deployed to these conflicts in 2014.

## Definition of Terms

### *Civil Conflict*

*Civil conflict* is ubiquitous, sometimes generating productive and positive outcomes, but more often creating human misery and far-reaching security threats. It can be armed or unarmed, violent or nonviolent. This thesis concerns organized, persistent, armed intrastate civil conflicts, in which at least one side involves non-state

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<sup>16</sup> Data from UCDP/PRIO armed conflict dataset, version 4.

<sup>17</sup> Data from AIDData.org, <http://aiddata.org/aiddata-research-releases>; accessed April 15, 2015.



actors who regard it as necessary and good to wage violent conflict against hostile opponents because of incompatible issues seen to be at stake. These incompatibilities typically pertain to control of the government (type of political system, the replacement of the central government, or a change in its composition) or territory (the status of a specified territory, e.g., secession or autonomy).

This definition is consistent with the definition in the ACLED, but departs from those in the literature that only consider incompatibilities resulting in at least 25 battle-related deaths.<sup>18</sup> By widening the definition, two conflicts were included that would not have been otherwise – the civil conflict in Burkina Faso where large-scale violence followed coups in 2014 and 2015,<sup>19,20</sup> and the Caprivi secessionist conflict in Namibia between 1994-1999. In addition, many more conflict events are recorded to provide a more realistic and rich portrayal of the dynamics of civil conflict.

Consistent with the literature, *conflict events* are defined on the basis of encounters between belligerents, which may or may not involve violence or death. Many of today's conflicts consist of episodic sequences of such events that stop and start again without clear outcomes. Using the typology of the Armed Conflict Event and Location Data Project, events may be battles (with or without change of territory), violent riots and protests, violence against citizens, and remote violence (Raleigh et al., 2010). For this

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<sup>18</sup> Several thresholds of battlefield deaths for defining civil conflict are used in the literature, resulting in different samples for analysis. Fearon (2004) -- who only considers large scale civil war in his analysis of conflict duration -- uses a threshold of an average annual 100 deaths, with a total deaths no less than 1000 over the course of the conflict and at least 100 deaths on both sides; the Correlates of War project requires a minimum of 1000 battle fatalities within a twelve year period (Singer & Small, 1994); the UCDP/PRIO dataset uses a threshold of 25 annual battle deaths (Gleditsch et al., 2002)

<sup>19</sup> Herve Taoko, Alan Cowell and Rukmini Callimachi, "Violent Protests Topple Government in Burkina Faso", October 30, 2014. Retrieved February 2016 from [http://www.nytimes.com/2014/10/31/world/africa/burkina-faso-protests-blaise-compaore.html?\\_r=0](http://www.nytimes.com/2014/10/31/world/africa/burkina-faso-protests-blaise-compaore.html?_r=0);

<sup>20</sup> "Burkina Faso coup and violent protests", September 22, 2015. Retrieved February 2016 from <http://www.aljazeera.com/indepth/inpictures/2015/09/burkina-faso-coup-violent-protests-150922071204063.html>

research, a conflict is considered to be *persistent* if conflict events (associated with the same incompatibility) continuously occur from year-to-year for more than ten years, or if two or more episodes of the same conflict occurs within a ten year time period, regardless of the time length of the episode or the length of time between episodes. This is similar to (but more specific than) the definition used in the Human Security Report 2012, which defines a persistent conflict as “one that involves many years of fighting” (Mack, 2012). Persistent conflicts may consist of sustained periods of active conflict, or may experience apparent “spells of peace” during which there are no observed or recorded violent conflict events, but during which time the causal mechanisms for conflict have not been resolved. This definition is also consistent with that used in the UCDP Conflict Termination Dataset (Kreutz, 2010a), and allows for studying multiple dimensions of conflict and facilitates the analysis of dynamic trends over time (Merz, 2012). Data for conflict events and aid have only recently been available that is coded by incompatibility and event type at the sub national level, so as to be able to conduct analysis based on this definition of conflict persistence.

### ***Belligerents***

Standard definitions from the literature are used for *belligerents* and *state*, ensuring consistency with the data sources and previous research. The following definitions from the Uppsala Conflict Data Project are adopted:

“*Belligerents* are the parties that form the incompatibility by stating incompatible positions. The incompatibility (i.e. the conflict issue) must concern governmental power (type of political system, the replacement of the central government or the change of its composition), territory (the status of a territory, e.g. the change of the state in control of a certain territory - interstate conflict - secession or autonomy - internal conflict) or both.

A *state* is an internationally recognized sovereign government controlling a specific territory or an internationally unrecognized government controlling a specified territory whose sovereignty is not disputed by another internationally recognized sovereign government previously controlling the same territory.

*Opposition organization*: Any non-governmental group of people having announced a name for their group and using armed force to influence the outcome of the stated incompatibility.”<sup>21</sup>

### ***Peace Operations and Foreign Interventions***

In 1992, UN Secretary-General Boutros-Ghali provided a schema for conceptualizing *peace operations* primarily under Chapter VI of the UN Charter involving preventive diplomacy (pre-conflict), *peacemaking* (during conflict), and *peacebuilding* (post-conflict), within which *peacekeeping* was defined as

“The deployment of a UN Presence in the field, hitherto with the consent of all the parties concerned, normally involving UN military and/or police personnel and frequently civilians. Peacekeeping is an activity that expands the possibilities for both the prevention of conflict and the making of peace” (Ghali, 1992).

Ghali also argued that collective security concepts as contained in Chapter VII of the UN Charter require the UN Security Council to be prepared for *peace enforcement* missions “to maintain or restore international peace and security in the face of a “threat to the peace, breach of the peace, or act of aggression”.

The 2000 Report of the Panel on United Nations Peace Operations (“Brahimi Report”) follows Ghali’s conceptualization of peace operations according to tools and activities in one of three principle phases—*peace making* (“use of diplomacy and

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<sup>21</sup> Uppsala University Department of Peace and Conflict Research, “Definitions”, <http://www.pcr.uu.se/research/ucdp/definitions/>. Retrieved January 1, 2015.

mediation to bring active conflicts to a halt”); *peacekeeping* (“primarily military model of observing ceasefires and forcing separations after inter-State wars”, as well as “complex model of many elements, military and civilian, working together to build peace in the dangerous aftermath of civil wars”); and *peacebuilding* (“activities undertaken on the far side of conflict to reassemble the foundations of peace”) .

During the 1990s, as the study of peace operations flourished, so too did definitions of, and terminology for, peace operations. The terms “*peacebuilding*”, “*peacekeeping*”, and “*peace operations*” are used interchangeably in the literature across a confusing variety of definitions that range from broad mandates aimed at any activities promoting peace and independent of specific actors, to definitions concerned strictly with the organizations involved, the tasks that they perform, or the conflict phase during which operations are deployed (Bellamy & Williams, 2011; Paris, 2000). Some definitions exclude operations by unilateral or non-UN actors, or predicate definitions on the performance of specific tasks.

In an attempt to bring more analytic clarity to research, (Diehl et al., 1998) define *peacekeeping operations* according to taxonomy of tasks in twelve categories ranging from traditional peacekeeping (“the stationing of neutral, lightly armed troops with the permission of the host state(s) as an interposition force following a cease-fire to separate combatants and promote an environment suitable for conflict resolution”) to interventions in support of democracy (including “military operations intended to overthrow existing leaders and to support freely elected government officials”), humanitarian assistance during conflict, and sanctions enforcement. Such definitions suffer from over-specification lacking flexibility across a spectrum of mandates and contexts, and

assumption of norms and theoretical framing that is not universally accepted (such as liberal peace).

As different taxonomies for peace operations have flourished in the past twenty years, so too have the types of peace operations deployed to conflict settings. In response to this trend, Bellamy and Williams (2011) define peace operations as those which

“involve the expeditionary use of uniformed personnel (police and/or military) with or without UN authorization, with a mandate or program to:

- 1) assist in the prevention of armed conflict by supporting a peace process;
- 2) serve as an instrument to observe or assist in the implementation of ceasefires or peace agreements; or
- 3) enforce ceasefires, peace agreements or the will of the UN Security Council in order to build stable peace” (Bellamy & Williams, 2011).

Types of peace operations include preventive deployments, traditional peacekeeping, wider peacekeeping, peace enforcement, assisting transitions and peace support operations. Actors may be unilateral, coalitions of the willing (e.g., regional organizations (e.g., African Union or Economic Community of West African States, and international organizations including the UN.

The US Joint Publication 3-07.3 (*Peace Operations*, 2012) defines *peace operations* similarly to Bellamy (2011) as

“Crisis response and limited contingency operations (that) normally include international efforts and military missions to contain conflict, redress the peace, and shape the environment to support reconciliation and rebuilding and to facilitate the transition to legitimate governance (and) may be conducted under the sponsorship of the United Nations (UN), another intergovernmental organization (IGO), within a coalition of agreeing nations, or unilaterally.”

Aligning terms of reference with the UN conceptualization of peace operations,

the US doctrine employs the following categorical definitions of *peacekeeping*, *peace enforcement*, *peace building*, *peace making*, and *conflict prevention*:

- 1) *Peace keeping*: military operations undertaken with the consent of all major parties to a dispute, designed to monitor and facilitate implementation of an agreement (cease fire, truce, or other such agreement) and support diplomatic efforts to reach a long-term political settlement.
- 2) *Peace enforcement*: application of military force, or the threat of its use, normally pursuant to international authorization, to compel compliance with resolutions or sanctions designed to maintain or restore peace and order.
- 3) *Peace building*: stability actions that strengthen and rebuild governmental infrastructure and institutions in order to avoid a relapse into conflict.
- 4) *Peacemaking*: process of diplomacy, mediation, negotiation, or other forms of peaceful settlements that arranges an end to a dispute and resolves issues that led to it.
- 5) *Conflict prevention*: a peace operation employing complementary diplomatic, civil, and, when necessary, military means to monitor and identify the causes of conflict, and take timely action to prevent the occurrence, escalation, or resumption of hostilities.

The US joint doctrine places primary responsibility for tasks (1) and (2) with military forces and with diplomatic and civilian organizations for tasks (3) to (5).

The following definition of *peace operations* adopted from literature for this dissertation research is most closely aligned with the US joint doctrine:

"*Peace operations* involve the expeditionary use of uniformed personnel (police and/or military) with or without UN authorization, with a mandate

or program to: 1) Assist in the prevention of armed conflict by supporting a peace process; 2) Serve as an instrument to observe or assist in the implementation ceasefires or peace agreements; or 3) Enforce ceasefires, peace agreements or the will of the UN Security Council on order to build stable peace” (Bellamy & Williams, 2011).

### ***Peacekeepers***

Actors other than the UN blue helmets are increasingly involved in partnership peacekeeping, where different types of actors cooperate to achieve their objectives (Bellamy & Williams, 2011). Usually, but not necessarily acting under authorization by the UN or the auspices of a regional organization, these actors include

- International and regional organizations, such as the North Atlantic Treaty Organization (NATO), Economic Community of West African States (ECOWAS), the European Union (EU) and the African Union (AU);
- Coalitions of the willing, such as UNITAF in Somalia in 1992, INTERFET in East Timor in 1999, and ISAF in Afghanistan;
- Individual governments or pivotal states, such as South Africa in Burundi in 2001-2003.

### ***Aid***

*Foreign aid* is defined to be those goods, services, and financial benefits transferred to government or population groups for the purpose of supporting economic development or providing humanitarian relief. Foreign aid for development purposes refers only to those parts of capital inflow which normal market incentives do not provide and consists of long term loans repayable in foreign currency, grants (including debt relief) and soft loans repayable in local currency, sale of surplus products for local

currency payments, and technical assistance (Rosenstein-Rodan, 1961; Tierney et al., 2011).

The Organization for Economic Cooperation and Development (OECD) Development Assistance Committee (DAC) has traditionally been one of the primary sources of foreign aid through “official development assistance” (ODA), defined as

“Those flows to countries and territories on the DAC list of ODA recipients and to multilateral institutions which are: i) provided by official agencies, including state and local governments, or by their executive agencies; and ii) each transaction of which is administered with the promotion of the economic development and welfare of developing countries as its main objective; and is concessional in character and conveys a grant element of at least 25 percent.”<sup>22</sup>

In recent years, the international aid community has widened beyond the OECD countries to include China and other Arab countries as significant donors to Africa in particular.

*Humanitarian aid* is a subcategory of foreign aid, defined by the OECD as

“Assistance designed to save lives, alleviate suffering and maintain and protect human dignity during and in the aftermath of emergencies. To be classified as humanitarian, aid should be consistent with the humanitarian principles of humanity, impartiality, neutrality, and independence.”<sup>23</sup>

Other subcategories of ODA are social services and conflict prevention; transportation and communications; energy and banking; natural resources; industry and construction; trade; commodity assistance (e.g., food security); environmental protection and development; and refugees in donor countries. These categories are widely used as a typology for foreign aid, even among donors outside the OECD, and are considered

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<sup>22</sup> “OECD Official development and assistance – definition and coverage”  
<http://www.oecd.org/dac/stats/officialdevelopmentassistance/definitionandcoverage.htm> retrieved February 29, 2016

<sup>23</sup> OECD Purpose codes: sector classification. Retrieved from  
[http://www.oecd.org/dac/stats/documentupload/2012%20CRS%20purpose%20codes%20EN\\_2.pdf](http://www.oecd.org/dac/stats/documentupload/2012%20CRS%20purpose%20codes%20EN_2.pdf)



collectively as development aid other than humanitarian in this research. Security and military assistance are not considered part of foreign aid.

### ***State capacity and reach***

State capacity is a key concept for explaining conflict persistence, yet there is no precise definition or consistent operationalization of the concept for measurement. The literature refers to two primary dimensions of state capacity—military and governance (Hendrix, 2010).

Military capacity concerns the state's ability to deter or repel challenges to its authority through force and is most often operationalized as military personnel per capita.<sup>24</sup> Military spending per capita has been used as an alternate measure to account for patronage (Henderson & Singer, 2000). Hendrix (2010) argues that military capacity is not significant to explaining conflict onset, but is important to understanding conflict duration. Both measures of military capacity—military personnel per capita and military expenditures—are used in this research as indicators of state capacity to represent different mechanisms through which state capacity operates. Where large paramilitaries are available, I assume that they support the government and include them in the military measure of state capacity.<sup>25</sup> The literature points to dilution of military capacity through government involvement in multiple conflicts (Merz, 2012; Wood, 2010). I control for this using variables to capture wars on the border near the conflict, and the intensity of other ongoing internal conflicts.

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<sup>24</sup> This operationalization is used, for example, in studies by Singer (1988), de Rouen & Sobek (2004), Walter (2006), Balch-Lindsay (2008), and Buhaug et al (2009). (See also Balch-Lindsay et al., 2008; Buhaug et al., 2009; Henderson & Singer, 2000; and Singer, 1987, 1988).

<sup>25</sup> Wood (2010) provides a precedent for including paramilitaries in assessing state military capacity.

Governance capacity concerns the state ability to accommodate grievances through institutionalized channels. Hendrix (2010) analyzes 15 different indicators used in the literature and finds that they essentially capture one of three different aspects of governance: bureaucratic efficiency (with ideal democracies at the high end and inefficient authoritarian states at the low end); rentier-autocraticness (with high-revenue rentier autocracies at the high end and resource-poor democracies at the low end); and neopatrimoniality (with monarchies at the high end). Of these, bureaucratic efficiency and rentier-autocraticness have the highest explanatory power for conflict risk (Hendrix, 2010). Hendrix (2010) recommends a multivariate approach to modeling the governance dimension of state capacity using (log) GDP per capita as a robust positive indicator of bureaucratic competence and dependence on oil as a robust negative indicator of tax capacity and governance quality. Polity-derived measures of democratic quality and institutional coherence are conditionally correlated with state capacity, and should be used as interactive variables.<sup>26</sup>

In this study, I use (log) GDP per capita, dependence on oil, polity and polity squared as measures of governance quality. While Hendrix (2010) did not find the CPIA index to be a robust indicator of governance, I include it as a control variable for consistency with World Bank approaches to measuring absorptive capacity for aid.

State reach can be an important determinant of the effectiveness of state capacity, where state reach refers to the penetration power of state authority and government institutions throughout the polity, with a special emphasis on rural areas from where

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<sup>26</sup> These recommendations are consistent with standard approaches used in the literature (see Hegre & Sambanis, 2006; Fearon, 2010; Goldstone et al., 2010; and Walter, 2010).

many belligerents draw their resources (Fearon & Laitin, 2003; Holtermann, 2012). Low state reach creates political opportunity for belligerents to mobilize resources against the government and survive government repression (Fearon & Laitin, 2003). Material proxies used in the literature for state reach include road density, percent urban population, and access to electricity, mountainous or forested terrain, and per capita income. Additionally, social fragmentation creates cleavages within the polity that can be exploited by belligerents to dilute state reach (Reynal-Querol, 2001). Lacking road density data, I use urban population, access to electricity and forest terrain as proxies for state reach, controlling for (log) population size, density, and social fragmentation.

### ***Belligerent Capacity***

Although relative capacity of state and challengers is a key explanatory variable in the literature, belligerent capacity is even less coherently defined than state capacity. Belligerent capacity is acknowledged in the literature as dependent on access to material capabilities and sanctuary, ability to maintain support from (or prevent denouncement by) the local populace, generate new recruits, and maintain control over them. Some of these factors (e.g., sanctuary, influence and control over local population) are clearly related to state reach as defined above.

Wood (2010) measures material capacity of belligerents through scaled troop strength, accounting for asymmetric advantages enjoyed by rebels. Problems with this measure include lack of reliable data for rebel troop strength, and a consistent basis for constructing a scaling formula that is appropriate for comparative analysis. Szekely (2012) approaches the issue by asking the question, Why are there differences between

strategies for how militias evolve and survive when they initially have similar material capabilities? In this formulation, survival has two practical components; the ability to resist a major military attack as it unfolds, and the ability to recover afterwards.

The literature describes different strategies for acquiring resources with which to resist major attacks – coercion, illicit activities, service provision (to states and noncombatants) and marketing (to sponsoring states or to civilians through ethnic or ideology), and capabilities for recovery that include distance from the capital, access to sanctuary, leadership, cohesion within the group, and local community support (coerced or voluntary). Ethnic polarization, (log) population, and illicit trade are frequently used as proxies for cohesion and material resources (Fearon & Laitin, 2003; Montalvo & Reynal-Querol, 2007; Sambanis, 2002). GDP per capita is sometimes used as a proxy for ability to maintain support from local populace, with the argument that lower GDP per capita presents lower opportunity costs for rebellion, thereby increasing the marketing power of rebels. An alternate measure, which I use, is depth of poverty, defined as the GDP share of the lowest 10<sup>th</sup> percentile. This allows the differentiation between the two income measures of state and belligerent capacity.

### **Trends in Civil Conflict, Peace and Stability Operations, and Aid**

Walter (2010) notes three disturbing trends regarding civil conflict persistence. As has already been noted, they have a high recidivism rate (57% of all countries that suffered civil war between 1945-2009 experienced at least one recurrence), with recurring conflicts being the dominant form of armed conflict in the world today. Using the UCDP/PRIO database on armed civil conflict from 1946-2004, the Human Security Project shows that between 1990 and 2004, there was a downward trend in onsets of

conflicts with continuous fighting lasting more than five years. However, there is an upward trend in onsets of conflicts with recurring bouts of violence following an apparent termination, which are decreasingly likely to end in outright victory. More than 60% of terminations between 2000-2004 resulting in renewed fighting within five years (Mack, 2012). In addition, Walter (2010) notes that today's conflicts are increasingly concentrated in fewer geographic regions characterized as the world's poorest and weakest states. Since 1990, Africa's share of civil conflict recurrences has risen from 21% to 38%.

The international community tends to deploy peacekeeping operations most frequently to these persistent conflicts (Fortna, 2004). Difficult questions of when interventions by third parties are justified and how to best achieve the objectives of those interventions—considering normative, material, economic, and political factors—continue to challenge policy makers at national, regional, and global levels. As the case of Somalia illustrates, failing to address these challenges when they are first presented can have dire consequences that persist and grow for many years into the future.

In recent years, scholarly research has claimed progress in understanding the macro-level conditions under which political instability is likely to result in armed intrastate civil conflict, the dynamics of conflict escalation, factors that impact conflict duration, outcome and recurrence, and the impact of external interventions. The literature generally agrees that dominant risk factors for armed civil conflict are (i) high ratio of primary commodity exports to GDP, (ii) weak governing institutions and low state reach, (iii) economic contraction, (iv) geographic dispersion, (v) ethnic dominance (vi) a history of previous conflict, and (vii) population size (Dixon, 2009; Goldstone et

al., 2010; Holtermann, 2012). However, even these factors are disputed, as scholars continue to seek to understand underlying causal mechanisms.

Shorter conflict durations are generally associated with strong government bureaucracies, military coups, revolutions with strong rebels, and military interventions on the side of the rebels, although these correlations have also been shown to depend on geographic factors, such as distances that combatants must travel to project power (Buhaug et al., 2009; Fearon, 2004), and the decade in which the conflicts occurred. Longer conflict durations are associated with a combination of low per capita income and high inequality, land conflicts between ethnic groups, conflicts in which belligerents derive major funding from contraband, and the presence of external actors—including UN peacekeepers (Beardsley, 2012; Collier et al., 2004; Cunningham et al., 2009; de Rouen & Sobek, 2004; Fearon, 2004).

Until very recently (e.g., prior to 2010), studies of conflict duration have been conducted using country-level, event-based datasets in which episodes during which conflict events are counted are defined on the basis of numbers of battle deaths per year (usually 25 per calendar year), and conflict actors are presumed to be opposing dyads. Studies of conflict terminations in the literature use different criteria for differentiating between recurring episodes of violence within a persistent conflict and a new conflict. As a result, the derived understanding is inconsistent in explaining causal mechanisms and insufficient for explaining variations in conflict dynamics at the micro-level.

The most common explanations for why some countries experience renewed civil war while others do not are severe economic hardship after the war, and lack of inclusion in post-war political systems (Call, 2012). The literature agrees that African civil wars in

particular tend to last longer and are harder for governments to win. New questions continue to emerge from the last two decades as the presence external actors has increased in civil conflicts across the Middle East, Africa, and Asia. Current crises in Syria, Nigeria, Iraq, and South Sudan, to name a few, underscore that many gaps remain in understanding intrastate conflict dynamics at the subnational, micro-level, and converting theoretical understanding into effective policies to impact security and stability at both micro and macro levels.

The lack of understanding contributes to suboptimal policies and outcomes, as evidenced by a number of current trends.<sup>27</sup> First, the post-Cold War decline in numbers of active armed intrastate civil conflicts has reversed; and seems to have equilibrated around thirty-three in any given year. The number of distinct armed intrastate conflicts, and the number of countries involved in those conflicts, grew steadily during the Cold War, peaking in 1991 with 51 active armed intrastate conflicts worldwide (Figure 4). This contrasts starkly with the trend in interstate conflicts, which average approximately one per year over the last sixty years, and account for less than 5% of all active conflicts since 1975. Between 1991- 2004 the rising trend in armed intrastate conflicts reversed, declining significantly and steadily to a low of 30 active conflicts in 2003—the lowest number since 1975 (Figure 5). However, the trend reversed in 2004, with the number of active conflicts seeming to level off at around 33 active armed intrastate conflicts since

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<sup>27</sup>Conflict trends are calculated from UCDP/PRIO Armed Conflict Dataset, version 4-2014, which defines an *active conflict* as “a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths”; a conflict is coded as a *new onset* in the year that 1,000 fatalities have been recorded for the same incompatibility for the first time; a conflict is coded as a *recurrence* if the same incompatibility returns to active status after having been inactive for one or more years (i.e., having resulted in less than 25 battle-related deaths in the previous year); a conflict episode is coded as *terminated* if there are fewer than 25 battle-related fatalities in a given year.

2010. The primary geographic regions experiencing armed civil conflict have shifted from Latin America and Asia during the 70s and 80s, to Europe and Africa in the 90s, and more recently to the Middle East and Sub-Saharan Africa with growing involvement of transnational Islamic extremists.

Second, the way conflicts end changed after the end of the Cold War. The proportion of conflicts that end in victory by one side or the other has declined since the end of the Cold War, while the number that end in peace agreements, ceasefires, or continue with low level activity has increased. Of 368 intrastate conflicts counted by UCDP between 1946-2008, 104 ended with a victory<sup>28</sup>. That proportion shifted, however, from 47% victories during the Cold War to 17% victories after Cold War (Figure 6). During the Cold War, 70% of the victories were to governments, whereas after the Cold War, the trend shifted in favor of rebels, accounting for 66% of the victories. The proportion of conflicts ending in peace agreements or ceasefires shifted from 12% during the Cold War to 36% after the Cold War. Continued low-level activity after the end of major conflict episodes shifted from 40% during the Cold War to 45% after the Cold War.

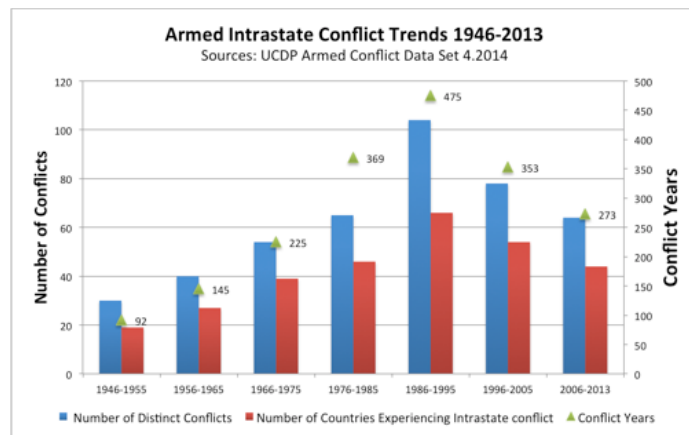
Third, The rate of conflict recurrence has risen over the past twenty years while the rate of conflict terminations has decreased. Over the last two decades, civil conflicts have been increasingly likely to re-occur after wars stop (Figure 8). Since 2000, half of the civil wars active in any one year are due to post-conflict relapses (Collier, 2003). Of 94 different conflicts that became active between 2000 and 2013, 65 were recurrences of past episodes. Some of these conflicts have involved as many as six episodes of

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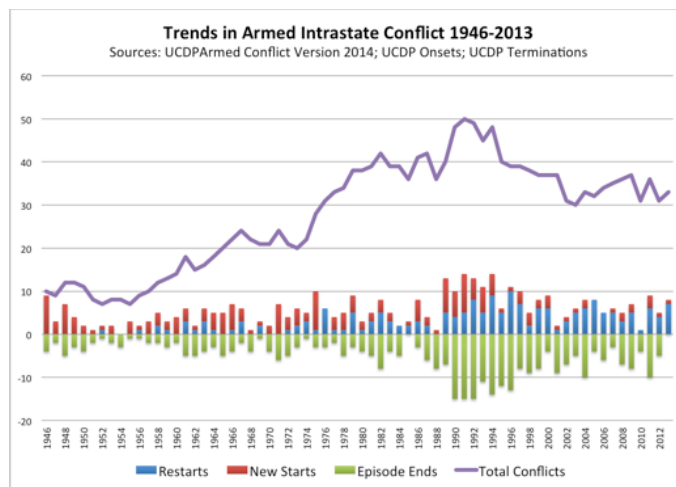
<sup>28</sup> Data from UCDP Conflict Termination Dataset v.2010-1, 1946-2009(Kreutz, 2010a).



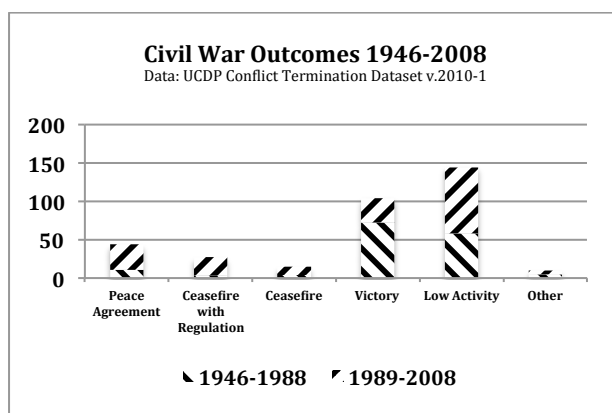
recurrence (Figure 7). More than half of the conflict episodes since 2005 involve recurrences of conflicts in India, Myanmar, Ethiopia, the Philippines, Pakistan, Israel, and the DRC (Figure 9). The countries with the highest number of recurring episodes within a single conflict are Iran, Iraq, Angola, the DRC, Chad, and Myanmar.



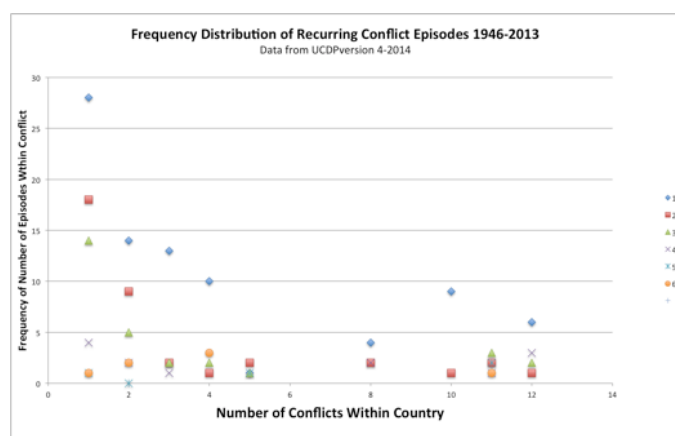
**Figure 4 Number of Distinct Armed Intrastate Conflicts, Countries Experiencing Conflict, and Overall Country Years 1946-2013**



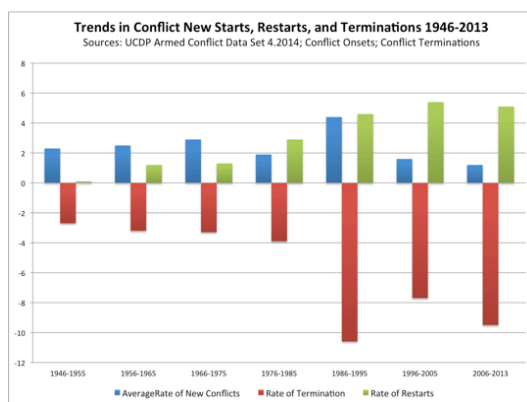
**Figure 5 Armed Intrastate Conflict New Starts, Restarts, and Terminations 1946-2013**



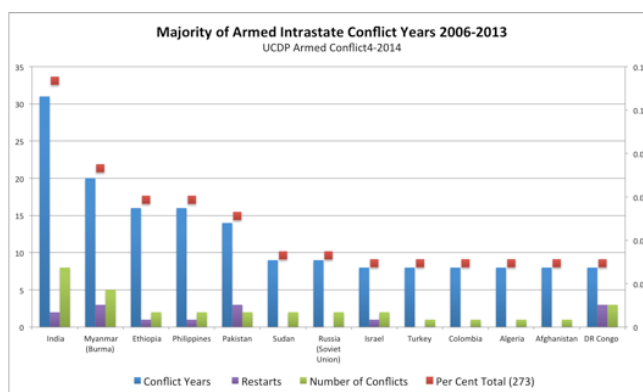
**Figure 6 Outcome Distributions of Intrastate Conflict**



**Figure 7 Frequency Distribution of Episodes Within Distinct Armed Intrastate Conflicts 1946-2013**



**Figure 8 Armed Intrastate Conflict Restart, New Start, and Termination Rates 1946-2013**



**Figure 9 Countries Accounting for Majority of Conflict Years 2006-2013**

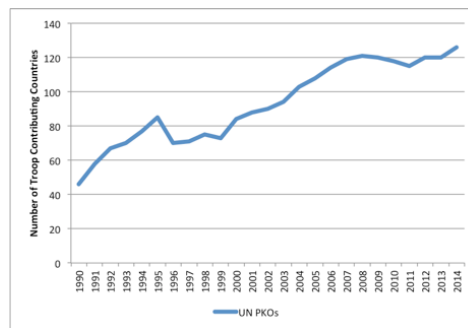
Fourth, foreign military interventions have become the most common types of interstate military force used since the end of World War II. Between 47-66% of intrastate conflicts since the end of World War II have attracted outside interventions (Patrick M. Regan, 2002).<sup>29</sup> Major powers accounted for almost half of these; the US had the most—more than twice as many as the former USSR/Russia, followed by France, UK, China, and Cuba (Elbadawi & Sambanis, 2000). The proportions of conflicts in which foreign militaries have intervened were highest during the Cold War.

Fifth, the number of uniformed personnel involved in peace and stability operations has surged since 2000. Peace operations are more likely to be deployed to conflicts with high risk of recurrence and where the resulting refugee flows threaten regional peace (Fortna, 2008). Many of these personnel are from TCCs that were experiencing civil themselves during the time period of the peace operation or within the previous decade. The maximum number of UN troops deployed in peace operations in any one year rose from approximately 10,000 in 1999 to over 100, 000 in 2014.<sup>30</sup> The

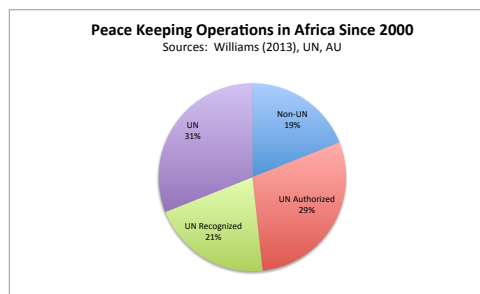
<sup>29</sup> The count of number of conflicts with foreign interventions varies depending on the dataset used, as discussed in the literature review in Chapter 1.

<sup>30</sup> Source: <http://www.un.org/en/peacekeeping/resources/statistics/contributors.shtml>; accessed January 2015.

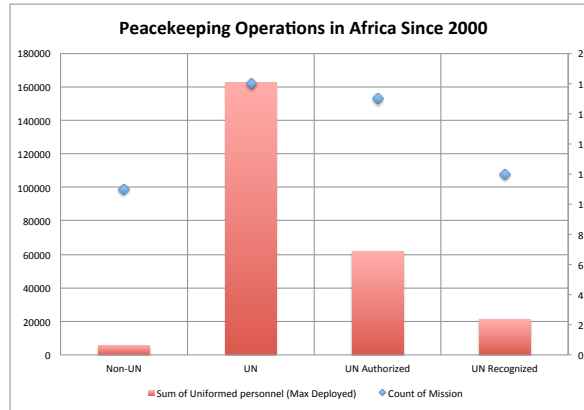
average cumulative number of UN troops per mission during that period in Africa was 8900, compared to a cumulative average of 1000 troops per mission in Africa for UN-Authorized and UN-recognized missions (Figure 10-12). The African countries to which these peace operations were deployed in 2014 are: Burundi, CAR, Chad, Comoros, Cote D'Ivoire, DRC, Ethiopia, Guinea-Bissau, Liberia, Libya, Mali, Sierra Leone, Somalia, Sudan, and South Sudan (Figure 13). The conflicts in eleven of these sixteen countries involve recurrences of past conflicts.



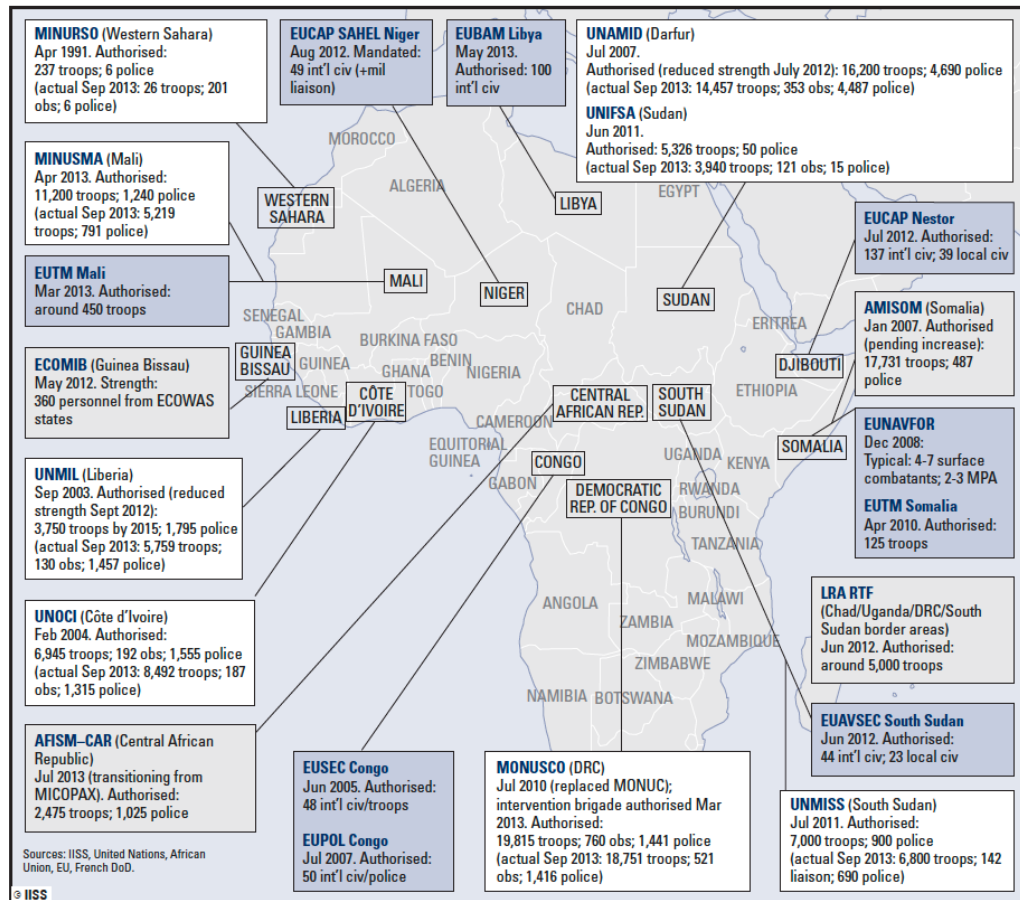
**Figure 10 Troop Contributing Countries (TCCs) to International Peacekeeping Operations**



**Figure 11 Distribution of UN, UN-Recognized, UN-Authorized, and Non-UN Peace Operations in Africa Since 2000**



**Figure 12 Cumulative Numbers of Uniformed Personnel to UN, UN-Authorized, and UN-Recognized Peace Operations in Africa Since 2000.**  
**Data Sources: UN, Williams (2013a), Rost & Greig(2011).**



**Map 8 Africa: Selected Peacekeeping and Security Missions**

**Figure 13 Locations of Peace Operations in Africa in 2014, from Military Balance Report 2014**

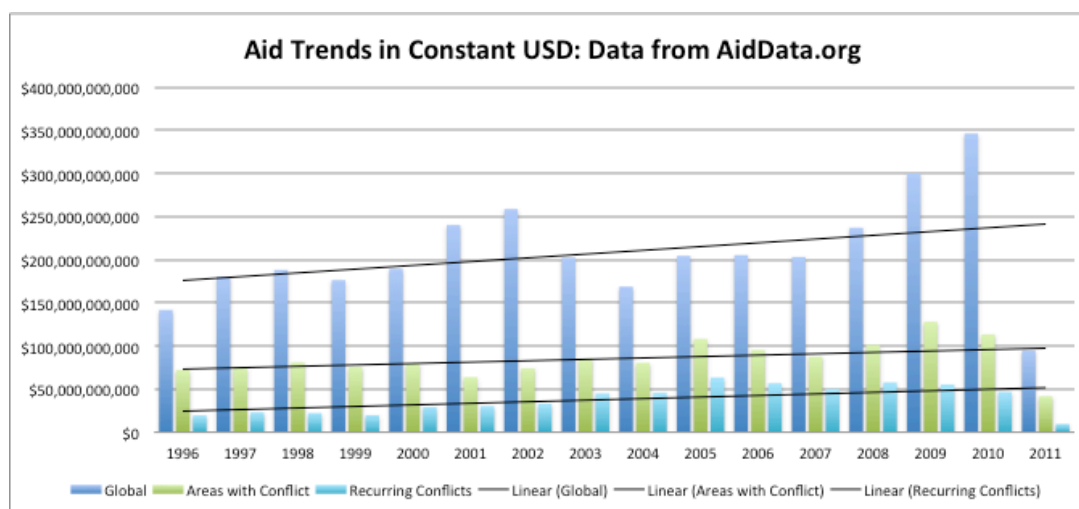
The number of private militias supporting political and ethnic groups in civil conflict has been rising. These groups become gatekeepers for allowing access to external peace and stabilization operations and humanitarian aid organizations. These groups are often engaged in criminal activities that fuel the conflict (Boe et al., 2014; El-Katiri & Army War College (U.S.) Strategic Studies Institute, 2012; Guichaoua, 2010; Lyons & Samatar, 1995; Miklaucic, 2010; *The Military Balance 1999*, 1999; *The Military Balance Report 2011: The Annual assessment of global military capabilities and defence economics*, 2011).

Sixth, development aid to countries experiencing recurring conflict has increased steadily since 1996, accounting for approximately 20% of all aid worldwide in 2011 (Figure 14 below)<sup>31</sup>. In the UK, the proportion is even higher, with a new target set in 2015 for 50% of all foreign aid (about .7% of GNI) to be directed to “fragile and failing states and regions”.<sup>32</sup> Countries with recurring conflicts repeatedly top the list of humanitarian aid recipients, e.g., the Democratic Republic of Congo, Somalia, Myanmar, Uganda, Lebanon, Ethiopia, Iraq, the Philippines, and Sudan.

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<sup>31</sup> Source: <http://aiddata.org/aiddata-research-releases>, Accessed April 2014.

<sup>32</sup> The new UK policy also expands funding and creates a cross-government scope for the Conflict, Stability and Security Fund in partnership with the Bill and Melinda Gates Foundation. This approach mirrors the US efforts for a whole-of-government approach through the CSO office at DOS. Source: <https://www.devex.com/news/uk-aid-shifts-more-to-fragile-states-through-cross-government-approach-87375>, Accessed March 2016.



**Figure 14 Aid from the International Community to Conflict Affected Countries Has Been Rising over Past Twenty Years, Including Those with Recurring Conflicts.**

Data retrieved from [www.aiddata.org](http://www.aiddata.org) on April 20, 2015.

## Review of the Literature

Exploring conflict persistence through the framework of system dynamics and resiliency draws on key theoretical concepts from the literature on civil conflict dynamics (onset and duration), impacts of external interventions in civil conflict (aid and peacekeeping), the nexus between security and development in conflicts, system dynamics and socio-ecological resiliency. The following sections review this literature and discuss the connections across the different domains.

## Conflict Dynamics

The relevant literature on conflict dynamics generally falls into one of three broad categories – that of predicting risk factors for conflict onset; that of explaining the evolutionary characteristics and trajectories of conflict (e.g., intensity and types of violence, durations, and ways in which conflicts end); and that of explaining recurrence of conflict versus sustainability of peace. While this dissertation is not concerned with

predicting conflict onset, the literature is germane to risk of conflict recurrence, so is included here.

### ***Risk Factors for Onset of Civil Conflict***

The literature variously associates risk of political instability and the onset of armed civil conflict with historical, economic, structural, social, and regional factors. More than 200 independent variables have been quantitatively explored in the literature using cross-country comparative analyses to improve understanding of the conditions that pose the highest risk of political instability and armed civil conflict. There is some degree of consensus on the significance of fewer than thirty of these variables, and a high degree of consensus on no more than seven (Dixon, 2009; Sambanis, 2002). Theses include low-income large populations, mountainous or forested terrain, politically excluded ethnic minorities, and possibility dependence on oil production. However, even for these variables, interpretations of causal mechanisms are contested.

Discrepancies around contested variables and mechanisms for conflict risk are most commonly attributed to different theoretical frameworks, data limitations, lack of methods for exploring complex interaction effects between variables, different methods used to operationalize measurements, and scaling effects (Dixon, 2009; Hegre & Sambanis, 2006; Sambanis, 2002). Primary divergences in theoretical frameworks are between greed and grievance as the driver of conflict initiation (Collier & Hoeffler, 1999), and the feasibility thesis (Fearon & Laitin, 2003). Greed-based frameworks argue that conflict is more likely to be caused by economic opportunity than by grievance. Employing a rational actor model, this theory attributes violent conflict onset to expected utility of rebellion as a function of the economic benefit to be gained and the probability



of victory—which depends on the belligerents’ perceptions of their military advantage, access to resources to support conflict, and costs of sustaining conflict. Grievance-based frameworks, in contrast, do not make assumptions about rational actors or economic calculus; violent conflict onset results from both objective and subjective grievances (e.g., intergroup rivalries including those based on ethnic or religious identity, inequality and oppression, or retribution for past injustices) for which other means of contestation have proved ineffective. The feasibility thesis argues that where capacity is available to make insurrection feasible for would-be challengers, it will occur.

In recent years, researchers have acknowledged the existence of interaction and feedback mechanisms between the factors that constitute these frameworks. The Collier-Hoeffler integrated greed-grievance model of conflict onset posits economic viability of predatory rebel organizations—in which the organization has to generate its own resources and sanctuary—as a necessary condition for conflict initiation (Collier et al., 2005), yet acknowledges that grievances play a role in contributing to resource generation for the rebels. Moreover, the model recognizes that conflict in fragmented societies is more costly due to coordination and cohesion problems. The nested model hypothesizes that belligerents’ consider economic viability of rebellion as a function of expected government response (e.g., degree of escalation and size of balancing force required), ongoing rebel access to financial resources (enabled through extortion of natural resource commodity exports,<sup>33</sup> diaspora funding, and local recruitment) and

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<sup>33</sup> Primary commodity exports are assumed to provide a target of opportunity for rebel predation during transportation to ports; however the net value of potential revenues generated have diminishing returns due to increased levels of state protection on higher value export shipments. The model calculates the revenue-maximizing value of primary commodities available to rebels using a military contest function developed by Konrad and Skaperdas (1998) in the context of extortion by gangs and organized crime. The model

sanctuary necessary for survival (approximated by geographic dispersion of population and land cover). The pre-conflict level and structure of income affects the cost of rebel recruitment—increasing economic growth, smaller population growth rates, and increased levels of male secondary schooling reduce risk of conflict onset because opportunity costs for recruits are higher, and the labor pool for recruits is more competitive.

Collier-Hoeffler (1999) tested the power of greed, grievance, and integrated theoretical models using data from the Correlates of War (COW) project (Singer & Small, 1994), and a methodology combining case control with regression analysis to predict onset of civil war between 1960 and 1999 in 161 countries. The integrated model was the most robust, and showed that ethnic dominance increases risk (by contributing to rebel cohesion) while social fractionalization reduces risk. Primary commodity exports and diaspora funding dominate all other risk factors in the model—suggesting that resource availability is a key factor; however, the mechanisms for acquiring those resources may involve both greed (in the case of extortion of primary commodities) and grievance (in the case of diaspora) at different times. Recommended preventive policy measures emphasize diverse and equitably distributed economic development that is difficult for rebels to co-opt and that is used to build the capacity of the state.

In their attempt to explain the upward trend in onset of civil war that accompanied economic development in third world countries after the end of WWII through the end of the Cold War, Fearon and Laitin (2003) do not find evidence of the strong relationship between primary commodity exports and conflict advanced by Collier and Hoeffler.

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balances the cost of increasing the size of the rebel organization in response to government force escalation, which may in some cases bankrupt the rebellion.

Instead, they found that conditions favoring insurgency—such as state weakness, poverty, prior war, political instability (measured by changes in Polity IV scores), rough terrain, superior local knowledge by rebels, oil exports, and a large population from which to draw recruits—are positively correlated with onset of conflict (Fearon, 2003). While some of these factors also appear in the economic model of civil war onset, Fearon and Laitin explain the relationship through an alternative Hobbesian framework more predicated on feasibility rather than greed or grievance. Heavy reliance on oil exports is a proxy for state weakness, and where states are weak and capricious, fear and opportunism give rise to would-be rulers who supply local “rough justice” while taxing the populace for themselves, and sometimes contributing to a larger, grievance-driven cause to maintain a base of support. Recent literature provides reasonable empirical support for this thesis, and emphasizes preventive policy measures of governance competency, strength and transparency within the military and police.

Neither the Collier-Hoeffler nor the Fearon-Laitin model finds democracy or ethnic fractionalization to be a significant factor. However, other scholars argue that if correctly specified, ethnically driven political grievances and degree of democracy interact with each other and are correlated with civil war onset (Elbadawi & Sambanis, 2002; Gurr, 2000; Hegre et al., 2001; Østby, 2008; Reynal-Querol, 2002). For example, Reynal-Querol (2002) distinguished between proportional versus presidential representation in democracies when testing for the effect of political system type and religious polarization on economic development and the incidence of ethnic wars, while Hegre et al. (2001) tested for the effect of different levels of democracy in combination with regime persistence on civil war onset between 1816-1992. Reynal-Querol (2002)

found that religious polarization increased the incidence of ethnic civil wars between 1960 and 1995, and that consociational democracies<sup>34</sup> reduced this risk. Hegre et al. found that the effect of political change depends on the point of departure, and that the “conflict-generating effect of democratization when moving from autocracy to intermediacy produces violence in the short run only” (Hegre et al., 2001). Using a different probit estimator than Collier and Hoeffler (1999) to more accurately explore cross-sectional differences and include random effects, and correcting for autocorrelation in the data, Elbadawi and Sambanis (2002) also found a significant, negative relationship between civil war onset and Polity scores. They additionally found a nonlinear relationship between ethno-linguistic fragmentation and civil war prevalence<sup>35</sup> at low-income levels, and that the correlation with primary commodity exports obtained by Collier and Hoeffler (1999) was fragile to model specification.

Restricting his analysis to only ethno-political conflict, Gurr (2000) shows a consistently rising trend of both protest and rebellion during the Cold War that fell sharply after 1994. Drawing on collective action and social movement theory (Tilly, 2004), Gurr attributes ethnic conflict onsets to four factors: salience of the ethnic identity group for leaders; the extent to which the group has collective incentives;<sup>36</sup> the group’s capacity for collective action; and opportunities in the political environment that increase chances of attaining group objectives through political action. Statistical analysis shows that the new ethno-rebellions between 1986 and 1998 were preceded by years of protests,

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<sup>34</sup> Reynal-Querol (2002) defines consociational democracies as coalition systems based on proportional representation.

<sup>35</sup> Civil war prevalence is defined to be the probability at any point in time of the existence of a civil war, and integrates both onset and duration. However, the factors and mechanisms for onset and duration are assumed to be different.

<sup>36</sup> Examples of collective incentives are repression, socially derived inequalities in material wellbeing, political access, or cultural status by comparison with other social groups, and loss of political autonomy.

revealing both missed opportunities for conflict management as well as potentially intractable differences. In contrast, the shift in ethno-political rebellion since 1994 may be due to states abandoning strategies of assimilation and control of ethnic minorities in favor of policies of pluralism and accommodation under both democratic and authoritarian regimes.

Responding to this proliferation of possible causal mechanisms for conflict, Hegre and Sambanis (2006) conducted a sensitivity study of empirical results across the literature on civil war onset to differences in model specification, data sources and operationalization of variables. They found that of 88 variables tested, only seven explanatory variables were robustly correlated with civil war onset across the different methodologies and data sources: large population combined with low income levels; low rates of economic growth; recent political instability combined with inconsistent democratic institutions; small military establishments and rough terrain; and war-prone and undemocratic neighbors. Variables representing ethnic difference in the population were robust only in low intensity conflict (Hegre & Sambanis, 2006).

In the empirical analysis of civil war onset, the aforementioned researchers used the threshold of 1000 battle deaths to count a conflict as a civil war event.<sup>37</sup> Goldstone et al. (2010) relaxed this threshold in developing a model to predict risk of political instability<sup>38</sup> from 1955 to 2003 using conditional logistic regression analysis of 351 control cases and 141 instability cases. Beginning with the assumption that most states

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<sup>37</sup> This threshold was first established by (Singer & Small, 1994) in creating the Correlates of War project and has become a standard reference point for most civil war research.

<sup>38</sup> Goldstone et al. (2010) include both violent civil conflict and nonviolent adverse regime change in their definition of political instability, which includes nonviolent failures of democracy, genocide, state collapse, revolutions and ethnic wars.

have potential insurgents with grievances and resources, matched by military power exceeding that of potential insurgents, they argue that key factors determining political stability are not economic or military but political. They predict 80% of the occurrences of political instability using a model based on whether or not the regime is united and competent versus paralyzed or undermined by elite divisions. While they found some statistical significance to many of the same economic, geographic, and cultural factors identified by Collier and Hoeffler (1999) and by Fearon and Laitin (2003), the explanatory power of these factors was much weaker than political factors. In particular, they found that weak anocracies are particularly vulnerable to onset of conflict, consistent with the analysis of Elbadawi and Sambanis (2002), Hegre et al. (2001), and Reynal-Querol (2002).

These theories are supported by evidence that welfare spending contributes to sustaining peace when this spending results in the provision of social services that offset the effects of poverty and inequality. Using time-series, cross-national data from 1975 to 2005, Taydas and Peksen (2012) find that as government spending on welfare (i.e., education, health, and social security) reduces the risk of armed civil conflict onset significantly. In contrast, general public spending and military expenditures have no effect on the probability of civil conflict (Taydas & Peksen, 2012). They argue that welfare spending serves as an indication of the commitment of the government to social services and reflects its priorities and dedication to citizens. By enacting welfare policies that improve the living standards of citizens, governments can co-opt the political opposition and decrease the incentives for organizing a rebellion.

Other scholars find evidence to support the feasibility thesis, arguing that low GDP per capita in high population countries, is a proxy for the strength and effectiveness of government institutions. Examining 133 countries and the incidence of civil war onset between 1989 and 2006, Holtermann shows that, when controlling for low state reach (measured as road density, telephone density, and % urban population), the negative association between GDP per capita and civil war onset disappears (Holtermann, 2012). He concludes that military opportunity for rebel capacity building through control over remote areas, enabling more effective recruitment campaigns, rewards for local cooperation, and generation of resources, has more explanatory power for civil war risk than poverty and lack of economic opportunity.

With the exception of the work by Goldstone et al. (2010), the explanatory power of these econometric models of civil conflict onset, measured by the coefficient of determination,  $R^2$ , is generally no greater .3, implying that 70% of the variation in civil war onset may be explained by other factors. Even the most agreed-upon factors are not uncontested. For example, the correlation between oil and diamond resources and civil war has been shown to suffer from problems of robustness and endogeneity (Lujala, Gleditsch, & Gilmore, 2005; Ross, 2006; Snyder & Bhavnani, 2005). There is general agreement, however, that while grievances may not be strong explanans for conflict initiation, the emergence of grievances during conflict are important and must be considered in studying conflict dynamics and the duration of post-conflict peace.

In summary, in spite of the consistency and data issues across research methods, country-level risk of conflict and instability is generally agreed to be strongly and positively correlated to conditions of poverty coupled with a large population, economic

contraction, weak government institutions and infrastructures (especially in anocracies or partial democracies),<sup>39</sup> political transitions, and a recent history of armed conflict. These results favor a rational choice explanation, suggesting that risk of conflict onset is highest when regime challengers' expected opportunity costs and costs of sustaining conflict are low, conditions favor insurgency,<sup>40</sup> and perceptions of military advantage are high. Most notably, heavy reliance of the export sector on primary commodities is not a consensus predictor of civil conflict onset, although it is consistently reported as significant in explaining conflict duration, as discussed below.

### ***Conflict Persistence: Duration and Recurrence***

#### *Estimating Trends in Conflict Duration*

Once initiated, a conflict may persist either as continuous, uninterrupted fighting among belligerents, or as episodic outbreaks of fighting over the same issue interspersed by periods of apparent "peace". Cross-country studies of civil war duration between 1960-2000 show that if a conflict has not ended in the first year, the probability that it becomes a protracted war increases (Collier et al., 2004).<sup>41</sup> The average duration trends reported in the literature vary somewhat depending on how duration is calculated.<sup>42</sup> In general, however, there is agreement that duration increased throughout

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<sup>39</sup> The strength of government institutions is generally measured on the Polity IV scale, with strong institutions being at extremes (e.g., between -6 to -10 or between 6-10) and weak governments and institutions being in the middle (-5 – 5).

<sup>40</sup> Fearon (2003) defines insurgency as "military conflict characterized by small, lightly armed bands practicing guerilla warfare from rural base areas."

<sup>41</sup> This empirical observation is most often explained in terms of the relative vulnerability of rebel organizations in early stages, when armed opposition movements are typically more fragile and susceptible to military defeat or early accommodation. In order to survive, they must secure resources, consolidate forces, and build cohesion (Regan, 2002).

<sup>42</sup> Analysis of duration requires that a researcher define a start and end date to a conflict. In most cases in the literature, this assumed to be when killing begins and ends. This is problematic, however, when killing escalates gradually, as data is often lacking on numbers killed in the initial stages of conflict; and when



the Cold War. Using an original dataset, Fearon (2004) calculated that the overall average duration of civil wars steadily increased from approximately 5 years in 1950 to 16 years in 2000. The average duration of armed intrastate conflict recorded in the UCDP/PRIO Armed Conflict Dataset v.4\_2010 peaked at more than twenty years at the height of the Cold War, and has declined to less than ten years since 1981 (Hironaka, 2005; Kreutz, 2010b) and are less deadly (Bethany, Gleditsch, & Russett, 2006).

While the average duration has declined, the distribution of conflict duration is highly skewed, ranging from episodes of one day (e.g., Paraguay in 1989; Philippines in 1997) to conflicts that have lasted 50 years or more (e.g., the communist insurgency in the Mindanao Islands of the Philippines, rebel insurgency in North Yemen, the Karen rebellion in Myanmar, the Israel-Palestine conflict, military and sectarian insurgencies in Iraq). For this reason, average duration can be a misleading measure of conflict persistence. Distinguishing between duration of persistent conflict and conflict episodes, Mack (2012) found that since 1950 civil war episodes have averaged approximately four years and three months, and that the percent of intrastate conflict episodes lasting five years or more have become less common since 1990 (around 20 percent).<sup>43</sup>

### *Risk factors for conflict duration*

Most of the research on conflict duration has been done through individual cases studies or comparative statistical studies involving civil wars since the end of WWII. These studies have shown that there are additional risk factors for conflict duration than

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killing stops for a period then restarts. Fearon recommends that in the absence of any non-debatable coding scheme for start and end dates upon which to assess durations, the best course is conduct parametric tests of robustness of results to coding assumptions (Fearon, 2004).

<sup>43</sup> In conducting this analysis, Mack (2012) used a threshold of 25 battle deaths per year to define a conflict as active.

just those associated with conflict onset, driven by emergent and self-reinforcing processes that sustain conflict (Collier et al., 2004; Fearon, 2004; Hegre, 2004; Merz, 2012). In some cases, these differ significantly from the onset risk factors. The more consistent findings in the literature are that low levels of state and belligerent capacity, belligerent access to sanctuary, landmass, and ethnic fragmentation are associated with longer durations.

Expanding their hazard model of civil war onset, Collier et al. (2004) found that none of their significant variables for explaining war onset were significant in explaining duration of civil conflicts between 1960-2000. They found long durations to be correlated with low per capita income, high inequality, and ethnic division, and short durations to be correlated with decline in the prices of exported commodities and external military intervention on the part of the rebels.

Fearon found that shorter durations are associated with the type of conflict in civil wars between 1944-1999 (Fearon, 2004). Coups, popular revolutions, and de-colonization wars resulted in shorter durations whereas wars involving ethnic minorities in peripheral regions of the state (“sons-of-soil” wars) resulted in much longer durations. Coups and popular revolutions have median and mean duration of 2.1 and 3 years, respectively and an average of 4,000 killed compared to an average of 29,000 in other types of wars. De-colonization wars have median and mean durations of 4.7 and 7.3 years, respectively. In contrast, sons-of-soil wars have estimated median and mean durations of 23.2 and 33.7 years, respectively, but relatively low fatality levels. Access to contraband such as illegal drugs and precious minerals lead to longer durations. The effect of ethnic fractionalization is only statistically significant in association with sons-

of-soil wars in the absence of coups. GDP per capita, population, and polity have no statistically significant correlation with duration when controlling for the type of war.

Fearon (2004) explains these results in terms of strategic violence on the part of belligerents challenging the state. In coups and revolutions, the strategy is to initiate an all-or-nothing tipping process to gain complete control of power. In contrast, peripheral insurgencies are wars of attrition, based on strategies of violence that ultimately aim to either gain a military advantage or exact costs sufficient to force an imposition of terms or negotiated settlement.

The literature also indicates a strong correlation between conflict characteristics and duration, i.e., increased number of belligerents, land conflicts among ethnic rivals, and relatively even capabilities of belligerents all lead to longer durations (Cunningham et al., 2009; Elbadawi & Sambanis, 2002; Fearon, 2004). Multiple belligerents are postulated to increase duration by making settlement more difficult as a result of increased information asymmetries and shifting alliances among an expanded set of “veto players” (Cunningham, 2006). In contrast, longer durations associated with ethnic rivals and relative capabilities of belligerents are related to the difficulty in prevailing militarily, which can be influenced by biased foreign military intervention (Licklider, 1993). Land conflicts have been shown to last longer when a dominant migrant group is supported by the state (or foreign power) at the expense of a periphery minority group (Fearon, 2004; Gurr, 2000).

Environmental factors postulated to contribute to conflict persistence (but which lack consensus) are associated with political geography, e.g., mountainous or forested terrain, distance to government stronghold, and ease of access to natural resources that

can be used to generate resources for maintaining conflict. Mountain cover may help rebels sustain conflict while forest cover may hinder their abilities; African wars seem to be longer and harder for governments to win (Buhaug et al., 2009; de Rouen & Sobek, 2004). Using the UCDP/PRIO data set for conflicts between 1946-2003 that did not involve coups, (Buhaug et al., 2009) found that when locations are along remote international borders or are considerable distances from government strongholds, duration is longer.

Foreign military interventions in civil conflict have been common since the end of World War II, with 101 of 150 conflicts between 1945-1999 involving external actors (Regan, 2002), with an increasing number of peace operations since the end of the Cold War. Literature on the impact of external interventions (diplomatic, economic, and military) on conflict duration is discussed in the next section.

The difference between risk factors for conflict onset and duration suggests that the processes that sustain conflict can be distinct from those that initiate it. Explanations in the literature include divergence between structural conditions prevailing prior to conflict onset and those that evolve during conflict; triggering of latent grievances during conflict; reinforcing cycles of violence and arms proliferation that create new security dilemmas; and the emergence of new dynamics and actors.

Three common economic models in the literature that attempt to capture these processes are: rebellion-as-investment, rebellion-as-business, and rebellion-as-mistake (Collier et al., 2004). The model of rebellion-as-investment was first put forth by Grossman (1991). According to this model, longer durations should be correlated with the pre-existence of primary commodity exports and/or severe political repression, both

of which lead to higher expected payoffs. The rebellion-as-business model makes some of the same assumptions as the Collier (2004) model of civil war onset based on greed, with two key differences: (1) while profit may not be a motive to start a civil war, it is necessary to continue a rebellion; and (2) the potential for profit during rebellion attracts actors who may not be engaged in civil war onset. In this model, payoffs during conflict extend duration. In the rebellion-as-mistake model, military optimism prevents the recognition of mutually advantageous settlement that would lead to cooperation (Hirshleifer, 2001).<sup>44</sup>

Both the rebellion-as-business and rebellion-as-mistake models are consistent with the literature that associates higher durations of continuous, uninterrupted fighting with economic, institutional and environmental factors that include low per capita income, high inequality, lootable resources (Collier et al., 2003; Collier et al., 2004), and low state reach and corruption (Holtermann, 2012; Le Billon, 2003; Pyman et al., 2014).<sup>45</sup> In contrast, there is little support for the conceptualization of rebellion-as-investment, in which payoff to rebellion (political or material) is contingent upon rebel victory.

While the literature has made substantial advances in identifying the risk factors for long durations of civil conflict, the theoretical understanding of causal mechanisms remain weak and often contradictory. This ambiguity may be explained in part by

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<sup>44</sup> In the rebellion-as-mistake model, potential combatants face the choice posed by Vilfredo Pareto, between directing their efforts to the production or transformation of economic goods, or else to the appropriation of goods produced by others. Opposite theories inform these choices – the Machiavellian view that people will never pass up an opportunity to gain a one-sided advantage by exploiting another party, and Coase’s hypothesis that people will never pass up an opportunity to cooperate by means of mutually advantageous exchange (assuming perfect information).

<sup>45</sup> State reach is distinct from government institutional strength, and is generally measured in the literature as a function of services provided, such as access to electricity or roads for transportation.

limitations in research methodology dependent upon econometric analysis, which is highly sensitive to sample selection, coding and measurement procedures, suffers from endogeneity and multiple equivalent pathways (Collier & Hoeffler, 2001, Walter, 2010) and lacks micro foundations (Collier & Hoeffler, 2001; Kalyvas, 2008; Merz, 2012; Walter, 2010). A particularly difficult problem is in the measurement of the dependent variable, conflict duration, in many of the statistical studies. Conflict episodes may be counted as “ended” if the annual battle death threshold has been met, when in fact the conflict has not yet been settled, leading to an underestimate of conflict duration.<sup>46</sup> On the other hand, analysis of conflict duration based solely on active conflicts leads to an inflated estimation of average duration.

In addition, the count of events that determine conflict duration is most often conducted at a macro level with deaths counted on a countrywide basis, whereas civil conflict events (and processes) tend to be highly localized driven by micro-level dynamics.<sup>47</sup> For example, one study found that between 1993-2009, poor households on the margins of cities in Somalia appear to have been mostly at peace and enjoyed some degree of economic development. In contrast, high levels of violence concentrated in Mogadishu have severely depressed the economy in the city where humanitarian aid agencies have been located (Shortland et al., 2013). Limited research into the micro-level foundations for conflict duration suggests that a self-reinforcing, symbiotic association emerges between poor household economics and belligerents in which noncombatants draw on belligerents to protect their economic status during conflict, while armed groups derive support (which may be involuntary) from local populations.

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<sup>46</sup> For example, Somalia in 2002 and the Central African Republic in 2002 and 2006.

<sup>47</sup> Visual evidence can be seen in the geolocated patterns of conflict events illustrated in Figure 1.

The level of household support is a function of vulnerability to poverty and violence (Justino, 2009).

These findings at the micro-level support the macro-level explanation of prolonged civil war as “development in reverse”, in which war retards development, and development retards war. The resulting double causation gives rise to “virtuous and vicious circles”. Low incomes and economic contraction reduce government capacity, purchasing power of civilians, and contribute to tensions that sustain the civil war. Civil war, in turn, destroys infrastructure and increases risk to foreign investors, reducing economic growth opportunities (and hence the opportunity cost of war) even more. In contrast, elite privilege and financial gains by rent-seeking leaders of combatant organizations—often associated with civil war—increase and thereby exacerbate pre-existing grievances resulting in more support for belligerents (Hirshleifer, 2001; Collier, 2003).

Fearon (2004) offers alternative explanations for long durations in ethnic conflicts involving peripheral minorities and state-supported dominant groups over control of land, and those in which rebels have access to funding through contraband. Using game theory, Fearon argues that in these instances, credible commitment problems in negotiated settlements drive long durations. The commitment problems are due to fluctuations in state strength<sup>48</sup> and the ability of government and rebels to earn income during conflict despite the costs of fighting (Fearon, 2004).

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<sup>48</sup> African militaries, which have only existed since independence in the 1960s, are relatively weak compared to those in developed countries, with approximately 69% of the number of soldiers per 1000 citizens, and inexperienced in combat. Moreover, according to data from the US Arms Control and Disarmament Agency, many experienced an unstable decline in manpower and capabilities in the decade after the end of the Cold War. The limited data that exists also suggests these militaries often have difficulty mobilizing troops to respond to rebel threats (Herbst, 2004).

The relative capacity of belligerents, in turn, has been correlated to levels of violence, which has a nonlinear association with duration, depending on where and under what conditions security (for civilians) is reestablished in the midst of civil conflict and how it is sustained in areas of limited statehood (Chojnacki et al, 2012). Geo-referenced statistical studies of violence in African conflicts 1989-2009 show that violence against citizens by both government and rebels is highest in areas of the enemy's territory (Fjelde & Hultman, 2014); both case studies and quantitative statistical analyses have shown that rebel use of strategic violence against civilians is inversely proportional to relative capacity (strength) of rebels (Kalyvas, 2006; Wood, 2010). Akcinaroglu and Radziszewski (2013) provide evidence that high competition among private military companies (e.g., militia) supporting the state in African conflicts increases the likelihood of ending violence; conversely, lack of competition is associated with longer durations as private military companies underperform in order to maximize profits (Akcinaroglu & Radziszewski, 2013).

In summary, some of the literature argues that conflicts are most likely to be of longer duration when they occur in countries with low per capita income coupled with high levels of inequality, two to three dominant ethnic groups, easily lootable resources, and terrain that favors rebels; and when they involve multiple belligerents with relatively equal resources (usually implying low state reach) so that neither side can exact a victory; when they are involve territorial disputes; and/or when they attract foreign military intervention in support of rebels. These results are consistent with (1) economic models that emphasize net gains to be realized by conflict—where long durations are associated with low opportunity costs (which decline even further as a result of conflict), relatively



low costs of sustaining conflict, and high payoffs during conflict compared to expected payoffs of peace, and (2) security models—in which the ability to achieve military victory or commit credibly to a negotiated settlement shorten the duration of conflict. A number of factors may contribute to the cost of sustaining conflict (e.g. ethnic polarization, mountain cover, natural resources reduce costs while ethnic fractionalization and military parity increases cost), expected payoff, and commitment problems.

However, there is lack of consensus on these models, which may be due in part to interdependency between economic and security mechanisms for sustaining conflict, which require analysis of the interactions between factors driving them. For example, the literature also suggests that relative weakness of belligerents will lead to longer durations, due to lack of state incentives to provide meaningful concessions to them, and the potential high costs for doing so. The literature calls for further theoretical development and empirical analysis on the relationship between these mechanisms, as well as those between conflict duration and demographics, and the strategy for prosecuting a conflict.

### *Risk Factors for Conflict Recurrence*

Post-conflict peace is typically fragile: nearly half of all civil wars are due to episodic outbreaks of the same conflict or post-conflict relapses (Collier et al., 2008). The risk for conflict re-start is highest in the years immediately following settlement and decreases over time (Call, 2012). The literature offers multiple credible pathways to explain episodic outbreaks of the same conflict based on theoretical foundations that share causal mechanisms with both the conflict onset and conflict duration literature.

However, the risk factors associated with conflict recurrence are less clear and more contested than those proposed to explain long durations of continuous conflict.

Using survival analysis, researchers variously argue that recurrence is highly dependent on the way in which conflicts end (Licklider, 1995; Merz, 2012); the ability of parties to commit to peace agreements (Kirschner, 2010; Walter, 2010); the organizational type, comprehensiveness, and effectiveness of third party peacekeeping operations (Fortna, 2008; Sambanis & Schulhofer-Wohl, 2008); inclusiveness of post-conflict institutions (Call, 2012; Gates & Strom, 2007; Walter, 2004); and development of local capacities that increase the economic opportunity costs of returning to war (Doyle & Sambanis, 2006; Walter, 2010; Walter, 2004).

There are flaws in each of these arguments. Licklider (1995) first argued that recurrence is more likely when civil conflict ends with negotiated settlements rather than a victory by one side or the other. However, higher levels of violence or genocide often follow coups or civil wars that end in military victories, temporarily suppressing conflict but increasing risk of recurrence at a later time. In addition, most research in support of the argument that recurrence depends on the way in which conflicts end omits cases of civil war that have ended without peace agreements (e.g., Afghanistan in 2001). In assessing the role of commitment of parties to peace agreements, it is difficult to distinguish cases of tactical cease-fires from those where parties are genuinely interested in peace (e. g. Rwanda in 1993).

Associating a risk factor for conflict recurrence with characteristics of peace operations is similarly difficult in cases where the operation is considered successful but civil war still recurs (e.g., Liberia after 1997). Citing a correlation between the severity

of post-conflict risk, UN peacekeeping expenditures, and level of income at the end of a conflict, Collier et al. (2008) argue that the equitable and inclusive economic development necessary to reduce risk of conflict recurrence takes a long time, requiring an external military presence to sustain gradual economic recovery rather than a massive infusion of aid.

Other researchers argue that conflict recurrence results from security dilemmas<sup>49</sup> triggered by post-conflict factors that include power transitions, political exclusion and manipulation, redistribution of resources, and lack of state capacity or reach. They argue that the resulting fear and uncertainty among former combatants and the general populace underlie the prevalence of conflict recurrence, especially in cases where rational behavior would dictate cooperation over armed conflict as an optimal choice (Walter & Snyder, 1999). Frequently cited examples are Rwanda, Bosnia and Herzegovina, and Somalia. This theoretical framework implicitly acknowledges that conflict persistence and at least some of its drivers may change over time, calling for dynamic trend analysis beyond the scope of statistical econometric studies. For example, research suggests that the relationship between relative state capacity and the security dilemma fluctuates over time; at some times in a conflict state strength may reinforce the security dilemma, whereas at other times in the conflict it may be a moderating force, depending on the rebel capacity at the time and their control of territory (Merz, 2012).

As in the case of conflict onset and sustained conflict duration, the divergence between outcomes of empirical studies on conflict recurrence can be traced in part to

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<sup>49</sup> A *security dilemma* is a situation in which the effort of one party to increase its own security reduces the security of others. This occurs when aggression is perceived to be the most advantageous form of self-defense.

methodological issues that include the use of macro-level indicators and data coding protocols that can obscure conflict dynamics (Kalyvas, 2012)<sup>50</sup>, as well as different methods for operationalizing the dependent variable of conflict termination and restart (Mack, 2012). Geolocated conflict event datasets that have become available in recent years demonstrate that most civil conflict events are clustered geographically in relatively small areas, the majority of statistical analyses assessing conflict risk have used country-level data. Case study research has shown that that micro-level conditions within conflict zones are often poorly approximated by these country-level statistics (Buhaug & Lujala, 2005; Kalyvas, 2012; Collier & Hoeffler, 2001; Gulden, 2002; Kalyvas, 2012).

Relative capacity between belligerents and the state is a key factor across all of the literature on conflict persistence. However, measuring the distribution of capabilities on both sides, and estimating how those capabilities translate into power in the context of civil conflict is difficult and rarely addressed. In studying the relationship between rebel capacity and violence against citizens, (Wood, 2010) estimates relative capacity based on troop sizes, accounting for whether or not the state is engaged in other conflicts that

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<sup>50</sup> Examples include Angola from 1988- 1998, and Burundi from 2000-2008. Competing nationalist groups in Angola (MPLA and UNITA) signed a ceasefire agreement in 1988, but hostilities between UNITA and the government continued through 1995 when the Lusaka Protocol came into effect. Although the UCDP/GED database records 55 conflict events involving UNITA, the government, and citizens in the ensuing period from 1996-1997 that resulted in an estimated 126 deaths, the conflict is coded as “inactive” until the number of deaths exceeded the threshold of 1000 per year in 1998. Likewise, in 2000, although the Burundi government and three Tutsi groups signed the Arusha accords, Hutu rebel groups continued fighting. A second peace agreement was signed at the end of November 2003 between Hutu and Tutsi leaders but a small Hutu rebel group has remained active even amidst the presence of AU and UN peacekeepers and a strong disarmament, demobilization and reintegration (DDR) program. Following the peace agreement, there were 225 conflict events involving the government, former combatants, and civilians that resulted in an estimated 1240 deaths between 2004 and 2006. A third cease-fire agreement was signed in September 2006. The conflict is coded as “inactive” in the following year, in spite of 24 recorded conflict events resulting in an estimated 76 deaths; the conflict is coded as “active” in 2008, during which time 21 recorded conflict events resulted in an estimated 202 deaths.

dilute its capacity. This approach does not account for the asymmetric power that belligerents often have with respect to the state.

Cunningham et al address this deficiency, arguing that the asymmetry in vulnerability to attacks between belligerents and state is a key factor in the decision to resort to violence (Cunningham et al., 2009). Whereas government is clearly defeated if not in power, when challengers to the state fail to win control of territory in battle, they may withdraw into sanctuary<sup>51</sup> from where they can regroup to continue fighting. (Cunningham, Gleditsch, et al., 2009) argue that the capacity of belligerents relative to state must therefore be understood along two distinct dimensions – that of offensive strength by which they can inflict costs on the state, and that of resistive ability. Using the UCDP/PRIO Nonstate Actor Database<sup>52</sup>, they approximate offensive strength of belligerents using indicators of organization structure that favors strong leadership for organizational control and decision-making, mobilization capacity relative to the government, arms procurement relative to the government, and skill in fighting relative to the government. Resistive ability is approximated using indicators of territorial control and degree of control. Bureaucratic strength of the government has also been shown to be an important aspect of state capacity by undermining opposition strength, although it does not necessarily enhance the state cause (DeRouen & Sobek, 2004).

Other researchers use approximations of state reach as an alternative to belligerent control of territory when estimating relative capacity (Fearon, 2004; Gent, 2011).

Indicators of state reach prevalent in the literature are population density, percent of

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<sup>51</sup> Sanctuary can be territory under control of the belligerent, at the periphery of the state outside of the reach of the government; or underground blending among the local, noncombatant population.

<sup>52</sup> This database has subsequently been incorporated into the UCDP Actor Dataset, 2.2-2015, Uppsala Conflict data Program, [www.ucdp.uu.se](http://www.ucdp.uu.se), Uppsala University

population that live in urban centers, percent of population with access to electricity, density of transportation networks and distance from capital to conflict location.

In summary, the systematic examination of civil conflict persistence is relatively new in the literature. Conflict duration is variously linked to development factors, access to natural resources and contraband, and ethnic fragmentation as causal mechanisms underlying relative belligerent capacity, resilience, and choices to engage in violence or settle. A key factor in all of the literature on conflict duration is relative capacity, yet this is an understudied mechanism, with no clear consensus on how to operationalize belligerent capacity relative to the state. Likewise, data to support estimates of relative belligerent capacity is minimal.

Conflict recurrence is linked to conflict outcomes and various termination and post-conflict processes. The diversity of theories and lack of consensus for civil war onset, duration, and recurrence underscores one pertinent fact: that the dynamics of civil war are complex and its persistence is unlikely to be attributable to one or two factors or variables. As one scholar has put it, “internal armed conflicts have a nasty habit of repeating themselves and we don’t really know why” (Walter, 2004). More recently, Marine Lt. General Vincent Stewart, head of the Defense Intelligence Agency (DIA) commented, “You see nation states collapsing in the region (Middle East) and maybe going to ethnic lines, and none of us understand where that will lead five minutes from now, or five years from now”.<sup>53</sup>

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<sup>53</sup> As quoted in Naylor (2015).

## **Interventions in Conflict**

External interventions in ongoing civil conflict may be diplomatic and/or military efforts to bring about an end to fighting and support peace processes, economic sanctions and/or development aid to support resiliency and reduce conflict drivers, and humanitarian relief. These interventions may be biased or neutral. They may be primarily one dimensional, or multi-dimensional, and may involve overlapping sequencing from one type of operation to another by different actors. This thesis is concerned with the combined impact of interventions through peace operations involving a military component and foreign aid (which may include both economic and humanitarian dimensions). The following sections review relevant literature on the impact of foreign military interventions, peace operations, and foreign aid on conflict duration and outcomes.

### ***Foreign Military Interventions***

Foreign military interventions, as distinct from peace operations, are those in which armed forces enter a conflict in support of one side or the other, either as single actors or part of an ad hoc coalition. Driven by a variety of national interests and humanitarian concerns, foreign military intervention has become one of the most common types of interstate military force used over recent decades, and are present in twenty of the thirty-six conflicts included in this research.<sup>54</sup> These interventions affect not only the material capacity of belligerents and the state, but also expectations,

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<sup>54</sup> Conflicts involving single actor foreign intervention by a single actor occurred in Angola, Burundi, Central African Republic, Chad, Congo, Cote d'Ivoire, DRC, Ethiopia, Gabon, Liberia, Mali, Mozambique, Namibia, Rwanda, Sierra Leone, Somalia, Senegal, Sudan, and Algeria. Foreign interventions by ad hoc coalitions occurred in Angola, Central African Republic, Lesotho, and Somalia.

information, and the cost of coordination among belligerents, and human security of noncombatants.

Scholarly literature on the impacts of military interventions on conflict outcomes, and the resulting governing institutions, economic growth rates, and human security is nascent. Statistical studies reveal some general trends for the correlations between foreign military interventions and conflict durations and outcomes. These quantitative studies draw primarily on five different databases: the Correlates of War Project (Sarkees & Wayman, 2010), the UCDP Conflict Termination dataset (Kreutz, 2010a), the UCDP Georeferenced Event Dataset (Sundberg & Melander, 2013), the International Military Intervention (IMI) dataset (Pickering & Kisangani, 2009) and a dataset of 150 civil conflict interventions between 1945 and 1999 constructed by Regan (2002). In addition, the RAND corporation has compiled a set of twenty-two case studies of small-scale military interventions between 1970 and 2010 (Watts et al., 2012).<sup>55</sup>

As expected, the literature shows that military interventions influence the intensity, duration, and outcome of conflict by changing the relative capabilities and motivations of the belligerents, and the information that belligerents have about each other (Aydin & Regan, 2012; Balch-Lindsay et al., 2008). The literature has explored whether the direction of influence depends on the strength of the intervention and whether it supports the incumbent regime or challengers to the regime. The results discussed below are suggestive, but inconclusive, due in part to lack of robust datasets to track trends in the pre-and post Cold-War eras.

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<sup>55</sup> These case studies focused strictly on stabilization missions.



### *Impact of Foreign Military Interventions on Conflict Intensity*

Statistical analysis of armed intrastate conflicts between 1989-2005 where at least one party is the government of a state has shown that when military intervention shifts the balance of power, the level of violence employed by the supported faction against civilians decreases while violence employed by the opposed force increases in order to extract resources and deter denouncement (Wood, 2010; Wood et al., 2012).<sup>56</sup> Case study research in Vietnam supports these conclusions (Wood, 2010). However, case study research drawing on interviews with combatants in Uganda, Mozambique, and Peru has revealed an opposite tendency, where insurgents supported by foreign military are found to be flooded with opportunistic, profit-seeking joiners and less discriminate in using violence against citizens (Weinstein, 2007).

In reality, both mechanisms could be operational, resulting in escalating violence against citizens on both sides. However, in the first case, one should expect the violence to be strategically targeted whereas in the second it should be indiscriminant and opportunistic. Further research should also examine whether this depends on the country from which the intervening military force derives.

### *Impact of Foreign Military Interventions on Conflict Duration*

Several empirical studies have shown that the foreign military interventions are generally associated with longer conflict duration. Using hazard analysis of 150 conflicts from 1945 to 1999, Regan (2002) finds longer durations to be more likely for all military interventions in intrastate conflict whether neutral or biased, regardless of the number of

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<sup>56</sup> This used quantitative data from the UCDP-Georeferenced Event dataset.

intervening parties, which side(s) they support, or how they are operationalized.<sup>57</sup>

However, the relative effect of interventions varies, with interventions in support of the opposition reducing the probability that a conflict would end in the next month by 1000%, while the effect of neutral interventions on duration is weak. Subsequent studies controlling for additional variables have shown that, on average, foreign military interventions in civil wars increase time until a negotiated settlement, regardless of which side the intervention supports. In contrast, considering all civil wars between 1816 and 1997, the literature shows that if the supported side achieves a victory, interventions are likely to decrease the time until victory (Balch-Lindsay et al., 2008). Others have shown that civil conflicts since 1989 attracting competing interventions on both sides experience longer durations (Cunningham et al., 2009; Gent, 2008).

The causal relationship between foreign military intervention and duration is not known, as other factors associated with interventions could be driving the longer durations, such as conflict intensity and human rights abuses (Aydin & Regan, 2012; Cunningham, 2010; Elbadawi & Sambanis, 2000; Gurr, 2000; Regan, 2002). For example, Elbadawi (2002) shows a correlation between wars with higher fatalities and more interventions, consistent with other statistical findings on interventions and intensity. In a study of 160 intervention episodes between 1981 and 2001, both neutral

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<sup>57</sup> Regan's analysis used a constructed data set that defined conflicts on the basis of a threshold of 200 fatalities over the course of the conflict, and restricted foreign military interventions to be those that were "convention breaking". The data is drawn from the Correlates of War project, SIPRI, the Minorities at Risk project, and Sixty-six of the conflicts in the dataset experienced interventions that occurred during the Cold War (e.g., between 1944-1989), of which only three were neutral. Thirty of the Cold War foreign military interventions occurred in support of opposition forces, and fifty-four in support of government forces. Forty-five of the sixty-six conflicts experienced biased interventions on both sides. Thirty-eight of the conflicts in the dataset experienced interventions that occurred after the Cold War (e.g., 1990-1999), of which six were neutral, six were in support of opposition forces, and twenty-four were in support of government forces. Eighteen of the 30 biased interventions after the Cold War resulted in support to both sides.

and supportive foreign military interventions contribute significantly to state repression and human rights abuses in the form of extrajudicial killing, disappearance, political imprisonment and torture. Hostile interventions contribute to political imprisonment (Peksen, 2012). These negative consequences of foreign military intervention may contribute to duration through a variety of mechanisms.

The most common explanation in the literature is that foreign military interventions change the expected utility of conflict through both real and expected capability expansion that affects each actor's estimate of the chances for victory. For example, Regan (2002) employs bargaining theory to argue that the goal of foreign military intervention is the manipulation of costs of continued fighting for one or both sides so that belligerents perceive settling maximizes expected utility compared to continued fighting. Assuming that interventions on behalf of the opposition disproportionately shift the balance of capabilities towards parity,<sup>58</sup> rebel's expectations of concessions or even victory as a result of the interventions are disproportionately raised, explaining the stronger effect on likelihood of longer duration when interventions are biased.

Using the same dataset as Regan (2002), Elbadawi and Sambanis (2000) employ microeconomic theory in a model of rebellion-as-mistake to argue that external military support for combatants reduces costs of coordination, and extends conflict duration through its impact on growth in rebel forces and rebel mobilization along ethnic lines that leads to stalemate. In doing so, they distinguish between multilateral peace operations

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<sup>58</sup> Due to the typical small size of opposition forces compared to government forces, small interventions supporting opposition movements can be assumed to provide a much higher marginal increase in capability than the same support to government.

whose mission is to bring end to war, and biased third-party interventions (Elbadawi & Sambanis, 2000).

Both of the above arguments employ relative rebel capacity as the causal mechanism through which foreign interventions affect conflict duration, consistent with other literature on conflict duration. Aydin (2012) alternatively considers the numbers and intentions of the intervening parties, and whether multiple interveners engage competitively or cooperatively in balancing or bandwagoning behavior (Aydin & Regan, 2012). Their analysis of civil wars since 1945 show that interveners who engage in balancing behavior by supporting opposing sides increase war duration, while bandwagoning on the same side are effective in shortening duration only if they share similar preferences. In addition to effecting material capabilities, both types of foreign interveners are hypothesized to reduce incentives to negotiate or capitulate while increasing resolve and willingness to continue fighting.

#### *Impact of Foreign Military Interventions on Civil Conflict Outcomes*

Bargaining models common in the literature suggest that biased foreign military interventions should increase the probability of victory for the supported side. However, statistical analysis of the Regan (2002) dataset shows that biased military interventions only increase the probability of a victory when they support rebel groups (Gent, 2008). Gent (2008) explains this result by considering the conditions under which third parties intervene militarily. Both rebel-biased and government biased foreign military interventions are more likely when the government is facing a stronger rebel group. However, government-biased interventions are more likely to be the tougher cases, so that these interventions appear empirically to be less effective.

Case study analysis of twenty-two minimalist stabilization missions<sup>59</sup> since 1970 show that these interventions do not usually contribute significantly to regime success. While they may improve the odds of avoiding a regime defeat, they are most likely to lead to military stalemate accompanied by longer durations, and may worsen regime outcomes in negotiated settlements with political and security concessions to the insurgents (Gent 2010). In contrast, when insurgents lose the support of foreign militaries, the conflict tends to end quickly and result in stable peace (Watts et al., 2012).

Statistical hazard analysis of the duration of 137 post-conflict regimes between 1946 and 1996 show that foreign military interventions by themselves do not have a statistically significant effect on post-conflict political stability. However, when those military interventions entail defeating a state and imposing a regime change, they are politically destabilizing in the long term, regardless of whether or not the new regime is democratic (Gates & Strand, 2004). These results are contested in a study controlling for the degree of development in the country experiencing conflict and the size of the intervention. Analysis of large-scale foreign interventions<sup>60</sup> in 106 developing countries from 1960 to 2002 showed that interventions in developing democracies did not significantly affect post-conflict stability, whereas hostile interventions in non-democratic developing countries has some positive effect on subsequent likelihood of democratization and long-term economic growth (Pickering & Kisangani, 2006).

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<sup>59</sup> Small scale foreign military interventions that are either neutral or in support of a regime, launched both during the period of active conflict and in the immediate post-conflict period.

<sup>60</sup> Large-scale interventions are those with at least 1000 intervening troops.

## ***Peace Operations***

### *Peace Operations, Conflict Duration, and Outcomes*

Most of the literature on peace operations in conflict generated prior to 2000 concerns UN presence in international disputes, with a focus on short-term goals, such as the prevention of escalation and the cessation of hostilities. This literature presents inconclusive results, which question the effectiveness of UN operations for achieving sustainable peace. Much of the quantitative literature since 2000 on the effect of peace operations on civil conflict duration and outcomes builds on a dataset for 44 instances of UN interventions (mediations, observer missions, traditional and multidimensional peacekeeping, and enforcement mission in 124 civil from 1944-1999 compiled by Doyle and Sambanis to test effectiveness of interventions based on three dimensions of what they term the “ecological space for peace”—the depth of war-related hostility, a country’s capacities for peace, and the available international assistance. In their original study, Doyle and Sambanis found that multilateral UN enforcement operations are usually successful in ending violence (Doyle & Sambanis, 2000). De Rouen’s analysis of this dataset using multinomial regression and competing risk survival analysis finds that UN intervention decreases the probability of both government and rebel victory, while increasing the likelihood of a treaty or truce (DeRouen & Sobek, 2004).

### *Peace Operations, Conflict Recurrence and State Building*

Doyle and Sambanis conceptualize peacebuilding as international capacities that compensate for lack of local capacity to mute the hostilities of civil war. The risk of peacebuilding failure is high in countries with low levels of local capacities, slow economic growth, high poverty, significant resource dependence, and high

fractionalization (Doyle & Sambanis, 2006). Using game theory, they formulate sustainable peace as the outcome of a dynamic process shaped by peacekeeper's performance, the structure of peace operations, and the parties' reactions to those efforts. Whether or not the conflict has become internationalized, the perceived neutrality and resources of peace operations, and the successful reconstruction of legitimate state authority may, substantially shape pay-off structures for potential spoilers.

Doyle and Sambanis (2006) capture these effects in simple model where the probability of peacebuilding success is the product of international capacities and net local capacities, where net local capacities is the difference between local capacity or development potential<sup>61</sup> minus war-generated hostilities,<sup>62</sup> and metrics for international capacities are the presence and mandate of UN peace operations,<sup>63</sup> and foreign economic assistance.<sup>64</sup> They find that peacebuilding success is lower after ethnic and religious wars; is negatively and significantly correlated with level of hostilities<sup>65</sup> and with share of primary commodity exports in GDP and reliance on oil exports. Local capacities are only weakly correlated with peacebuilding success; the effect of economic assistance cannot be ascertained with the available data used for the proxy. Traditional peacekeeping missions are perfectly correlated with failure. However, strong UN peacekeeping operations that combine multidimensional and enforcement missions are

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<sup>61</sup> Proxies for local capacity are electricity consumption per capita and the annual rate of change in real GDP per capita, dependence on natural resources, and infant mortality.

<sup>62</sup> Proxies for hostilities are number of deaths and displacements, factions, war type, and war outcome.

<sup>63</sup> UN Mandate is a proxy for mission's strength, technical and military capabilities and level of international commitment.

<sup>64</sup> Lacking comprehensive data for international aid from all sources for all the cases in their dataset, Doyle and Sambanis used the ratio of net current transfers per capita to balance of payments of the country as a proxy for international assistance.

<sup>65</sup> This correlation loses its significance if refugees and internally displaced is not included; it is also sensitive to extreme outliers.

positively correlated with peacebuilding success and reduced violence, although the effect is not as strong as positive economic development and opportunity. **They conclude that the policy gap between peacekeeping and economic assistance through humanitarian aid and development assistance is a key factor in the success or failure of peacebuilding strategies.**

Using the Doyle and Sambanis (2006) data of 34 UN peace operations and 44 non-UN peace operations, and building on their ecological model of peacebuilding, (Sambanis & Schulhofer-Wohl, 2008) examine effects of UN and non-UN peace operations through a framework of cooperation and coordination, positing explanatory variables of, local capabilities, and international capabilities,<sup>66</sup> while controlling for hostility levels (measured as log of number of deaths and displacements). Logistic regression analyses show that non-UN peace operations alone have no significant effect on peacebuilding success,<sup>67</sup> while UN operations have a large positive effect. However, effectiveness of UN is highly dependent on where the troop contributing countries to the UN operations are from. The presence of a non-UN peace operation in the same conflict may complement the effectiveness of a multidimensional UN operation.

Most studies on the effectiveness of peace operations uses mission mandate as proxy for capacity, on the assumption that troop strengths and budgets are correlated with mandate. Research by Hultman et al. (2015) using monthly numbers for troops strength shows that the number and type of military personnel deployed to peace operations is

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<sup>66</sup> Mandate of the international operation is again used as an assumed proxy for international capacity, based on the assumption that mandates are correlated with numbers of troops and budget.

<sup>67</sup> Peacebuilding is coded as a success if conflict has not recurred 2 years or more after the UN has left, there is no residual violence (e.g., 200 deaths or more per year) or mass violations of human rights, no divided sovereignty, and participatory peace holds with polity scores of 2 or greater. Note that this would exclude Rwanda as a peacebuilding success, due to low polity scores. .



strongly correlated with the risk of conflict recurrence. Using georeferenced, monthly data of African civil wars between 1989-2010, their analysis indicates that the duration of peace is extended as more armed troops are deployed to post-conflict zones (Hultman et al., 2015). These results are consistent with Collier et al. (2008), who found that doubling the expenditures on peacekeeping troops in post-conflict settings reduces the risk of conflict recurrence from 40% to 31% (Collier et al., 2008).

### *Causal Mechanisms Associated with Peace Operations*

Building on the work of Doyle and Sambanis, and adding additional control variables for availability of illicit financing, external alliances, and internationalization of the conflict, Fortna finds that the risk of civil conflict recurrence within the first five years after cease-fire in 60 civil wars from 1989 to 1999 is less when UN peacekeepers are present than when belligerents are “left to their own devices” (Fortna, 2008). Fortna’s research not only asks the question of whether UN peace operations work, but also how they work, finding that the causal mechanisms are consistent for both consent-based and enforcement missions. These mechanisms are predicated on assumptions about pathways by which belligerents return to war: aggression facilitated by contraband financing, fear and mistrust, accident or the actions of rogue groups, and political exclusion. Successful peace operations accordingly are those that change incentives for aggression relative to maintaining peace, alleviate fear and mistrust, prevent or control disruption or accidents by spoilers, and dissuade political abuse and exclusive politics.

Fortna’s case study research with the peace kept in Mozambique, Bangladesh, and Sierra Leone supports these four primary mechanisms. Incentives may be changed economically through peace dividends, politically through improved perceptions of

legitimacy, and/or militarily through deterrence, monitoring, and enforcement.

Monitoring missions facilitate communication that allows the peace-kept to signal intentions for peace, thereby alleviating security dilemmas that give rise to fear and mistrust. Peacekeeping troops may additionally deter rogue groups and shift power towards moderates, provide on-the-spot mediation, law and order, and alternatives to escalation in response to alleged violations. Drawing on conflict-bargaining literature, Hultman et al. (2015) support Fortna's hypothesis, arguing that the effect is a result of peacekeeping troops ability to mitigate commitment and information problems (Hultman et al., 2015).<sup>68</sup>

Most of these studies on the effectiveness of peace operations concern deployment of troops after some type of cease-fire or settlement has occurred, and measure success by the duration of peace. Hultman et al. (2014) examine cases of UN peacekeepers deployed to active conflicts, where the measure of success concerns reducing the level of hostilities during conflict to create space in which to negotiate peace and addressing humanitarian concerns. In a sample of civil wars in Africa from 1992-2011, they show that in this context, increasing numbers of armed military troops are associated with reduced battlefield deaths, while police and observer missions are not (Hultman et al., 2014). As a result, the effectiveness of peace operations involving armed troops may be due in part to reduction in hostilities, according to the ecological model of Doyle and Sambanis.

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<sup>68</sup> This literature builds on the argument that civil wars endure because of information asymmetries and commitment problems (Fearon, 2005; Fearon & Laitin, 2003) and portrays conflict as a way to gain information about another's resolve and strength in a bargaining contest over the division of disputed resources (Filson and Werner, 2002; Ramsay 2008; Slantchev, 2004).

Examining cases of civil conflict from 1946-2005 recorded in the UCPD/Prio Armed Conflict dataset, Beardsley (2011) finds that the presence of international peacekeepers also reduces the risk of conflict contagion by securing borders to reduce transnational movement of and support for insurgencies in neighboring rival states (Beardsley, 2011).

In summary, multidimensional, armed peace operations by the UN in countries experiencing civil conflict are strongly correlated with less risk of conflict recurrence and lower conflict intensity, while the effectiveness of peacekeeping and observer missions is ambiguous. UN presence is more likely to result in a treaty or settlement, rather than a victory, and as a result is correlated with longer conflict durations prior to peace.<sup>69</sup> Causal mechanisms for successful peacebuilding are likely to include reducing the security dilemma by solving information and commitment problems, reducing spoiler opportunities, and mitigating conflict diffusion to neighboring regions. However, these results are dependent on contextual factors that include the number of belligerent factions, presence of other international actors, local capacities, availability of foreign economic assistance, and capabilities of the troop contributing countries and their perceived neutrality. Non-UN peace operations alone to date have not been effective at sustaining peace, but may be complementary to UN missions. An important gap in the literature addressed by this thesis is the combined effects of actual foreign aid received (rather than using economic indicators as proxies) and the presence of other international actors as either complementary peace operations, and/or or foreign military interventions.

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<sup>69</sup> This conclusion may be due to the fact that UN peace operations are most often deployed to the most difficult cases, as shown by Fortna (2004).

### ***Foreign Aid***

Three dimensions of foreign aid considered in this research are development, humanitarian, and military assistance. All three are tools of foreign policy used by advanced countries to advance national security interests, address humanitarian concerns, and prevent conflict. At the end of the Cold War, foreign aid to Africa shifted away from security assistance to strengthening democratic institutions and the rule of law, and inclusive economic development that would break the conflict trap (Orr, 1992). At the same time, as was noted earlier, the percentage of that aid going to countries experiencing recurring conflict has been steadily increasing. In order to save lives in these active conflict settings, humanitarian relief efforts must risk fueling conflict through a variety of mechanisms that include emergent entrepreneurial activities around aid delivery and the misappropriation and theft of aid assets (Anderson, 1999; Weiss & Collins, 2000).

The literature reports mixed results on the effectiveness of foreign aid in reducing the risk of conflict onset, duration, and recurrence. For the most part, development aid has so far failed to live up to expectations or potential for reducing poverty and promoting good governance and economic growth in recipient countries that are in most need and at highest risk of conflict (Busse & Gröning, 2009; Collier & Dollar, 2002, 2004; Lensink & White, 2000). The literature is accordingly concerned with mechanisms and necessary conditions for improving overall net effectiveness of aid to improve human security in conflict settings, and the consequences of not doing so.

The underperformance of aid as a conflict prevention tool may be attributed in part to policies that preference aid delivery to countries with “good” policies that support economic growth (Burnside & Dollar, 2004), competing needs among donors for

disbursing foreign aid, such as international crises involving terrorism, political conflicts and strategic alliances, spread of infectious disease, and major domestic economic problems (Lancaster, 2008), and competing, non-aid policies of donor countries that may negatively affect the economic and political systems of recipient countries (Booth, 2012). Other factors that impede aid effectiveness for conflict prevention include lack of absorptive capacity<sup>70</sup> on the part of donors and recipients, corruption, lack of ownership or salience within recipient countries, and radical changes in the aid architecture over the past 25 years that have made coordination and transparency among donors more complex (Collier & Dollar, 2004; Boone, 1996; Booth, 2012; Kharas, 2009; Lamb & Mixon, 2013).

Theoretical foundations underlying the relationship between absorptive capacity and economic development are grounded in terms of inputs and prerequisites required for growth, and the limitations and constraints that impede it (Adler, 1966; Chenery & Strout, 1966). Since the end of WWII, when the international community first embraced the concept of using foreign aid from wealthy countries to poor countries as a tool for peacebuilding through economic growth, prerequisites have consistently focused on human factors such as health, education, and technical competence; governance factors,

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<sup>70</sup> Within the international development community, absorptive capacity is most often defined as the ability of recipient countries to use foreign assistance to grow their economies, improve the quality of life, reduce violence, and recover from disasters. Absorptive capacity is one of the measures commonly used by donors to assess appropriate and efficient levels of aid, yet no single standard assessment tool exists. While the World Bank uses the Country Policy and Institutional Assessment (CPIA) index as a first approximation for rating absorptive capacity, many other measurement frameworks exist, such as the State Fragility Index published annually by the Center for Systemic Peace at George Mason University, the Fragile States index published annually by *Foreign Policy* magazine, the US AID indicators and methods strategy for ranking for fragile states, the Peace and Conflict Instability Ledger published annual by the Center for International Development and Conflict Management at the University of Maryland, and the Ibrahim Index of African Governance, recently launched by the Ibrahim Foundation. Thanks to Dr. Bob Lamb of CSIS for insights and background data on this discussion.

such as political stability, leadership, equality, and inclusiveness; and economic factors such as domestic capital and macroeconomic policy. However, the theories linking these factors to growth and poverty reduction have fluctuated over the years and remain contested today. As official development assistance (ODA)<sup>71</sup> rises worldwide, research and donor programming in recent years has placed special emphasis on understanding the relationship between absorptive capacity of recipients, conflict, and resilience (Buston & Smith, 2013; Cliffe & Roberts, 2011).

Theoretical foundations underpinning the concept of resiliency that is popular in today's aid programming community derive from socio-ecological research from the 1960s and 1970s that examined ecosystem dynamics in the presence of expanding human social systems, and resulted in innovative policy and management approaches based on the concepts of resilience and sustainability (Folke, 2006; Holling, 1973). The resilience perspective shifts policies from those that aspire to control change, to managing the capacity of social–ecological systems to cope with, adapt to, and shape change where the future is unpredictable and surprise is likely (Gunderson et al., 2002). Socio-ecological research conceptualizes resilience as a system (or subsystem) property that is a function of structure and capacity, as measured through attributes of latitude, resistance, precariousness, and panarchy (Walker et al., 2004).<sup>72</sup> These attributes in turn explain the vulnerability, adaptability or transformative capacity of the system in response to chronic

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<sup>71</sup> ODA includes all types of aid that is provided by official agencies, including state and local governments, or by their executive agencies, but not aid directly provide by NGOs or private foundations. Military aid is excluded.

<sup>72</sup> Latitude is the maximum amount a system (or its subsystems) can be changed before crossing a threshold which, if breached, makes recovery difficult or impossible; resistance is the ease or difficulty of changing the system; precariousness is how close the current state of the system is to a threshold (Walker et al., 2004); panarchy is the degree to which cross-scale interactions among elements affect adaptive cycles of growth, accumulation, restructuring, and renewal (Gunderson & Holling, 2001).

stressors, exogenous disruptions and surprise (Brooks et al., 2005; Dalziell & McManus, 2004; Gallopin, 2006; Gunderson et al., 2002; Olsson et al., 2004; Walker et al., 2004).

US AID defines resilience as the ability of people, households, communities, countries and systems to mitigate, adapt to and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth (USAID, 2013). US AID and others in the donor community are currently engaged in research to understand the operational relationship between resiliency and local drivers of change, risk and sustainability, and to develop and measure more robust indicators of resiliency of local actors and the systems within which they are embedded in response to capacity-building strategies. For example, survey research by Mercy Corps has found that greater resilience to food shocks in Somalia is associated with women's participation in household decisions, households with greater social capital across clan lines, livelihood diversification across independent income sources, access to basic services including water and cell phone service, and higher performing local institutions (Mohamud & Kurtz, 2013b). Other research sponsored by Mercy Corps explores how the use of mobile technologies to deliver humanitarian assistance might increase resilience of aid recipients in conflict settings (Murray & Hove, 2014). At the macro level, the World Bank is engaged in research to explore how policies can increase resilience of fragile states to trade shocks so as to avoid conflict (Cali, 2015).

There are diverging views in the theoretical literature on whether and how these local absorptive capacities interact with aid flows to affect the risk of conflict onset and resilience during and after conflict. Some researchers assert that although aid may be inefficient as a conflict prevention tool, it does not increase the risk of conflict onset and

may actually shorten conflict duration. De Ree and Nillesen (2009) find that when controlling for country specific factors (e.g., primary commodity dependence, GDP per capita, and polity), foreign aid flows have a statistically significant and economically important effect of on shortening the duration of ongoing civil conflicts in sub-Saharan Africa, but not on conflict onset (de Ree & Nillesen, 2009).

Challengers to this view argue that when absorptive capacity of the state is low, foreign aid can further weaken institutional capacity through increased dependence, and cause reallocation of resources away from production while inducing a struggle between rent-seeking elites over distributive shares (Grossman, 1992; Knack, 2001; Svensson, 2000). As in the case of governments with low tax revenues and high dependence on natural resource extraction, those in power avert armed conflict with potential challengers through either co-optation through resource sharing with a parasitic clientele, or deterrence through a strong military (Collier & Hoeffler, 2007; Fjelde, 2009; Smith, 2008). Both strategies tend to deplete the resilience of the general population, while increasing risk of violent conflict when they fall short or become difficult to uphold.

Empirical evidence supports these arguments under certain conditions. Using data from 1960 – 2004 from the UCDP/PRIO dataset on armed conflict and from the OECD on disbursed ODA as a percentage of gross national income (GNI), Sollenberg (2012) finds that high levels of aid increase the probability of armed conflict between elites inside and outside the government in states with fewer checks and balances, but finds no corresponding effect in states with higher institutionalized constraints on leaders, or when levels of aid are low relative to GNI. On the other hand, analysis of bilateral and multilateral data from AidData.org between 1981 and 2005 show that negative aid shocks



can significantly increase the probability of armed conflict onset.<sup>73</sup> Nielsen et al. (2011) attribute this to the government's inability to credibly commit to future resource transfers to potential rebels (Nielsen et al., 2011). Alternative explanations are that aid shortfalls accelerate and intensify competitive rent-seeking behavior to the point of sustained violence between elites inside and outside government, that may include "shadow states" comprised of military, organized criminal networks, or other actors free-riding on the economy of violence (Bates et al., 2002; Reno, 2000; Sollenberg, 2012).

During armed conflict, absorptive capacities of the state for aid are degraded to the extent that state attention, resources and infrastructures are diverted to the conflict. The International Development Association (IDA) of the World Bank accordingly assesses absorptive capacity for development assistance in three different stages of engagement relative to conflict environments: a watching period during active conflict or its immediate aftermath, a transitional period during which time countries are moving out of immediate post-conflict environments, and stable post-conflict development environments (*Aid Delivery in Conflict-Affected IDA Countries: the Role of the World Bank*, 2004).

In the midst of active conflict, aid programs transfer resources representing wealth and power into a resource-scarce environment, with the potential to cause even greater harm than good (Anderson, 1999). In the "watching phase" of active conflict, when absorptive capacities are lowest, the need for humanitarian aid is greatest and induces a

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<sup>73</sup> AidData.org was formed in 2009 as a partnership between the College of William & Mary, Development Gateway, and Brigham Young University to fill a critical gap for scholars and policy makers to address development investments and results. As of 2016, AidData.org maintains a searchable portal in collaboration with additional partners to track over \$40 trillion in global funding for development and make the results available to the public. See AidData (2016).

surge in demand for these capacities. Case studies in Liberia, Somalia, Rwanda, Burundi, Bosnia, Yemen, Afghanistan, Cambodia, to name a few, provide ample evidence that the aid delivery networks that emerge to supply the demand are frequently reliant, directly or indirectly, upon belligerents, mercenaries, corrupt officials, and other shadow state actors that once formed, become endogenous to social, political, and economic system (Grünewald, 2012; Moore, 1998; Shawcross, 2000; Shearer, 2000). These delivery structures can involve many layers of gatekeepers and warlords that extract delivery taxes and siphon away the majority of the aid assets. In many cases, donors know this and expect only a fraction of their shipments to be delivered to those in need. For example, estimates are that as much as 50-80% of aid in Somalia is regularly diverted; in Liberia, an estimated 15% of aid was diverted to Charles Taylor alone as a tax (Attree, 2016; Groenewald, 2016; Lindberg & Orjuela, 2011).

Aid diversion and conflict can become a mutually self-reinforcing process, with the well being of aid recipients becoming symbiotically dependent on structures that reinforce the adaptive capacity and resilience of belligerents and other violence entrepreneurs who have a vested interest in maintain conflict (Andreas, 2009; Reno, 2000). These structures and actors, once established, create their own reinforcing feedback loops that can contribute to conflict persistence. The degree to which they contribute to conflict persistence across different conflicts and conditions is contested however, and remains an open question of research. This is due in part to the difficulty in isolating and measuring the effects of aid on conflict mechanisms<sup>74</sup> across different types

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<sup>74</sup> Various mechanisms explored in the literature include material effect on capacity; uncertainty effect on bargaining; and structural effect on control of resources.

of conflicts with complex operations that include military and peacekeeping troops and other actors with competing interests (Borton, 2009; Narang, 2015; Prendergast, 1996).

The international aid community is not blind to these dilemmas. In addition to “do no harm”, they generally operate under the principle that humanitarian relief should be judged against international humanitarian law, which gives civilians certain basic rights, including protection in armed conflicts. For example, in addition to advocating that programming consider the side effects of interventions, assessing the net impact in deciding whether to work in any given situation, Oxfam asserts no responsibility to provide aid where the net impact is negative, or to those who violate international law. They argue that if governments fail in their responsibilities to protect civilians, this does not give aid agencies the responsibility of filling the vacuum; but it does mean that they should campaign for governments to act (Bryer & Cairns, 1997).

These principles for aid programming and delivery have been challenged in recent years by the increasing use of humanitarian aid as a conflict management tool (Borton, 1998). In some cases, major Western donors (e.g., US, UK, and the EU) have hijacked foreign aid to pursue their own security objectives in the battle for “hearts and minds” rather than development and the alleviation of poverty or misery. At the same time, they impose competing and sometimes clashing priorities on aid recipients, eroding the capacity of some of the world's neediest governments (Woods, 2005). Since 2001, the war on terror has exacerbated these challenges. To date, such hearts and mind strategies through aid have not been proven effective.

For example, surveys among more than 10,000 households in Uganda, Nepal, the DRC, Afghanistan, Sierra Leone, South Sudan, Pakistan, and Sri Lanka sponsored by the

Secure Livelihoods Research Consortium (SLRC)<sup>75</sup> show that aid recipients often feel that their priorities are not taken into account, and that transparency in aid distribution matters more in fostering feelings of security and well being than who provides the aid (Bennett & D'Onofrio, 2015; Mazurana et al., 2014). In longitudinal studies of 80 communities in Afghanistan, Bohnke and Zurcher (2013) similarly find that aid does not increase perceived security or foster positive attitudes towards international actors. While they do find that aid may be positively correlated with perceptions of state legitimacy, it is also associated with increased threat perception (Böhnke & Zürcher, 2013).

Increased threat perception may be due to the relationship between aid and increased violence in conflict. Several recent studies provide insights on the causal mechanisms and circumstances under which aid can lead to increased violence. Aid creates incentives for armed actors to intentionally target civilians for violence not only when it provides opportunities for looting, but also when it creates challenges to the power or authority of belligerents. Disaggregated data on aid and conflict violence in post–Cold War conflicts provide strong support for the argument that humanitarian aid is associated with increased rebel violence against citizens but less support for the relationship between aid and state violence (Wood & Sullivan, 2015). In a cross-national, time-series data analysis of 154 countries for the years 1970 to 2007, Choi and Salehyan (2013) demonstrate that the infusion of aid resources for refugees is associated with increased looting and attacks by militant groups on foreign aid workers and those

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<sup>75</sup> The SLRC was established in 2011 as part of the Overseas Development Institute with the aim of strengthening the evidence base and informing policy and practice around livelihoods and services in conflict. <http://www.securelivelihoods.org/content/2191/About-Us> Retrieved February 20, 2016.

who support them (Choi & Salehyan, 2013). Strandow (2014) finds that violence induced by aid in conflict depends on the funding concentration and susceptibility to diversion. High barrier aid and greater funding concentrations is correlated with increased fatalities among combatants. However, he finds that funding concentration has no impact on fatalities among noncombatants (Strandow, 2014).

There is widespread acknowledgement among the aid community that civil society<sup>76</sup> is an underutilized resource for increasing aid effectiveness and reducing its negative impact, with a trend to push for increasing participation of local partners (Gizelis & Kosek, 2005; Walker et al., 2014). However, research on efficient allocation of resources to civil society to increase absorptive capacity in conflict settings without introducing unintended consequences is nascent and lacks a consistent theoretic framework (Lamb & Mixon, 2013). In a comparative study of 13 cases,<sup>77</sup> Paffenholz (2010) finds that civil society can play a particularly important support role during armed conflict for the protection of citizens from violence, monitoring of human rights violations, and advocacy for and facilitation of these services. However, civil society is most often only turned to for socialization and cohesion functions of peacebuilding in post-conflict phases, and rarely called upon for protection and service delivery during armed conflict (Paffenholz, 2010). She advocates for more initiatives that include civil society in these functional capacities, and that aid projects systematically integrate these goals for maximum effectiveness, contrary to current practices.

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<sup>76</sup> Civil society includes a wide range of actors from professional associations, clubs, unions, faith based organizations, NGOs, as well as traditional and clan groups. Excluded groups are the media, businesses, and political parties.

<sup>77</sup> Case study research was conducted in Cyprus, Guatemala, Turkey, Sri Lanka, Afghanistan, Nigeria, Somalia, Israel/Palestine, Northern Ireland, Bosnia-Herzegovina, DRC, Tadjikistan and Nepal.

In summary, theory and evidence support a variety of mechanisms for aid as a conflict prevention tool, as a source of conflict, and as a conflict enabler. While the principles for counteracting mechanisms through which aid increases conflict are generally understood (security, transparency, accountability, absorptive capacity), pressures generated by conflict settings and among the donor community often constrain strict adherence to these principles, with policy choices often conforming to the “least bad” principle rather than the “do no harm” principle. Research to advance understanding of the interactions between causal mechanisms in conflict that determine how aid, on balance, may increase human security and resilience without contributing to the resilience of belligerents and exacerbating conflict has been hampered to date by lack of longitudinal data of sufficient granularity and quality for comparative analysis. The AidData.org, as discussed in Chapter 2 and Appendix B, is currently addressing this need.

What is the effect of foreign aid—both development and humanitarian—in the immediate, fragile post-conflict environment, when belligerents have, at least temporarily, given up violence in favor of negotiation, accommodation, or compromise? Chavet and Collier (2006) hypothesize that for aid to be effective as an instrument of reform that reduces the risk of conflict recurrence, it must overcome constraints that emerge from four dimensions—elite interests relative to society, elite cognizance of optimal economic choices, elite power, and technical capacity of civil sector (Chavet & Collier, 2006). They differentiate aid as technical assistance, which augments the capacity of the public sector, from aid as finance, which affects interests. Using indicators

of income and the World Bank CPIA index to define a sample size of 233 failing state<sup>78</sup> years, they test the relative effect of technical assistance and financial aid on institutional reform considered necessary for stabilization,<sup>79</sup> where reform is measured by moving from a score of the CPIA index from below 2.5 to at least 3.0 or above on the CPIA index and has a total movement of 1.5. Hazard analysis indicates that reform only occurs if the aid relaxes binding constraints. They find that improving societal capacities through technical assistance is the most reliable for doing so in early post-conflict stages; whereas financial aid to shape elite and social interests is only effective if delivered at least 4 years post conflict. However, they also find that in too many cases donor enthusiasm seems to lead to inappropriate financial intervention too early, when absorptive capacity of recipients is still low, resulting in higher risks of conflict recurrence.<sup>80</sup>

Collier, Hoeffler and Soderman (2008) also conclude that aid can reduce conflict persistence by facilitating reforms in post-conflict settings. In a statistical hazard analysis of 74 post-conflict settings between 1960-2002, they find military expenditures on external peacekeeping forces to be the most effective mechanism by which to relax reform constraints. They find that economic development is correlated with reduced risk of conflict recurrence but that it takes a long time and must be accompanied by an external military presence sustaining a gradual economic recovery, whereas progress in

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<sup>78</sup> Failing states are defined to be those low-income states in which policy and governance is persistently low, as measured by the CPIA index.

<sup>79</sup> Aid considered was from five largest donors. This approach is common in the literature to avoid spurious variations due to donor budget fluctuations. Aid from World Bank is not included, as it is tied to CPIA index.

<sup>80</sup> In general, the absorptive capacity of aid as a percentage of GDP measured by purchasing power parity is estimated to be roughly proportional to twice the CPIA index (Paul Collier & Hoeffler, 2004). However, conflict settings are exceptions to this rule. During active conflict absorptive capacity may be less; in post conflict situations, it may be more than double the amount in normal times, but with diminishing returns in time.

political openness increases risk of conflict recurrence relative to autocratic systems (Collier et al., 2008).<sup>81</sup> They attribute these results to an underlying model of conflict that preferences the feasibility thesis over a grievance based model, and recommend aid allocations be inversely proportional to the level of income in the post-conflict country to reduce risk of recurrence.

In contrast to Collier's studies, using data from the UCDP conflict termination and recurrence dataset, econometric analysis by Walter (2010) finds no significant correlation between increased aid and either reduction in conflict duration or risk of renewed conflict (Walter, 2010). These results are robust to specification of type of aid (e.g., humanitarian, debt relief, development assistance or remittances), sector (e.g., health, education, or food security), mode (e.g., technical assistance versus direct aid), and time horizon (e.g., short versus long term). Walter cautions against drawing firm conclusions from econometric analyses, however, due to the likelihood that aid is endogenous to conflict, being offered to poor countries that are particularly susceptible to renewed civil wars. While it is true that aid may become endogenous to conflict, other studies and policy documents challenge the assertion that preference is given to countries most at risk of war (Cogneau & Naudet, 2007; Collier & Dollar, 2002; Randel, 2000).

Taking a different approach and looking at the political constraints on reform in the immediate post conflict environment, Savun and Tirone (2011) find that democratizing states receiving high levels of democracy aid are less likely to experience a recurrence of civil conflict than countries that receive little or no such external

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<sup>81</sup> This study did not test the effectiveness of foreign aid in reducing risk directly; rather used economic growth as an indicator.



democracy assistance. They explain these results as reduction in commitment and uncertainty problems among actors (Savun & Tirone, 2011).

Most studies in the cited literature on the effect of aid in conflict settings fail to control explicitly for the impact of foreign aid on corruption, which can slow growth and investment, divert tax receipts, and bias the provision of public goods—all of which can contribute to increased risk of conflict persistence. The relationship between aid and corruption is contested in the literature, with some finding empirical evidence to support the hypothesis that foreign aid is on average associated with higher corruption (e.g., Svensson, 2000), while others find the opposite trend (e.g., Tavares, 2003).

### ***Nexus Between Conflict, Peacekeeping and Aid Literature***

As the summaries above indicate, the interaction between conflict dynamics, military and peacekeeping interventions and foreign aid in conflict settings is an ongoing area of research with contested results. While some general, common themes have been developed, consensus around causal mechanisms and policy solutions are lacking (Tschirgi et al., 2010). Three types of connections between security and development interventions dominate the literature: security as an objective of development, security as an instrument in achieving development goals, and development as an instrument for achieving security goals (Stewart, 2004). Broad conclusions linking thematic and case studies suggest that these connections cannot be considered independently of one another (Collier, 2003; Tschirgi et al., 2010):

1. Structural development factors invariably introduce risks of intrastate conflict—although the patterns are different depending on context.
2. At country level, political uncertainty and instability emerge as causes rather

than consequences of development failures and insecurity (and therefore provide a key to their remedy). There is a security-politics-development nexus that is highly context specific.

3. External factors, both regional and international, have such influence that country level factors alone cannot explain conflict and development nor provide solutions.

The diversity of theories and lack of consensus on mechanisms for civil war onset, and the effect of interventions on duration and recurrence underscores one pertinent fact: that the dynamics of civil war are complex and its persistence is unlikely to be attributable to one or two factors or variables. As one scholar has put it, “internal armed conflicts have a nasty habit of repeating themselves and we don’t really know why” (Walter, 2004). More recently, Marine Lt. General Vincent Stewart, head of the Defense Intelligence Agency (DIA) commented “You see nation states collapsing in the region (Middle East) and maybe going to ethnic lines, and none of us understand where that will lead five minutes from now, or five years from now”.<sup>82</sup>

## **Principles of System Dynamics and Relationship to the Literature**

A commonly cited weakness of the literature is the inadequacy of econometric analyses alone to determine causal relationships in dynamic systems in which interventions (e.g., peace operations, military interventions, foreign aid) become endogenous to the system itself. My research addresses this weakness through a system

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<sup>82</sup> See e.g., Naylor (2015).

dynamics framework, using reference behaviors as outcomes of actions taken within particular system structures.

As introduced previously, reference behaviors reflect underlying system structures that in turn determine resiliency of conflict actors and sustainability of violence. Understanding these structures and which mechanisms cause desired changes to behaviors is a key purpose of system dynamics and is essential for effective intervention policy formulation. Most often policy analysis makes implicit assumptions, consciously or not, about these structures and their constraints in particular contexts, measures state variables within them (e.g., GDP, polity, inequality, etc.) and then predicts future behavior with or without interventions. This is a reasonable approach when structure is easily observed and casual mechanisms are well understood. However, a different approach is taken here, in which observed reference behaviors are analyzed and correlated to measures of state variables to infer hidden system structure and causal mechanisms that in turn can inform policy analysis.

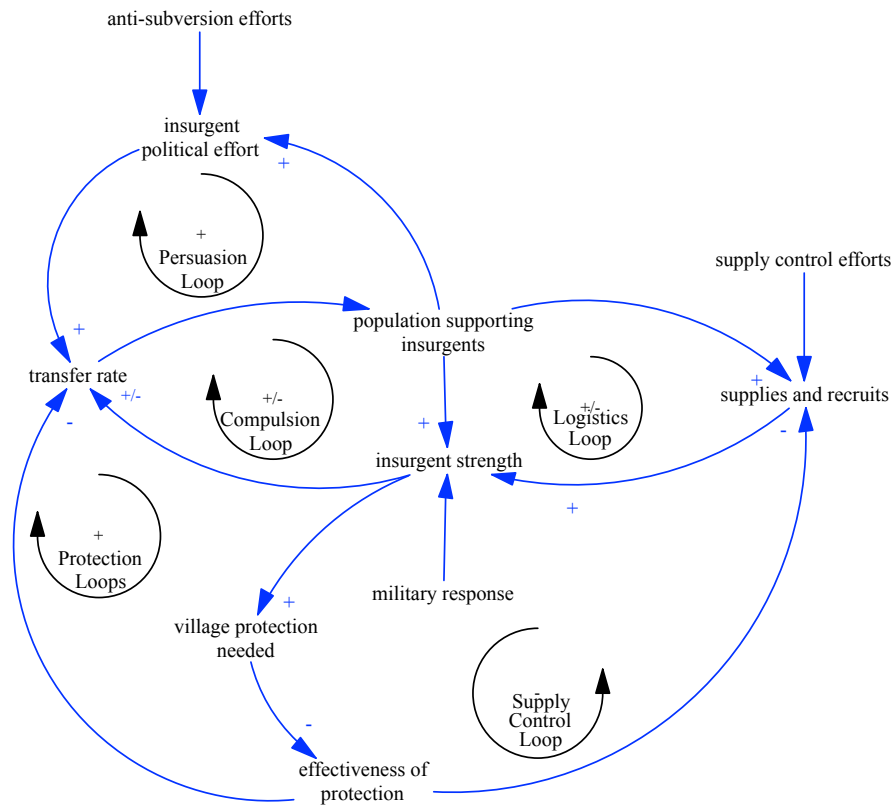
## **Previous Applications of System Dynamics to Conflict Analysis**

System dynamics has previously contributed insights to both theory testing and policy analysis for defense studies. System dynamics is frequently used by defense organizations in conjunction with other methods to conduct simulated experiments and sensitivity studies for strategic and operational military problems. While most of these applications are unpublished, Coyle et al. (1999) describe some of the applications to assessment of command and control processes, search and rescue processes, and life cycle cost analysis (Coyle et al., 1999).

Coyle (1985) developed the earliest system dynamic model of insurgency and subsequently expanded the model to analyze the complex dynamics between combatants and international actors in the Angolan conflict (Coyle, 1985; Coyle, 1998). The dominant structural features are five interdependent feedback loops – persuasion, logistics, protection, and supply control. The interaction between these loops determines capacity of belligerents, moderated by counterinsurgency strategies that include military response, anti-subversion efforts and supply control efforts (Figure 15).<sup>83</sup> The sign of the loops (e.g., balancing or reinforcing) depends on the level of these efforts in relation to parameters in additional underlying causal linkages.

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<sup>83</sup> The full model contains additional structures accounting for local versus macro needs of the population; threat perception of the state, state strength and associated allocation of resources for protecting the population and combating insurgents; and intelligence needs of insurgents.

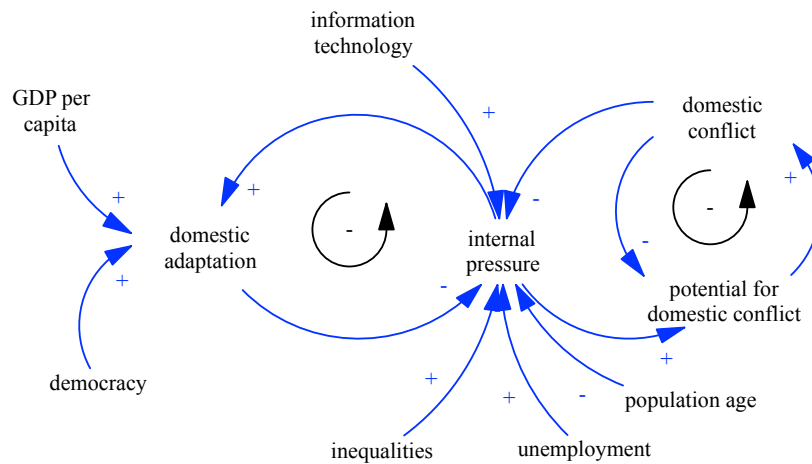


**Figure 15 Coyle (1985) Causal Loop Model of Insurgency Dynamics**

In the past decade, applications of system dynamics to conflict analysis build on this basic model, incorporating new research findings to test evolving theories of conflict dynamics and their policy implications. Diaz (2008) tests the power of greed and grievance theories for explaining conflict resistance to policy interventions in the 50-year old conflict in Columbia (i.e., state control over illicit activities, increased military investments, and political inclusion), and finds the greed model most relevant. Choucri et al. (2007) incorporate theories of radicalization in agent based modeling and system dynamics to analyze the conditions under which various policy options enhance state stability and resilience to insurgency activities in the short and long term (i.e., removing insurgents through increased intelligence sharing versus strategic communications to

reduce insurgent recruitment). They demonstrate why the removal of insurgents alone is unlikely to result in long-term stabilization. Additional conflict applications in the system dynamics literature concern problems of intelligence in counterinsurgency, counterterrorism, contagion of serial insurgencies (Anderson, 2013; Anderson, 2011; Armenia, 2014), and an extensive case study of the tensions between conflict and development in Sri Lanka (Richardson, 2005).

In the aftermath of the Arab Spring, Gallo (2013) presents a simplified model of how internal economic and political pressures lead to domestic conflict (Figure 16) that may or may not escalate to violence, depending on how much pressure can be nonviolently relieved through domestic adaptation (Gallo, 2012). This structure illustrates how the behavior depends on the relative strength of the balancing loops. If the two balancing loops are relatively equal, they can create a reinforcing loop when combined. If the variables creating internal pressure are not reduced, then exponential behavior will initially be observed, ultimately reaching s-shaped behavior, where some low-level of conflict is sustained. In reality, this structure is likely to produce oscillatory behavior due to various delay mechanisms. On the other hand, if either reinforcing loop is significantly stronger than the other, and there are saturation limits on the variables that increase internal pressure (e.g., inequalities, unemployment), then overshoot and collapse is likely to occur.

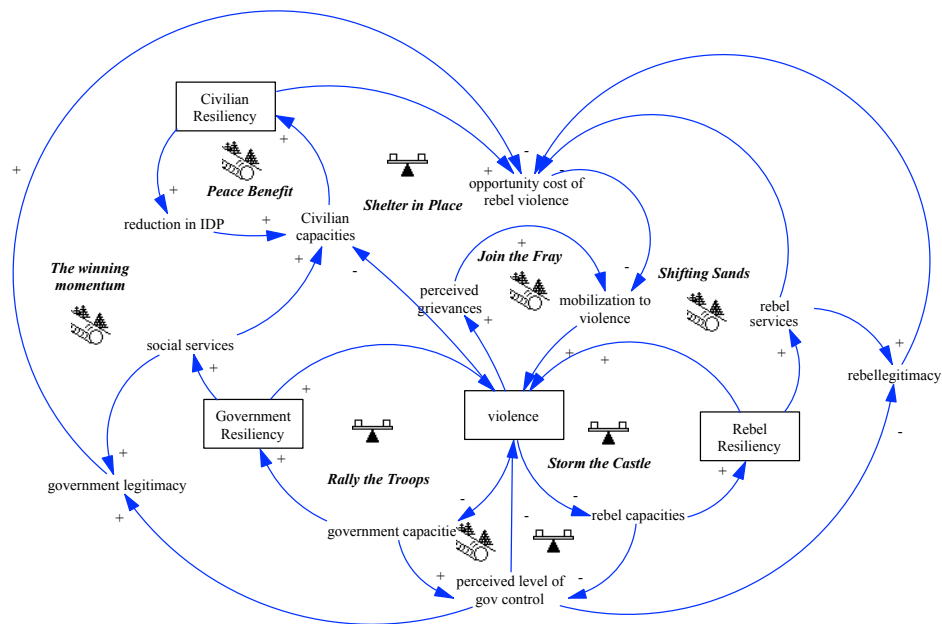


**Figure 16 Gallo Causal Loop Model of Domestic Conflict Pressures**

This model builds on literature relating conflict to adaptive capacity, resource scarcity, and stresses within society, where stresses are related to high youth unemployment, economic inequalities, and social injustice; adaptive capacities are related to GDP per capita and governance factors; and interactions between balancing loops are moderated by technology. Gallo (2013) draws on this model to conceptually explain the overshoot and collapse of governments in the early uprisings of the Arab Spring (e.g., Tunisia and Egypt) compared those that subsequently became protracted armed conflicts (e.g., Libya).

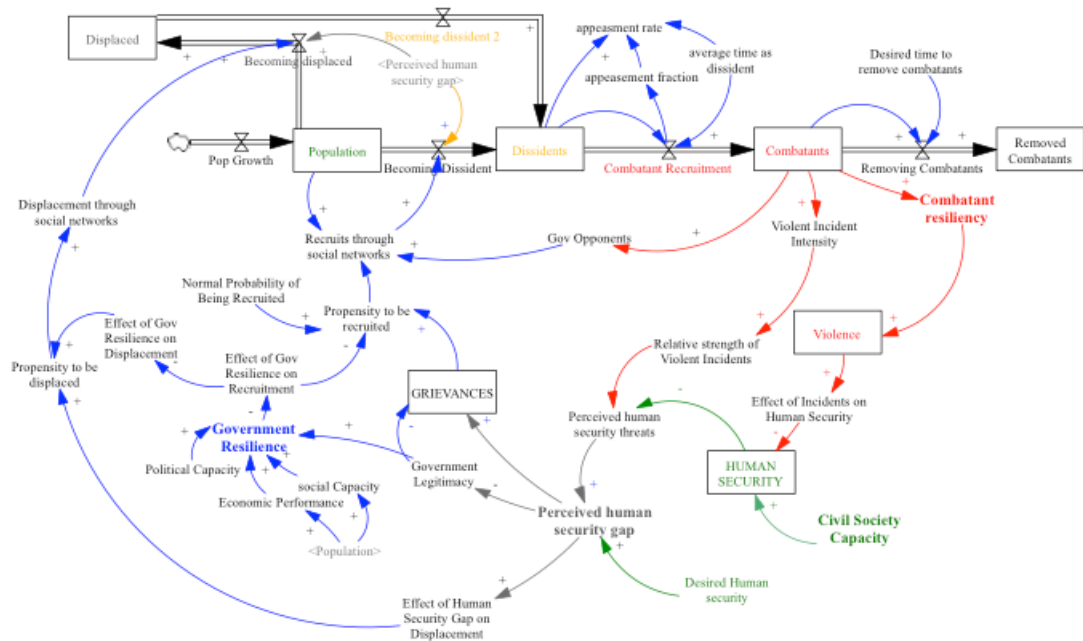
Elsewhere, I have presented the theoretically grounded models shown in Figures 17 and 18 that introduce perceived legitimacy of government and belligerents, strength of civil society, and internal displacement as an additional mechanisms affecting violence and resiliency of actors (Hayden, 2014). One of the key differences between these models and others in the literature is the displacement of the population that would otherwise feed the pool of potential dissidents. In persistent conflicts, the number of internally

displaced persons and refugees can be as high as 50% of the average population, and even higher locally. In contrast to existing models, I treat interventions by regional and international actors as endogenous variables that may change or disrupt internal structures that may affect resiliency of actors in negative and positive ways, that may lead to the emergence of new structures that become self-sustaining (e.g., war economies).



**Figure 17 A Causal Loop Model of Civil Conflict Accounting for Displaced Persons**

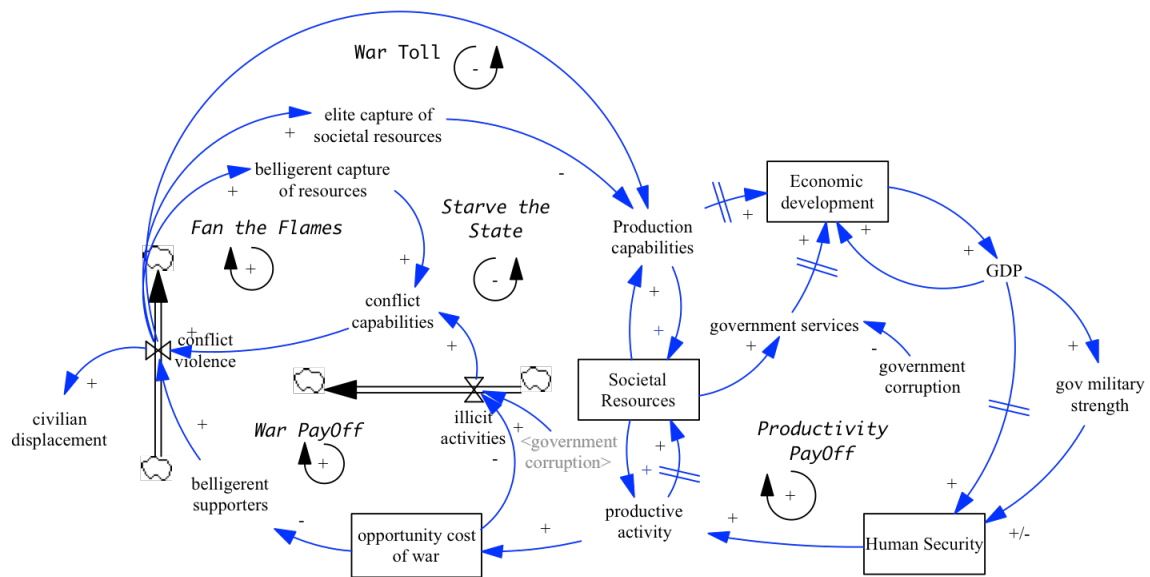




**Figure 18 Causal Loop Model of Civil Conflict Dynamics Contains Endogenous Variables Linking Individual Agency with Loops for Increased Grievances, Belligerent Capacity, Violence and Human Security**

The causal loop models shown in Figure 19 accounts for economic and political causal mechanisms theorized in the Collier-Hoeffler conflict trap and the political instability model by Goldstone et al. (2010). Key stocks are societal resources (which can be used for either productive or destructive endeavors), economic development, human security, and violence. If productivity payoffs exceed war pay offs, there will be no civil war. Factors that decrease productivity payoff include inequalities that lower human security and opportunity costs of war for marginalized groups, reduced spending of GDP on for social services, and increased rates of elite capture and government corruption. War pay off increases for belligerents who are able to capitalize on the reduced opportunity costs of war (and thereby attract supporters), while increasing their capture of societal resources and conduct of illegal activities to build and sustain capabilities. Once civil war has started, the ensuing violence drives large population displacements (due to death, disease, and loss of property), thereby further degrading

productivity payoff and human security. If the war pay-off loop is weakened through interventions, and more societal resources are returned to supporting production rather than conflict capabilities, recurring civil war is more likely than the original risk of conflict, due to the long delays (e.g., often ten years or more) in reconstituting production capabilities, economic development, and human security (measured as infant mortality rates and disease).



**Figure 19 Causal Loop Model of Conflict Trap**

The models discussed above have contributed theoretical understanding of policy resistance to intervention strategies in civil conflict, and have provided insights into individual case studies (e.g., Iraq, Afghanistan, Lebanon). However they have not been systematically and rigorously applied in comparative analysis to explain differences between conflict outcomes across multiple cases, or for developing and testing interventions. One of the difficulties in doing so is the amount of data required to

populate these complex models for comparative predictive analysis and theory testing.

A second difficulty lies in formulating a methodology to compare the explanatory power of different model structures across a sample of different conflict settings. A third is that the model complexity often makes it difficult for policy makers to understand their implications. The methodology developed in this research is a step towards overcoming these difficulties by integrating econometric methods with the system dynamics approach in a way that can be directly related to policy implications.

## Chapter 2: Research Methodology

### Overview

The complex and dynamic nature of civil conflict challenges any single research method for providing robust explanations of observed behaviors and insights into causal mechanisms to inform policy, as noted by (Kalyvas, 2008), who writes:

“However, despite these advances much remains to be understood. On the one hand, the conceptual foundations of our understanding of civil wars are still weak; on the other hand, econometric studies have produced very little in terms of robust results – the main one being that, like autocratic regimes, civil wars are more likely to occur in poor countries. The problems of econometric studies are well known: their main findings are incredibly sensitive to coding and measurement procedures; they entail a considerable distance between theoretical constructs and proxies as well as multiple observationally equivalent pathways; they suffer from endogeneity; and they lack clear micro-foundations or are based on erroneous ones.”

To address concerns of endogeneity, the distance between theoretical constructs and proxies that makes determination of causal mechanisms difficult, and the problem of multiple equivalent pathways, I combine quantitative econometric analysis with the framework of system dynamics to test hypothesized dominant causal mechanisms that explain correlations between conflict persistence and risk factors at different scales of analysis. Quantitative regression analysis provides macro level comparative analysis between conflict outcomes over a twenty-five year period. Preliminary conclusions from quantitative analysis are further explored in a case study of the Somalia conflict that allows within-case comparative analysis of causal mechanisms at a mesa-level, that are

further explored through field research regarding causal mechanisms in the Somalia conflict at an individual, micro-level.

The construct of the econometric analysis implicitly assumes independence among hypotheses. In reality, the risk factors and causal mechanisms associated with each hypothesis co-evolve as noted by Kalyvas (2008). Risk factors and inferred causal mechanisms from the hypothesis testing through regression analysis are incorporated into the system dynamics model for exploring how these mechanisms co-evolve.

Combining quantitative and qualitative analysis at different scales provides insights for understanding path dependencies over time and differentiating among causal mechanisms to guide more effective and efficient policy interventions. The methods employed at each of these scales are discussed below. Data sources, which included extensive archival investigation, practitioner interviews, fieldwork, and the construction of original quantitative data sets, are then summarized.

## **Comparative Macro-Level Analysis Using Quantitative Regression**

### **Refinement of Hypotheses**

A striking feature of trends in event data for violent armed conflict in Africa over the past 25 years is the manifestation of archetypal reference behaviors associated with structural system dynamics that suggest different influences of underlying causal mechanisms for conflict persistence. These reference behaviors differentiate between long durations characterized by exponential growth and those characterized by sustained, but bounded, oscillations; and between shorter durations characterized by overshoot and collapse from within, and those characterized by strong conflict dampening by force

(Figure 2, Chapter 1, and Table 1, Chapter 1). The hypotheses proposed in Chapter 1 predict risk factors most likely to be associated with overshoot and collapse, damped impulse, exponential and oscillatory. The purpose of the quantitative regression analysis is to test these hypotheses by determining the correlation of risk factors for conflict persistence with the likelihood of the reference behaviors, and in so doing infer insights into relative strengths of associated causal mechanisms. The theoretical assumptions for inferring causal mechanisms from structural dynamics associated with risk factors were summarized in Table 2 below.

The reference behaviors of conflicts are treated as the dependent outcomes in multinomial logistic regression analysis to test correlations between risk factors posited in H-A, H-B, H-C, H-D (Chapter 1, p 21-25) for those outcomes. The risk factors are associated with three categories of causal mechanisms in the literature for conflict onset and durations – those related to endogenous country level characteristics, those related to conflict characteristics, and those introduced by external intervention factors. To isolate the relative influences of the causal mechanisms each of these categories, correlations with risk factors associated with country level characteristics are tested in isolation from the other categories; risk factors associated with both country level characteristics and conflict characteristics are then tested; risk factors associated with country level characteristics and intervention characteristics are tested in isolation from conflict characteristics; and then combinations of significant risk factors from among all categories are tested. This requires refinement of hypotheses proposed in Chapter 1 for likelihood of each behavior group as follows:

H1: All else being equal, observed behavior patterns of conflict persistence (e.g., overshoot and collapse, or outcome behavior A; damped impulse, or outcome behavior B; exponential growth, or outcome behavior C; oscillatory behavior, or outcome behavior D) can be explained by country characteristics associated with conflict risk and duration: *size and rate of growth of economy, state reliance on commodity exports, state reach and capacity, depth of poverty, social cohesion, ethnic polarization, geographic sanctuary available to belligerents, strength and inclusivity of government institutions.*

Reference Behavior	GDP per cap	GDP Growth	Poverty Depth	Equality	Oil Exports % GDP	State Security Capacity	State Reach	Polarization	Sanctuary	Polity	Social Frag
A	+	+	-	+	-	-	+	-	-	-	-
B	-	-	-	-	-	++	-	-	-	-	-
C	-	-	++	-	+	-	-	+	+	-	+
D	-	-	+	-	-	+/-	-	+	+	+	+

Overshoot and collapse (Behavior A) should be associated with lower state and rebel capacity, and higher opportunity costs and state reach. Damped impulse (Behavior B) should be associated with moderate to high relative rebel capacity and opportunity costs; low rebel cohesion; low state capacity and reach (which results in higher likelihood of foreign military intervention). Exponential growth (Behavior C) should be associated with low opportunity costs, high rebel capacity and cohesion, and higher state capacity but low state reach. Oscillatory (Behavior D) should be associated with moderately balanced rebel capacity, social cohesion, state capacity and reach, and lower opportunity costs for rebellion.

H2: All else being equal, observed behavior patterns of conflict persistence (e.g., overshoot and collapse, or outcome behavior A; damped impulse, or outcome behavior B; exponential growth, or outcome behavior C; oscillatory behavior, or outcome behavior D) can be explained by endogenous conflict characteristics:

*type of conflict (territorial or political), rebel capacity (fungible resources, number and types of belligerents) relative to state security capacity (forces, military expenditure, state reach), security environment (e.g., other internal conflicts or war on borders, geography), number of factions, religious extremism.*

Reference Behavior	Type of Conflict	Rebel Capacity	State Security Capacity	State Reach	Security Environment	Ethnic Factions	Religious Extremism
A	P	-	-	++	-	-	--
B	P	+	++	-	+	-	-
C	T	+	-	-	+	-	++
D	T	--	+/-	-	+	++	-

Overshoot and collapse and damped impulse (Behaviors A and B) are hypothesized to be more likely to be associated with political conflicts; neither is likely to be associated with religious extremism or prior conflict.<sup>84</sup> The difference between A and B is expected to be in relatively capacity of state and rebels and in the security environment (e.g., wars on borders). Exponential growth and oscillatory behavior (C and D) are hypothesized to be more likely to be associated with territorial conflicts and poor security environment (that exacerbates and fuels conflict capacities on both sides). The difference between them is likely to be the association with religious extremism (more

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<sup>84</sup> Religious extremism is assumed to provide a deep source of continued support for rebel causes and opportunity to connect with other groups, making it less likely that conflicts involving religious extremism will collapse quickly (behavior A), or be integrated into existing political structures (behavior B). Previous research has shown that prior conflict is less likely when episode durations are shorter.



likely in case of exponential growth). In both cases, relative levels of state capacity relative and other belligerents may be approximately equal (after compensating for asymmetric advantage to rebels); but, in the case of C, they are both likely to be higher relative to the opportunity costs of conflict (leading to continued escalation) while in the case of D they are both likely to be lower relative to opportunity costs of conflict (resulting in continued but incomplete damping).

The infusion of aid (development, humanitarian, military) in conflict settings potentially affects absolute and relative capacity of all belligerents and has been shown to have various positive and negative effects on duration, intensity, and outcomes. I hypothesize that those interventions involving aid that seeks short -term human security goals over longer term goals associated with improving aid effectiveness may increase risk of conflict escalation or recurrence and generate more insecurity in the long term. H3 tests this hypothesis:

H3: All else being equal, *the observed patterns of conflict persistence (overshoot and collapse, or outcome behavior A; damped impulse, or outcome behavior B; exponential growth, or outcome behavior C; oscillatory behavior, or outcome behavior D) are correlated with different levels of aid assistance, controlling for state reach, state security capacity, institutional capacity, and aid effectiveness.*

Reference Behavior	Total Aid % GDP	% Aid Humanitarian	Military Assistance	State Reach	State Security Capacity	Governance	Aid Effectiveness
A	-	-	-	++	-	--	+
B	-	-	+	-	++	-	-
C	+	+	-	-	-	-	-
D	+	+	-	-	+	+	+

Higher levels of aid coupled with low state reach are predicted to be correlated with exponential growth and oscillatory behavior (C and D). The distinction between the two is that low aid effectiveness is expected to be associated with exponential growth, while higher aid effectiveness is expected to be associated with oscillatory behavior. Low aid is expected to be correlated with overshoot and collapse and damped impulse (A and B). A key difference between A and B is predicted to be comparatively low indicators of aid effectiveness for B, correlated with a lower CPIA index, and higher level of external military assistance.

*H4: The pattern of conflict persistence associated with the observed behavior groupings (overshoot and collapse, or outcome behavior A; damped impulse, or outcome behavior B; exponential growth, or outcome behavior C; oscillatory behavior, or outcome behavior D) is correlated with the presence of external military interventions with the stated purpose of peace operations and/or stabilization, controlling for types of missions, sanctions, and mediations.*

Reference Behavior	UN Missions	Non-Un Missions				Peace Agreements or Settlements
		AU Missions	Regional Missions	Coalition Missions	Single Actors	
A	++	-	-	-	-	++
B	-	-	-	+	+	-
C	-	+	+	++	++	+
D	-	-	-	-	-	-

Previous research has shown that both peace operations and military interventions by single actors are likely to be correlated with longer conflict durations. I hypothesize that this correlation is associated with exponential of cases of exponential growth (C), and not with oscillatory behavior (D), and that exponential growth is correlated with non-

UN peace operations, whereas overshoot and collapse (A) is expected to be correlated with instances of peace making interventions followed by UN peacekeeping interventions.

*H5: The pattern of conflict persistence associated with the observed behavior groupings (overshoot and collapse, or outcome behavior A; damped impulse, or outcome behavior B; exponential growth, or outcome behavior C; oscillatory behavior, or outcome behavior D) is correlated with interactions between aid assistance, the presence of peacekeeping missions and state security capacity, controlling for state reach, type of conflict, and economic opportunity costs.*

Reference Behavior	Aid x Peacekeeping Missions x State Security Capacity	State Reach	Conflict Type	Economic Opportunity Costs
A	+	++	+	+
B	-	+	+	+
C	+	-	-	--
D	-	-	-	-

Conflicts with exponential growth are predicted to be associated with both interventions involving high levels of aid and peace making operations in countries with poor governance and economic indicators resulting in low economic opportunity costs, so that interventions become endogenous to the system and generate amplification rather than balancing effects on the capacity to sustain conflict (Shortland, Christopoulou, & Makatsoris, 2013). Recent reports by Saferworld<sup>85</sup> reviewing the effect of the past 15 years of interventions in Somalia, Afghanistan, and Yemen have termed this the

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<sup>85</sup> Saferworld is an international nongovernmental organization headquartered in the UK that has been working for 25 years to prevent violent conflict and build safer lives in conflict affected areas. See <http://www.saferworld.org.uk/>.

“stabilization trap” (Attree, 2016; Groenewald, 2016; Suri, 2016). I hypothesize that those intervention policies employing balancing principles from system dynamics that preference long human security goals (e.g., development) over short term (e.g., humanitarian) are most likely to reduce risk of conflict recurrence for overshoot and collapse and damped impulse (A and B).

Risk factors posited in H1 derive from social, political, economic, and physical conditions within which the conflict occurs. Risk factors posited in H2 derive from the nature of the conflict and characteristics of the belligerents and state. Risk factors posited in H3 and H4 derive from foreign aid and external peace operations, respectively. Risk factors posited in H5 derive from interactive effects between aid, peace operations, and conflict characteristics.

### **Case Selection**

The cases for this research consist of 34 persistent violent armed conflicts in Africa from 1989 – 2014, resulting in 810 conflict years. The criteria for selecting these 34 conflicts is that the UCDP/PRIO Armed Conflict Dataset version 4-2015 (Pettersson & Wallensteen, 2015) or UCDP/GED version 1.5-2011 (Sundberg & Melander, 2013) records at least two reported episodes of the same conflict interspersed with periods of apparent peace, or an extended period of uninterrupted fighting in the same conflict lasting ten years or more. These cases are listed in Table 2, Chapter 1, and summarized in Appendix A.<sup>86</sup>

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<sup>86</sup> Appendix A provides detailed discussion and analysis of data from ACLED, UCDP, and SCAD for conflict events, event types, actors, and interaction between actors used to choose cases and make the categorization into different reference behavior types.

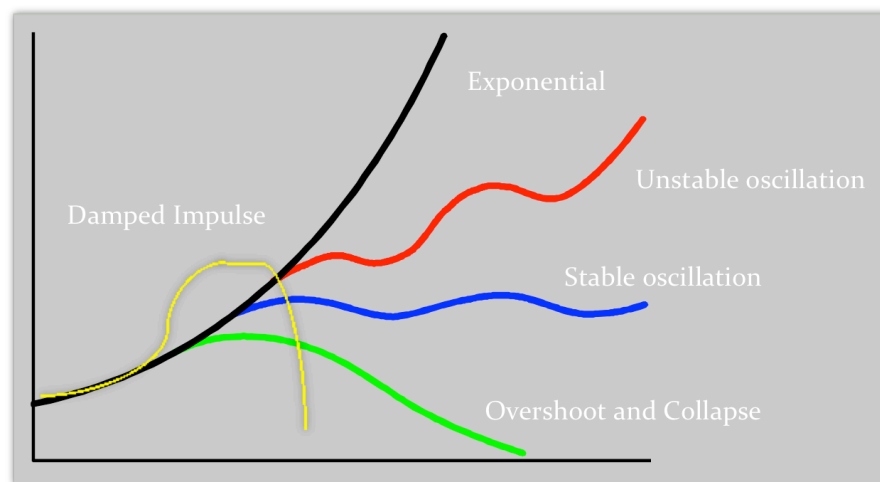
Africa is chosen for two reasons: to take advantage of robust, subnational georeferenced data on conflicts in Africa (described in the next section and in Appendix B) and because of the high number of cases of conflict persistence. The post Cold-War timeframe avoids conflating intervention affects with those of covert military actors acting as Superpower proxies. Most quantitative, cross-country, comparative studies on conflict duration typically examine time periods of at most 5 to 10 years post-conflict for evaluating “success” or “failure” of peace. A timeframe of 25 years is chosen so that conflict dynamics leading to recurrence after 10 years or more are not overlooked. This also provides sufficiently large data set to conduct statistically meaningful quantitative analysis.

Multinomial logistic regression predicts categorical placement in the outcome, reference behavior, based on multiple independent variables. Like binary logistic regression, it uses maximum likelihood estimation to evaluate the probability of categorical membership. It is particularly suitable for this study because it does not assume normality, linearity, or homoscedasticity of the explanatory variables. However, thorough initial data analysis is required to confirm the assumptions of independence among the dependent variable categories and to evaluate correlations among the independent variables that could introduce problems of multicollinearity (Berry & Feldman, 1985; Tabachnick & Fidell, 2001).

### **Outcome Characterization**

The first step in the multinomial regression analysis is to characterize the dependent variable according to the categorical outcome, reference behavior. Each of the idealized reference behaviors (Figure 1) can be described by different mathematical

equations. The determination of outcome for each conflict case is obtained by calculating the best-fit equation to violent conflict event data over the 25-year time period and matching to the corresponding reference behavior as described in Appendix A. Conflict event data that is best fit with an exponential equation clearly reflects exponential growth (or decay); a polynomial or sinusoidal best-fit equation is associated with oscillatory behavior; truncated logistic growth is associated with damped impulse, and a Weibull hazard function is associated with overshoot and collapse.



**Figure 1 Reference Behaviors Associated with Different System Structures Revealed Over Time<sup>87</sup>**

As with any real world data trends over time, a clear and unambiguous fit to idealized behavior is rare and is only seen here in a few cases (e.g., exponential growth in Somalia; stable oscillations in Kenya, overshoot and collapse in Burundi, damped impulse in Mali). For this reason, conflict narratives are taken into account, along with statistical analysis to avoid classification on the basis of hidden effects—such as time since initiating event or types of interactions. These considerations are discussed in Appendix

<sup>87</sup> Figure adapted from Worcester Polytechnic Institute course lecture material, “System Dynamics Foundations,” James Hines and Lyneis Copyright © 2005. Used with permission from authors.

A and did not reveal any obviously problematic fixed effects to be present in classifying outcomes that are not captured by the independent explanatory variables used for hypothesis testing.

### **Independent Variable Selection**

The second step in the regression analysis is to choose variables to test for outcomes correlations with theoretically hypothesized conflict drivers, capacity to engage in conflict, opportunity costs for engaging in conflict, reconciliation drivers, capacity for managing or resolving conflict, and interventions. Annual data from 1989-2014 were collected for the proxy variables in Table 1. The potential for introducing multicollinearity problems in the regression analysis was reduced by filtering out some variables based on pairwise correlation analysis in STATA and by conducting standard statistical tests for variance inflation in the STATA regression models.<sup>88</sup>

Variables listed in Table 1 are indicators and proxies for hypothesized causal mechanisms of conflict drivers, capacity and opportunity costs commonly used in the literature based on the size, rate of growth, and structure of the economy, and social, political, institutional and physical conditions within the country of the conflict. Risk factors based on characteristics of the country and society within which the conflict occurs are proxies for state capacity (log GDP, oil exports as a percentage of GDP), opportunity cost (GDP per capita, GDP growth, economic inequality, remittances), poverty (GDP share and GDP per capita of lowest 10th percentile), governance (Country Policy and Institutional Assessment [CPIA] Index and Polity IV scores), state reach

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<sup>88</sup> The variance inflation factor (VIF) is calculated for each regression to test for co-linearity. The standard statistical protocol of rejecting any model in which the VIF exceeds a value of 10 is followed. When any two variables have a statistically significant pairwise correlation coefficient that exceeds .5, they are not used in the same model.

(percent urbanization, access to electricity, landmass, population density) and social/political exclusions (social fragmentation, ethnic polarization, religious polarization).

Table 1 Variables for Data Collection

	state security capacity	state reach	cooperative conflict management	oppy cost economic	oppy cost political	driver	rebel capacity	aid effectiveness
Ln gdp	+			+				
Ln gdp_percapita	+			+				
gdp_growth				+				
low10GDPshare				+		-		
gdplowtenpc				+		-		+
gender equality			+					+
male youth unemployment				-			+	-
CPIA			+	+	+			+
corruption				-	-	+	+	-
gini				+	+	-		
oilrents (% GDP)	-		-	-			+	
oil income	+			-			+/-	
% urban population		+					-	
ethnic polarization							+	
religious polarization							+	
polityIV_2			+		+			
social fragmentation		-					-	
Ln population							+	
girl: boy school								+
infant mortality								+
aid per capita								-
military expenditures	+							
mil exp:gdp	+	+	-	-				
mil exp:capita	+		-	-				
state security forces(ssf)	+							
ssf/km 2	+	+						
border wars	-	-					+	
type war						+	+	
number belligerent groups		-				+		
% forest cover		-					+	
US military assistance	+	+						
% humanitarian aid				-		+	+	
all aid	+			+/-		+		
aid % gdp	-			+/-		+		
UN troop mission months			+		+			
AU troop mission months	+				+			
OR troop mission months	+				+			
Coalition troop mission months	+/-					-/+		
Single actor troop misison months	+/-					-/+		
Peace agreements or negotiated settlements			+			+/-		



Proxies used in the literature for state capacity include GDP, GDP per capita, oil exports as a percentage of GDP, polity scores, size of security forces, and military expenditures. There is some degree of statistically significant correlation among all of these, although they operate through different mechanisms. GDP and polity scores are proxies for institutional capacity, while military expenditures and size of force represent security capacity. There is a negative correlation between oil as percentage of GDP and polity scores as reported in other literature, but this correlation is weak and does not appear to introduce co-linearity problems. Correlation analysis between the country level risk variables (described in Appendix B) showed that proxies for government reach are correlated with coefficients between .3 and .6. Percent urban population is used as the more reliable and stable proxy for state reach over the time period.

Measures of economic inequality based on GINI coefficient and GDP share of lowest 10<sup>th</sup> percentile are strongly correlated with each other, but not with GDP per capita of lowest 10<sup>th</sup> percentile. However, GDP per capita of lowest 10<sup>th</sup> percentile is strongly correlated with GDP per capita. GDP per capita share of lowest 10<sup>th</sup> percentile is used as a measure of inequality; and GDP of lowest 10<sup>th</sup> percentile is used as a measure of poverty and opportunity cost, but with caution to avoid overinflating the affect of GDP when also using GDP per capita as a measure of state capacity.

The CPIA index, developed by the World Bank to measure absorptive capacity for aid, is a composite of sixteen indicators in four clusters – economic management, structural policies, policies for social inclusion and equity and public sector management. The composite score is used here a proxy for state capacity to balance conflict drivers through peaceful, rather than forceful means. Values for the indicators based on gender

equality and corruption, which are included in the composite CPIA score, are considered individually to test the premise that higher levels of gender equality are associated with decreased likelihood of conflict persistence, and higher levels of corruption are associated with increased likelihood of conflict persistence.<sup>89</sup> As one would expect, CPIA, gender equality and corruption are somewhat correlated, but not so much as to introduce collinearity problems in the regression analysis. This is because of the influence of other factors in the CPIA index and corruption index, having to do with structural economic policies. Male youth unemployment and population are proxies for belligerent expectations of sustainable resources for conflict.<sup>90</sup>

Based on the considerations above, 4 of the 20 potential explanatory and control variables for testing H1 in Table 1 were dropped in favor of those remaining in Table 2, with cautions as noted for additional judgment when interpreting results containing correlated variables.<sup>91</sup> Potential problems are flagged by unrealistically small size of coefficients or incongruous statistical significance of those coefficients, relative to the calculated statistical power of the model based on log pseudo likelihoods and Wald chi<sup>2</sup> tests.

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<sup>89</sup> These effects derive from two different causal mechanisms. The first is based on the association between gender equality and reconciliation mechanisms present in society. The second is based on associations between corruption and ease of access to resources for engaging in conflict.

<sup>90</sup> Population size is sometimes used as a proxy for rebel capacity in the literature, in absence of reliable data on force size of rebel troops. There are limited data on rebel forces in the set of cases considered here. For the data that does exist, there is a significant positive correlation of .2 between rebel forces and population.

<sup>91</sup> Variables dropped are ratio of girls to boys in secondary school, religious polarization, infant mortality, and income from oil (as compared to percent GDP from oil). Infant mortality is highly and negatively correlated with ln GDP per capita, poverty, male youth unemployment, polity scores, and gender equality. It is strongly and positively correlated with social fragmentation and religious polarization. While this makes it an attractive measure of overall aid effectiveness and human capital development, the high degree of correlation with different causal mechanisms reduces its utility as a control variable.

Variables for testing H2 are proxies to for relative capacity during conflict (e.g., number of belligerents groups and forest cover); and type of conflict (e.g., territorial, governance ethnic, religious, and coups). Ideally, availability of income from illicit sources should be included as well, but is not included due to lack of reliable annual data. As can be seen, there is no way to completely eliminate correlated variables due to the co-evolution and interdependence of conflict risk factors with causal mechanisms and underlying structures associated with those country level risk factors.

**Table 2 Variables for Testing H1 and H2**

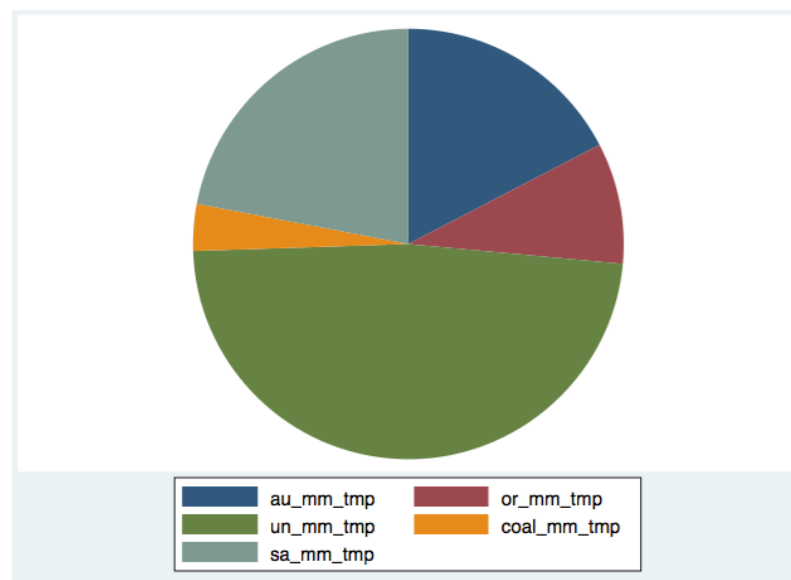
Proxy variable/control	state security capacity	state reach	cooperative conflict management	oppy cost economic	oppy cost political	driver	rebel capacity	aid effectiveness	
ln gdp_percapita	+			+				+	H1
gdp_growth				+				+	
polityIV_2			+		+	-			
oilrents (% GDP)**	-		-			+	+		
corruption					-	-		-	
ssf/km 2	+	+							
mil exp:gdp		+							
gdp per capita low 10*				+				+	
gdp share low 10 or gini				+		+			
gender equality"			+					+	
male youth unemployment^*^^				-		-	+	-	
% urban population*		+					-		
ethnic polarization						+	+		
social fragmentation^		-					-		
ln population***		-					+		
CPIA" ^^ *			+	+	+			+	
border wars**	-	-					+		H2
type war^^ ***						+	+		
number belligerents"" ***		-							
forest ""		-					+		
US military assistance	+	+							
*strong correlation with ln GDP per capita									
** moderate correlation with ln GDP per capita									
*** moderate correlation with social fragementation									
" strong correlation with corruption									
""moderate correlation with ln population									
^strong correlation with religious polarization									
^^moderate correlation with gender equality									

Some of the variables listed in Table 2 for state reach and capacity are commonly used in the literature and associated with longer conflict durations (e. g., GDP per capita, share of GDP per capita of lowest decile, forest cover, social fragmentation, % GDP from

oil). However, some variables for state security capacity (military expenditures, percentage of government spending on military expenses, size of state armed forces and the presence of militias) have not been systematically included as controls for impact on conflict persistence in conjunction with the presence of peace operations. Military expenditure, size of national armed forces, and GDP are strongly correlated with each other, whereas the correlation between these variables and military expenditure as a percentage of GDP is weaker. GDP and military expenditures as percent of GDP are therefore used as differentiating measures of state capacity. The density of security forces (troops per km<sup>2</sup>) is only weakly correlated with expenditures and GDP, and is used as an additional measure of the reach of military capacity.

Intervention variables for testing H3-H4 are the amount and type of foreign aid; the monthly numbers of forces involved in peace operations and foreign military interventions (differentiated as UN, regional, or ad hoc coalitions); annual mission months of peace operation missions and foreign military interventions; and peace agreements or negotiated settlements. As discussed in Chapter 1, previous research has failed to systematically control for variations of the size of troop presence within missions over time when assessing the impact of different types of peace operations and foreign military interventions over the history of the conflict. Original data was compiled from primary and secondary sources to construct measures of the individual and combined annual mission months and troop levels of five different types of military interventions: (1) UN peacekeeping forces; (2) African Union peacekeeping forces; (3) peacekeeping and/or stabilization missions of other regional organizations (e.g., Economic Community of West African States, or ECOWAS); (4) UN sanctioned, ad-hoc

coalitions of the willing (e.g., Unified Task Force, UNITAF, in Somalia); and (5) single actors (e.g., Ethiopia troops in Somalia, French troops in Mali). These external actors are present in 17 of the 34 conflicts, involving 26 UN missions, and 37 non-UN missions with a total presence of actors other than UN forces accounting for slightly over 50% of the external presence measured as troop-mission months per year (Figure 2). The only statistically significant correlations are between UN and African Union missions (.13) and between coalition and single actor missions (.5). For this reasons, coalition and single actor missions are combined into a single variable, accounting for approximately 25% of the interventions.



**Figure 2 UN, AU, Regional, Coalition, and Single Actor Presence in Conflicts**

As discussed in Chapter 1, the literature ascribes different causal mechanisms to development versus humanitarian relief aid. Foreign aid interventions are measured as total development aid committed, aid as a percentage of GDP, and percentage of aid that is humanitarian relief. Total development aid is assumed to increase state capacity, when controlling for aid effectiveness. A key assumption in the literature (and illustrated in

many case studies) is that humanitarian aid can increase belligerent capacity in conflict settings due to lack of institutional control, principles of neutrality, and opportunities for theft and high levels of corruption. Attempted peace agreements or negotiated settlements are included as a control variable.

As expected, correlation analysis shows that aid variables used for testing H3 are not independent from other predictors of conflict and duration (Table 3). Of these, the strongest correlation is the positive association between high levels of corruption and percentage of aid that is humanitarian, and negative association with CPIA index. The presence of UN and regional troops is also associated with low levels of CPIA index but lower levels of gender inequality. Since a goal of the regression analysis is to examine whether aid and peace operations have a moderating or interactive effects that could be differentially associated with reference behavior outcomes, use of correlated variables is unavoidable. None of the correlations between variables used are higher than .4 to avoid overinflating the effects.

Table 3 Variables for Testing H3 and H4

	state security capacity	state reach	cooperative conflict management	oppy cost economic	oppy cost political	driver	rebel capacity	aid effectiveness	
% humanitarian aid (**"****^4, 5)				-			+	-	H3
all aid ("" **^4,5,2)	+					+			
aid % gdp (* ""^^6,7,8 )	-			-				-	
UN troop mission months (^1,2,3,5)		+	+						H4
AU troop mission months (^1,2,3)	+	+							
OR troop mission months (**^5)	+	+							
Coalition troop mission months		+							
Single actor troop misison months (^5)	+/-	+/-							
Peace agreements or negotiated settlements (**)									
H4									
*strong correlation with ln GDP per capita ** moderate correlation with ln GDP per capita *** moderate correlation with social fragmentation " strong correlation with corruption ""moderate correlation with ln population ^^moderate correlation with gender equality - Note, % humanitarian aid, UN and AU are <i>negatively</i> associated with gender inequality 1moderate (-) correlation with corruption 2moderate correlation with number of belligerent groups 3moderate correlation with US military assistance 4moderate (-)correlation military expenditure as percent GDP 5 strong(-) correlation with CPIA 6 moderate (-) correlation with oil rents 7 moderate (-) correlation with poverty 8 moderate (-) correlation with male youth unemployment									

Other researchers have noted the methodological difficulties of using econometric analysis in studying conflict dynamics due to interdependencies between interventions and characteristics of the conflict itself, and caveat their results accordingly. Two notable problems are endogeneity effects and the possibility of sampling on the dependent variable. This research addresses interdependencies and co-evolution explicitly using systems dynamic modeling, discussed in a later section.

Other potential concerns with the regression analysis are fixed effects, omitted variables, and sample size. Possible sources of fixed effects include natural disasters (e.g., drought), exogenous economic or political shocks (e.g., Arab Spring), and/or external wars (including the global war on terror). Natural disasters have been shown to

affect civil conflict dynamics through endogenous economic performance indicators, which are included in the analysis (Bergholt & Lujala, 2010). Data from the International Displacement Monitoring Center on natural disaster impacts within conflict settings confirm the correlation with economic indicators in the sample set, so that there is no need to introduce additional instrumental control variables.<sup>92</sup> Major economic and political shocks that occurred in the time frame of analysis are post-Cold War political adjustments, the global recession in 2008, and the Arab Spring. In addition, the global war on terror since 2001 in the Middle East and Afghanistan, and the collapse of Libya in 2011 have led to a flood of arms and an increase in Islamic extremism that may be driving some of the conflict dynamics. The potential for bias introduced by these factors is discussed in Chapter 3. The potential for introducing omitted variable bias by excluding data on conflict characteristics such as types of interactions between actors or time since the initiating trigger for conflict, is examined statistically and found to be unlikely as discussed in Appendix A.

Although there are no standard rules of thumb for sample size in multinomial regression, it does require a larger sample size than ordinal or binary logistic regression, due to the use of multiple equations and the requirement that no category should have very few cases compared to other categories. Standard rules of thumb for ordinal or binary logistic regression suggest minimum sample sizes for outcome-to-predictor ratio that range from 5 to 1 to 15 to 1 (Green, 1991). The regression models are constructed to maintain a minimum sample size of four times this recommended minimum, to account for the four categorical outcomes. With 810 observations, this criterion is easily met in

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<sup>92</sup> The one exception is the case of the 2011 drought in Somalia, which induced an abnormally large influx of humanitarian aid.



most cases. However, when using a variable with missing data for a significant number of years (e.g., US military assistance from 1989 - 2000), fewer predictors must be used.

Four series of regression analyses are run with the variables listed in Tables 2 and 3 for hypothesis testing. The first of these produces the most efficient model for testing H1, in that the log likelihood of the null hypothesis is minimized, the explanatory power is maximized with the fewest significant variables with coefficients substantially different than zero, and the model is robust to different specification of control variables. This model is then used as a base model for sequentially testing additional explanatory power of H2, H3 and H4.

### **Evaluation of Regression Results**

Results from the quantitative regression analysis are evaluated on the basis of (1) explanatory power of each model, (2) significance, strength of influence and polarity of correlation coefficients within each model, and (3) robustness of correlation coefficients across models. The most efficient models are those with the most explanatory power for the fewest number of coefficients. Only coefficients with significance to the 10%, 5%, and 1% level are recorded. In order to compare strength of correlation coefficients, the regression analyses are conducted with and without constants. The results for correlation coefficients in regression models without constants are scaled by the order of magnitude of the median values for the variables to obtain relative strengths of influence for variables within models. Robustness of correlation coefficients across models is tested by using a large number of different controls, and seeing whether the significance. Results are discussed in Chapter 3.

## **Mesa- and Micro-Level Case Study Analysis of Somalia Conflict**

As a within-case single study, Somalia has both unique and typical features of conflict persistence, and provides an opportunity for longitudinal study. The Somalia conflict provides rich data over a 25-year time period to compare manifestations of different reference behavior patterns at a mesa-level level within a single case to those at the macro level across conflict cases. Somalia is an extreme case of state failure and persistent conflict, but is also representative of and salient to current crises in the Middle East and Africa, and contains many characteristics common to ongoing persistent conflicts in Africa and Asia – high levels of corruption, low state security capacity, history of conflict, high rates of poverty and fragility, multiplicity of Nonstate actors, growing presence of Islamic extremists. Even so, some nonviolent parts of Somali society have shown resilience during discreet periods of the conflict and the country has shown recent progress in peacebuilding efforts.

There are five distinct phases of different types of intervention strategies and levels of external presence in the Somalia conflict, during which time there was remarkably little change in governance structure (due to its absence). These distinctive phases offer a type of natural experiment for isolating the effects of external interventions. Specifically, they allow process tracing to explore how third-party peace operations; humanitarian aid and development interventions affect the resiliency of different actors and conflict behaviors at the mesa-level within a single case.

Two analysis methods are used in the case study. The first uses system dynamics to represent and evaluate hypothesized relationships between intervention policies, causal mechanisms, and outcomes of conflict dynamics at the country scale in each of five

phases of the Somali conflict.<sup>93</sup> The relationships between intervention variables, the feedback loops that they generate, and risk factors from the previous regression analysis are assessed for each phase of conflict to evaluate the congruency between the previous macro-level, comparative regression analysis of outcome predictors across conflicts over time, and the mesa-level analysis based on comparing causal relationships within a single conflict. This comparison provides a test for internal validity and scalability of the hypothesized relationship between outcomes and conflict intervention factors.

The second employs semi-structured field interviews at the individual level to explore the same hypothesized relationships between policies, causal mechanisms, and conflict outcomes at the micro-level.

### **Causal Modeling Using System Dynamics**

Causal models of five distinct phases of the Somalia conflict are built using systems dynamics for testing the relationship between interventions and likely outcome behaviors. The five phases are (1) UN humanitarian relief interventions and US support 1992-1994 (associated with Overshoot and Collapse); (2) Emergence of regional self-governance structures and the Union of Islamic Courts 1995-2006 (associated with oscillatory behavior); (3) US-backed Ethiopian intervention on behalf of the Transitional Federal Government and rise of Al Shabaab 2007-2009 (associated with exponential growth); (4) growth of Al-Shabaab insurgency and expansion of AMISOM intervention 2010-2013 (associated with exponential growth); and (5) continued insurgency accompanied by increased international support to political and development activities of

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<sup>93</sup> The causal modeling is done using the system dynamics software tool, Vensim, described in Appendix D.

the new Federal Government of Somalia, implemented through the Somalia New Deal Compact and UN stabilization mission 2014 to present (associated with potential transition to oscillatory or overshoot and collapse).

As with the regression analysis, the unit of analysis in the causal modeling of the Somalia conflict is the reference behavior of conflict (outcome). However, in the case study the outcome is considered within distinct sub-intervals of time for each phase, and associated with causal model structures in which the balance between feedback loops in the causal model, rather than risk factors, are the predictors of outcome behavior. These structures are based on archetypes of overshoot and collapse, exponential growth, and oscillatory behavior.

Table 4 summarizes the feedback structures assumed to represent conflict risk factors based on theoretical mechanisms and the reference behaviors that should be expected, all else being equal (AEBE). A discussion of these underlying archetypal structures and the rationale for mapping these to causal mechanisms in Table 4 that follows.

**Table 4 Mapping Between Conflict Risk Factors, System Structure and Reference Behaviors**

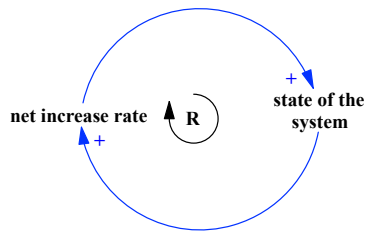
<b>Conflict Risk Factor</b>	<b>Theoretical Mechanisms</b>	<b>Dominant System Structure</b>	<b>AEBE Expected Reference Behavior</b>
Commodity exports	Higher rentier income increases greed, differentially affects capacities	Positive reinforcing loops with delayed resource constraints	Exponential (weak constraints) or Oscillatory (strong constraints)
Low GDP per capita	Equally affects capacities, low opportunity costs	Delayed balancing loops create strong reinforcing loop	Exponential with eventual saturation
Low GDP per capita and high inequality	Grievance and low opportunity cost	Goal-driven with delayed resource constraints	Exponential (weak balancing loops) or Oscillatory (strong balancing loops)
Availability of illicit income	Increased relative capacity for belligerent	Asymmetric capacity constraints	Exponential
Type of conflict: coups	All or nothing	Goal-oriented with resource constraint, no delays	Overshoot & Collapse
Type of conflict: ethnic “sons of soil”	Hold out for accommodation & negotiation	Goal-oriented with delayed feedback from constraints and/or goal	Oscillatory
Sanctuary, landmass, population size	Low state reach relative to belligerent capacity	Asymmetric capacity constraints	Exponential
Social fragmentation	Low state reach, competing goals of inter-ethnic rivalries	State reach constraints, delayed competitive goal-seeking	Oscillatory
Number of belligerent groups	Diluted state capacity, competing goals and resources	Capacity constraints, competitive goal-seeking	Overshoot & Collapse and/or Exponential
Foreign military intervention	Increase relative capacities and expectations	Change strength of balancing loops and delays	Episodic Damped Impulse (on side of government) or Exponential (against government)
Military victory	Increased post-conflict violence, corruption, uncertainty	Goal seeking with asymmetric capabilities, no delay (competitive pay-off)	Episodic Overshoot & Collapse
Negotiated settlement	Capacity limited commitment problems; security dilemma	Delayed capacity limited goal-seeking on all sides (mutual accommodation)	Oscillatory
Peace operations post conflict	Increase commitment capacity and transparency, human security, reduce corruption	Reduce delays and goal-seeking gap	Damped Impulse, Oscillatory with lower amplitudes and mean
Peace operations during conflict	Reduce expectations of, cost of coordination, security dilemma	Reduce delays and goal-seeking gap	Damped Impulse, Oscillatory with lower amplitudes and mean
Foreign Aid during conflict	Aid as benefit: Increase state capacity; reduce grievances	Goal-seeking with reduced delays and increased capacity	Overshoot & Collapse, Oscillatory with lower amplitudes and mean
Foreign Aid during conflict	Aid as harm: Corruption, rent-seeking, capture	Increase strength of asymmetric capacity, goal-gap within balancing loops	Exponential
Foreign Aid post conflict	Improve social capacity through technical assistance	Increase governance balancing loop	Overshoot and collapse
Foreign Aid post conflict	Increase elite power through financial assistance	Create competitive goal-seeking loops	Exponential

### *Archetypal System Structures and Causal Mechanisms*

The reference behaviors that appear in Table 2 (and that were introduced in Chapter 1, Figure 2) are overshoot and collapse (A), damped impulse (B), exponential growth (C), sustained oscillations (D). First order exponential growth is the simplest of these, involving only one dominant stock (e.g., first order) with a positive (reinforcing) feedback loop in a system with unconstrained capacity to generate growth. The structure is shown in Figure 3 below. The accumulation of the state variable describing the system is given by the equation,

$$s(t) = \exp(gt)$$

where  $s$  is a variable describing the state of the system, and  $g$  is the fractional growth rate.



**Figure 3 Exponential Growth Feedback Structure**

In pure exponential behavior, the growth rate is relatively constant over time, and results in a fixed doubling time period, where the doubling time,  $T_d$ , is given by the equation,

$$Td = \ln(2)/g$$

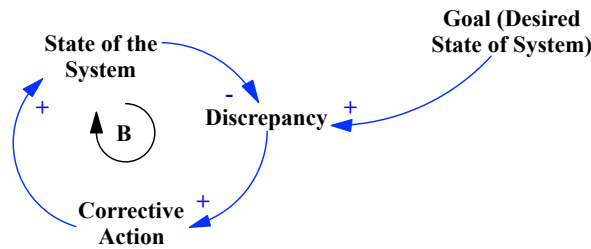
In most systems, exponential growth is eventually limited due to resource constraints, but may dominate for many years before balancing forces are felt. Examples in social systems include population growth, the US GDP between 1850 and 2000, and the US

prison population from 1925-2010. The key insight for application to conflict is that for exponential growth to occur, other balancing structures that are present do not dominate the behavior of the system (Astrom & Murray, 2012). Exponential growth dominates as long as belligerent capacity is not resource limited, and there are no strong balancing loops created by other actors. Exponential growth should therefore be most likely when there is approximate parity between capacity of the state and belligerents, belligerents' resources are unconstrained by the state and they are able to maintain cohesion. The feasibility thesis is most consistent with this outcome, while motivation mechanisms for sustaining conflict are less likely and more consistent with outcomes that exhibit goal-seeking behavior. Peace operations should be most effective in preventing exponential growth if they are able to constrain access to resources; aid can exacerbate exponential growth if easily diverted to support belligerent capacity.

Theoretical and empirical research has shown that if the state is too weak and belligerents gain control, violence decreases as belligerents achieve their goals. Goal seeking and capacity limited behavior outcomes result from first-order systems with strong negative (balancing) feedback with the structure shown in Figure 4. The accumulation of the state variable describing the system is given by the equation,

$$s(t) = S - (S - s(0)) * \exp\left(-\frac{t}{AT}\right) = s(0) * \exp(-dt)$$

where  $s$  is a variable describing the current state of the system,  $s(0)$  is the initial state of the system,  $S$  is the desired state of the system (or capacity limit), the expression  $\exp(-t/AT)$  represents the fraction of initial gap remaining, and  $d$  is the fractional decay rate.



**Figure 4 Feedback Structure of First Order Goal Seeking and Capacity Limited Systems**

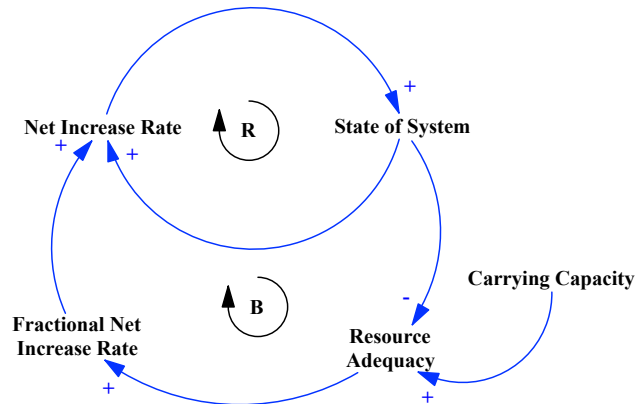
With no delays in a closed system, this is an inherently stable structure in which the current state is continuously compared with desired goal (or limit) and corrective action is taken to counteract disturbances that would move the system away from goal (or approach a capacity limit too quickly). The rate at which the state of the system approaches goal (or limit) usually diminishes as discrepancy falls. When the relationship between the corrective action and the size of the gap is linear, exponential decay results.

Both motivational and feasibility theories of conflict are consistent with this structure. However, the feasibility thesis predicts that the primary mechanism creating the balancing loop is capacity limitation; while motivational theories (greed and/or grievance) predict that the primary mechanism creating the balancing loop is the achievement of a goal.

S-Shaped growth results from second order structure (e.g., one that involves at least two interacting feedback loops) with nonlinear interaction of positive (exponential) and negative (goal seeking or capacity limited) feedback loops as the capacity (or goal) is approached. The structure is shown in Figure 5. There are two critical conditions that



must be met for stable S-Shaped growth: there must be no significant time or information delays in balancing the loop, and the carrying capacity does not change with time.



**Figure 5 Second-Order, Nonlinear System Structure with Two Feedback Loops Resulting in S-Shaped Growth**

Primary models for the accumulation of the state variable describing the system,  $s(t)$  are logistic population growth and the Bass diffusion model. Logistic growth is given by the equation,

$$s(t) = C / \{1 + \exp[-G(t - h)]\}$$

where  $C$  is the carrying capacity,  $G$  is the maximum growth rate, and  $h$  is the time at which the state reaches  $1/2C$ . The stability of this structure depends on the fractional growth rate relative to the carrying capacity. Examples are the adoption of new technology, physical growth of humans, spread of infectious diseases, and the spread of information.

Overshoot and collapse is a result of exponential or logistic growth constrained by carrying capacity that erodes as the capacity is approached, thus violating one of the conditions for S-Shape growth. The structure is shown in Figure 6 below. This structure erodes the resources available per capita in the system as well as the total resources (see Chapter 1, Figure 2, amplifying and balancing loops with nonlinear decay in carrying capacity). A key feature is the presence of the delay in recognizing when limits on *resource adequacy* are being approached, and in acting on that recognition. These delays are indicated by hash marks on the links between *state of system* and *resource adequacy* and between *resource adequacy* and *fractional net increase rate*. Real world examples are over-fishing, the US housing market bubble in 2008, and unmitigated global warming effects on the environment. Mathematical models include capacity limited logistic and exponential growth models with non-monotonic, variable growth rates, and diffusion models with threshold tipping points.

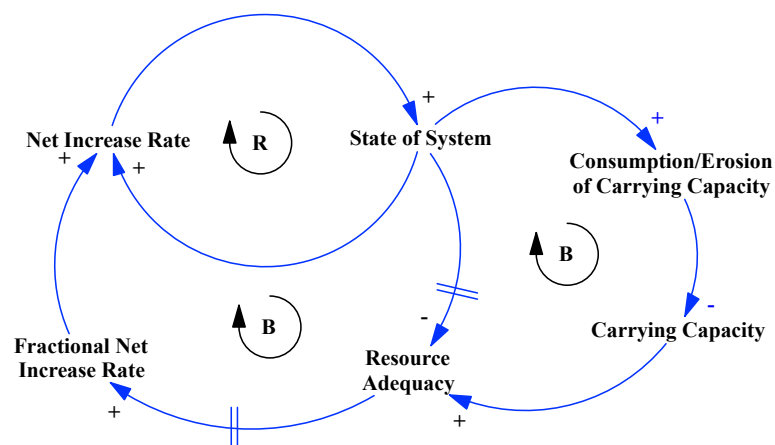
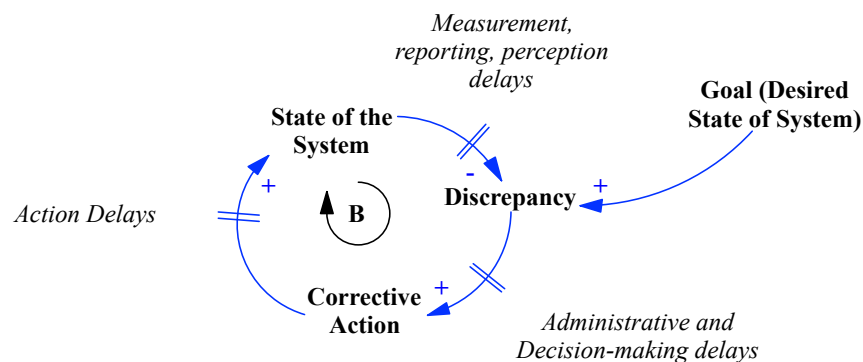


Figure 6 Second-order, Non-linear System Structure Resulting in Overshoot and Collapse

The behavior of systems most frequently observed in the “real world” involves oscillatory behavior that emerges when delays in balancing feedback allow an overshoot of production goals or over consumption of resources, reversal in consumption or production rates that results in undershoot, and so on. These oscillations are primarily the result of delays. The two most common delays are material and information arising from the time it takes for communications, changes in material input, flow rates, system properties, or goals to move through feedback loops. Misperceptions, imperfect and contradictory information are treated as delays in getting information about the real state of the system. Both material and information delays affect the quality of decisions made on the basis of the perceived state of the system and the effectiveness of those decisions in achieving the intended goals (Figure 7 below).



**Figure 7 Second-order, Nonlinear System Structure Resulting in Oscillatory Behavior**

Oscillating systems can be locally stable, locally unstable but globally stable, or chaotic (path dependent instability), depending on the relative loop strengths in the system and length of delays. These two factors combine into a damping ratio, which

determines how much the system oscillates as the response decays to a steady state.

Locally stable, damped oscillations develop when perturbations are small relative to nonlinearities that might cause other dynamics to emerge. Examples are balancing loops that seek to adjust to a step function change in resource constraints that is exogenously imposed, oscillations due to lag of adjustment time to random exogenous shocks.

Expanding oscillations with limits are locally unstable but nonlinear constraints on oscillations ensure global stability. Costly oscillations in supply chain management and commodity market prices provide examples that illustrate the impact of information feedback delays. Chaos results when shocks are endogenous and path dependency arises from sensitivity to initial conditions. In different cycles, chaotic system responses will always vary but patterns of cycles may group around strange attractors.

### ***Causal model building and evaluation***

Causal model building requires selection of key stocks<sup>94</sup> that drive system behavior; determining the rate of input into and out of those key stocks; identifying the variables that influence those rates; the relationships between stocks, rates, and influencing variables that create feedback loops and the polarity of those relationships;<sup>95</sup> and model boundaries. The regression analysis identifies the most important and robust conflict risk factors to include as stocks and variables influencing those stocks. Factors

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<sup>94</sup> A stock is a quantifiable resource that accumulates over time, often used to represent the state of the system. Influencing variables may be constant or dynamic, and have values that change key driver in determining the system state

<sup>95</sup> As with regression analysis, polarity between two variables in a system dynamic model is determined by whether the variable that is being influenced increases or decreases as a result of a unit increase in the influencing variable. In order for a model to have internal consistency and congruency, variables are posited in positive terms and linkages are drawn in a consistent direction (either clockwise or counterclockwise).

found not to be significant differentiators in the regression analysis are treated as exogenous factors that do not interact dynamically with stocks and are outside the model boundaries. The case study then uses data from historical records, published databases and scholarly literature to determine the linkages between influencing variables, stocks, and the rates into and out of stocks.

The models are evaluated according to the following questions: Do the dynamic system structures identified through case study research result in conflict outcomes consistent with the correlations between risk factors and observed reference behaviors that obtain from regression analysis, and the inferred causal mechanisms for those correlations? Do alternative structures emerge in the dynamic system that contradict or compete with causal mechanisms suggested by the reference behavior? If the association between observed reference behaviors, underlying structures, and process tracing are consistent, then what are the implications for resiliency of belligerents and conflict persistence? Are they consistent with theoretical explanations? What are the policy implications?

### **Field Interviews**

Semi-structured field interviews were conducted with over 75 persons in Ethiopia, Burundi, Uganda, Kenya, Washington DC, Geneva, and Amsterdam between June 1 and September 30, 2014, according to a peer-reviewed and university-approved field research plan (Appendix C). The interviews engaged persons who have been involved in managing, implementing, or participating in military and civilian-led peace operations, foreign aid interventions, and/or relief efforts in different phases of the Somali conflict.

Interview participants were chosen based on their roles as government representatives, peacekeeping troops and trainers, aid workers, development specialists. All interviews were conducted according to an IRB-approved plan, included in Appendix C. The plan included presenting the participants with an overview of the research goals, questions prior to the interview, and obtaining signed documentation of informed consent.

Interview questions were developed to gathering data through narrative stories to test theoretical explanations for causal mechanisms for the impact of aid and peacekeeping interventions on conflict dynamics and the hypothesized impact on risk factors for conflict persistence represented in the structures underlying the reference behaviors.

Questions fall into three broad categories:

- Understanding local and regional perspectives of conflict drivers and impact;
- Understanding the intended scope and outcomes of interventions, and factors that affect success in achieving those outcomes; and
- Relationships between peace operations and humanitarian aid interventions.

The goals for interviews in each location are summarized below; specific subjects and interview questions are provided in Appendix C.

Interview questions are designed to test assumptions and theories in the literature regarding causal mechanisms by which interventions operate, and assumptions in policy assessment frameworks for decision making on interventions in conflict settings.

Questions asked of subjects involved in peace operations draw heavily on causal mechanisms proposed by Doyle and Sambanis (2000) and Fortna (2004), assumptions in the *US Counterinsurgency Field Manual*, and their potential relationship to resiliency of

conflict actors (Doyle & Sambanis, 2000; Fortna, 2004; *The US Army Counterinsurgency Field Manual No. 3-24*, 2006). Questions asked of subjects involved in foreign aid draw on theories discussed that assume peacebuilding success depends on degree of harm sustained during conflict, resources available for humanitarian relief and development, international assistance to overcome gaps, and perceived legitimacy of different factors. The questions were reviewed by subject matter experts,<sup>96</sup> vetted with local representatives in each locale, and approved by the University of Maryland Internal Review Board for human subjects research.

Subjects in Ethiopia provide perspectives of regional organizations – e.g., the African Union (AU) and the Intergovernmental Authority on Development (IGAD) – with leadership roles in peace operations in Somalia. Subjects in Uganda and Burundi provided first-hand perspectives of AMISOM peacekeeping soldiers and officers. Subjects in Burundi provide additional perspectives on how participation in AMISOM impacted peacebuilding efforts at home. Subjects within the US embassies in Ethiopia, Kenya, and Burundi provide US government perspectives for the impact of interventions in Somalia. Subjects in Kenya provide perspectives from field offices in Nairobi for international and local humanitarian aid and development organizations active in Somalia. Subjects in the Netherlands provided perspectives of the Somalia diaspora community. Subjects in Washington DC and in Switzerland provide headquarter perspectives of UN entities and International Nongovernmental Organizations (INGOs).

Ethiopia and Kenya are key regional players in the Horn of Africa with long-standing strategic interests in the Somali conflict. These interests involve complex

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<sup>96</sup> UMD reviewers for interview questions were Dr. John Steinbruner, Dr. Daniel Levine, and Dr. David Crocker.

security and economic concerns that include the presence of Ethiopian Somalis in the Somali regional state of Ethiopia and their claims upon the Ethiopian government (supported by extremists in the conflict in Somalia), a large influx of Somali refugees into Kenya from the conflict in South Central Somalia, and violent cross-border spillover from Somalia in both countries. Historic governance, cultural, and natural factors in the region (e.g., climate change) create stresses that exacerbate the conflict and complicate the pursuit of both Ethiopia and Kenya's interests. As a result, Ethiopia and Kenya have participated in various interventions in Somalia over the past two decades, and are currently participating in peace operations to address national and human security concerns, are providing humanitarian aid and sanctuary for refugees, and are regional leaders in development initiatives to reduce the risk of conflict by fostering a stable and productive environment in the Horn of Africa. These initiatives involve many different sectors – government, civil society, private enterprises, international and regional non-governmental organizations, and academia. Interviews in Ethiopia took place in Addis Ababa and were arranged with the help of Eyob Tekalign Tolina, a staff member of the Ethiopian Embassy to the USA and a fellow PhD candidate at the University of Maryland. Interviews with NGO community in Nairobi were facilitated by staff at InterAction<sup>97</sup> and at the Alliance for Peacebuilding<sup>98</sup> offices in Washington DC.

Since its inception in 2007, Uganda and Burundi have provided the largest contingent of troops and leadership to the African Union Mission in Somalia (AMISOM),

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<sup>97</sup> InterAction is an alliance of NGOs in Washington DC with 180 members around the world working among the poor and vulnerable for peace. <https://www.interaction.org/>. Retrieved March 8, 2016.

<sup>98</sup> Alliance for Peacebuilding is a network of over 100 organizations working to resolve conflict and create sustainable peace in 153 countries. <http://www.allianceforpeacebuilding.org/>. Retrieved March 8, 2016.



established to support national unity efforts from Islamic extremists.<sup>99</sup> The original AMISOM mandate of six months was to support a national reconciliation congress and report on a possible UN peacekeeping mission. The lack of security on the ground in Somalia since that time—evidenced by exponential growth in conflict—has to date precluded the establishment of such a mission. Instead, the AMISOM mandate has been extended and enlarged several times to “create the necessary conditions for the conduct of humanitarian activities and an eventual handover of the Mission to a UN peacekeeping operation.” Currently, AMISOM is a multidimensional peace support operation with the following mandate:

1. Take all necessary measures, as appropriate, and in coordination with the Somalia National Defense and Public Safety Institutions, to reduce the threat posed by Al Shabaab and other armed opposition groups;
2. Assist in consolidating and expanding the control of the Federal Government of Somalia (FGS) over its national territory;
3. Assist the FGS in establishing conditions for effective and legitimate governance across Somalia, through support, as appropriate, in the areas of security, including the protection of Somali institutions and key infrastructure, governance, rule of law and delivery of basic services;
4. Provide, within its capabilities and as appropriate, technical and other support for the enhancement of the capacity of the Somalia State institutions, particularly the National Defense, Public Safety and Public Service Institutions;
5. Support the FGS in establishing the required institutions and conducive conditions for the conduct of free, fair and transparent elections by 2016, in accordance with the Provisional Constitution;
6. Liaise with humanitarian actors and facilitate, as may be required and within its capabilities, humanitarian assistance in Somalia, as well as the resettlement of internally displaced persons and the return of refugees;
7. Facilitate coordinated support by relevant AU institutions and structures towards the stabilization and reconstruction of Somalia; and

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<sup>99</sup> The African Union Mission in Somalia is an active, regional peacekeeping mission operated by the African Union (AU) with the approval of the UN and funded in large part by the EU. The AU Peace and Security Council created AMISOM in January 2007, replacing and subsuming the Inter-Governmental Authority on Development (IGAD) Peace Support Mission to Somalia (IGASOM) approved by the AU and UN in 2006 to support the Transitional Federal Government established in 2005. <http://amisom-au.org/>.

8. Provide protection to AU and UN personnel, installations and equipment, including the right of self-defense.<sup>100</sup>

Interviews with AMISOM soldiers and officers from Burundi were facilitated by Dr. Nicole Ball and arranged through the Assistance Minister of Defense by Alwin van den Boogaard, Director of the joint Netherlands-Burundi Security Sector Reform (SSD) program. Interview subjects from Burundi represented all periods of major AMISOM operations since 2008, including the most recent advances into rural areas, and included all levels of military personnel. The interviews were conducted at the SSD offices in Bujumbura with an interpreter fluent in French and Kirundi. Interviews with officers in Uganda took place in Kampala, and were arranged with the help of Dr. Joe Siegel, director of the Africa Strategic Studies Center at the National Defense University in Washington DC. Interview subjects in Uganda represented elite commanders of AMISOM from 2011-2012, during which time Al Shabaab was expelled from Mogadishu.

Since 2012, troop-contributing countries to the military component of AMISOM have expanded beyond Uganda and Burundi to include Kenya, Ethiopia, and Djibouti. These troops are currently deployed in six sectors covering south and central Somalia. The US has provided key military training to these troops through Africa Contingency Operations Training & Assistance (ACOTA) facilities in Uganda and Burundi since the first contingents were deployed to Mogadishu in 2008, and has recently opened a leadership and police training facility in Nairobi.<sup>101</sup> Lt. Colonel Daniel Ebert at the US Embassy in

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<sup>100</sup> AMISOM African Union Mission in Somalia, <http://amisom-au.org/amisom-mandate/>. Retrieved March 2016.

<sup>101</sup> Personal communication, Lt. Col Eric Roitsch, May 2014. The mission of the ACOTA program is to enhance capacities and capabilities of African peacekeeping resources for deploying professionally

Bujumbura facilitated interviews with ACOTA training officers and a visit to the training camp outside of Bujumbura, Burundi. Requests to visit the training facility in Nairobi were denied by AMISOM.

## **Data Summary and Sources**

### **Summary of Metadata**

Metadata for explanatory variables are summarized in Tables 5 and 6. Table 5 summarizes metadata for select country level risk factors of state capacity and reach, poverty and inequality. Table 6 summarizes metadata for intervention factors. Data trends and summary statistics for all variables are presented in Appendix B.

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competent peacekeepers to “meet conflict transformation requirements with minimal non-African assistance”. US Department of State, Diplomacy in Action, “Africa Contingency Operations Training & Assistance,” <http://www.state.gov/p/af/rt/acota/>. Retrieved March 1, 2016; and Combined Joint Task Force Horn of Africa, “ACOTA Force HQ course prepares personnel for AMIOSM operations,” <http://www.hoa.africom.mil/story/17034/acota-force-hq-course-prepares-personnel-for-amisom-operations>. Retrieved March 1, 2016.

Table 5 Summary Metadata of Country Level Risk Factors

Average Country Level Risk Factors for Conflict Persistence 1990 - 2014										
Conflict Country <sup>1</sup>	SD Mode	State Capacity				State Reach			Poverty	Inequality
		Ave GDP per Capita	Ave Population <sup>2</sup> (M)	Ave GDP Growth <sup>2</sup>	% GDP Oil Exports <sup>3</sup>	% Urban <sup>2</sup>	% Electricity Access <sup>2</sup>	Military Expenditures <sup>4</sup> (M) [% Gov Spending]	Annual GDP per capita 10% <sup>2</sup> (2010)	GINI <sup>2</sup>
Burundi	A	170	7.3	1.3	-5.6	8.6	3.1	50 [18.5]	53	36
Chad	A	475	8.9	6	33	22	1.97	216 [14.1]	108	44
Liberia	A	200	2.9	5.1	-0.8	48	1.59	7.7 [3.6]	79	36
Namibia	A	3087	1.9	4.2	-4.4	34	35.5	191 [9.7]	336	61.3
Rwanda	A	332	8.5	5.2	1.3	16	6.43	67 [13.3]	64	50
South Africa	A	4590	44.4	2.5	0.07	58	71.3	3380 [4.8]	467	62
Average A		1475.7	12.3	4.1	3.9	31.1	20.0	650[10.7]	184.5	48.2
Angola	B	1922	15.1	5.8	46	34	31.3	1670 [10]	361	49
Congo-Brazzaville	B	1581	3.3	3	54	50	27.5	156 [8.3]	308	51
Guinea	B	417	9.1	3.4	-2.6	32	16.8	78.2 [10.7]	93	42
Guinea-Bissau	B	350	1.3	2.5	-3.3	38	53.7	8.4 [9.7]	78	43
Lesotho	B	617	1.9	4.2	8.8	20	9.46	33 [6.8]	55	56
Mali	B	382	12	4.6	-5	30	15.1	78.2 [6.7]	105	42
Sierra Leone	B	308	4.7	2.6	-15.5	41	8.79	28.4 [8.2]	84	37
Average B		796.7	6.8	3.7	11.8	35.0	23.2	293.2[8.6]	154.9	45.7
Burkina Faso	C	379	12.5	5.5	-4.4	19.8	8.7	75.2 [8.2]	87.7	45
Cameroon	C	900	16.8	2.2	7.2	46.5	41.4	214 [7.9]	225	43
DRC	C	249	52.2	0.8	2.6	36	.	247 [8.7]	55	43
Gabon	C	6302	1.3	2.9	39	77	39.8	136 [6.1]	1701	42
Mauritania	C	670	2.9	3.6	-5.7	50	14.9	59.2 [.]	173	40
Mozambique	C	295	19.1	6.5	-7.2	29	9.51	79.3 [9.7]	57	45.7
Nigeria (BH)	C	850	129	5.8	33	37	44.9	817 [3]	161	46
Somalia	C	195	7.8	0.4	-1	34	25.8	307[3]*	.	.
Sudan	C	903	29.4	3.8	10.2	32	25.7	1070 [21]	234	35
Average C		1193.7	30.1	3.5	8.2	40.1	26.3	333[8.5]	336.7	42.5
Algeria	D	2713	24	2.8	19.7	50	97.1	3897 [10]	505	35.3
CAR	D	279	37	1.1	-7.1	38	6.15	20.3 [9]	49	53
Ethiopia	D	273	68.9	6	-5	15	15.2	478 [15]	95	33.6
Ivory Coast	D	952	16.1	2.1	2.5	45	48.9	244 [12.2]	218	41
Kenya (Kik)	D	576	32.7	3.5	-8.9	21	16.1	375 [6.8]	110	47
Niger	D	258	12.4	3.3	0.9	16.5	7.4	35.6 [5.7]	80	38
Nigeria (P)	D	850	129	5.8	33	37	44.9	817 [3]	161	46
Senegal	D	736	10.5	3.5	0.001	36	16.1	126 [6.1]	167	43
Uganda	D	332	25.9	6.8	-4.9	12.7	10	224 [12.5]	78	43
Zimbabwe	D	608	12.6	5.9	-3.4	33	33	220 [10.2]	.	42
Average D		757.7	36.91	4.08	2.6801	30.42	29.485	643[9.1]	162.556	42.19
<sup>1</sup> Some countries have conflicts with different reference behaviors <sup>2</sup> Data from World Bank <sup>3</sup> Data from The Economist <sup>4</sup> Data from SIPRI *Estimated										

Table 6 Summary Metadata of Interventions

Averaged Intervention Data 1989 - 2014										
Conflict Country <sup>1</sup>	SD Mode	Foreign Aid				Military Peace Operations			Governance & Institutions	
		Total Aid (M)	Ave Aid Per Capita	Ave Aid as % GPD	Humanitarian as % of all Aid	Mission Months	UN+Reg Troop Mission Months	Coalition + Single Actor Troop Mission Months	Polity (-9 to 9)	CPIA (1-6)
Burundi	A	10188	52	31	22	176	201169	22400	1.3	3
Chad	A	10692	48	16	19	363	99597	302208	-2.8	2.7
Liberia	A	9303	104	49	39	311	2684392	6500	2.2	1.3
Namibia	A	6196	129	4.6	1	27	53640	22500	6	3.5
Rwanda	A	16463	74	25	12	54	1009309	9600	-4.7	3.2
South Africa	A	30418	26	0.5	0.8	0	0	0	8.4	3.9
<b>AVERAGE A</b>		<b>13877</b>	<b>72</b>		<b>16</b>	<b>155</b>	<b>674685</b>	<b>60535</b>	<b>1.7</b>	<b>2.9</b>
Angola	B	12424	35	3.9	18	218	204476	0	-2.5	2.1
Congo-Brazzaville	B	9187	109	8	7.2	76	0	88240	-2.8	2.6
Guinea	B	10950	52	13	2.9	0	0	0	-1.5	2.9
Guinea-Bissau	B	3530	104	39	5	77	32394	0	2	2.7
Lesotho	B	4371	94	18	1.9	9	0	6300	4.9	3.3
Mali	B	22475	74	22	2.3	50	113721	48480	5	3.4
Sierra Leone	B	8999	75	28	12	275	1002646	233520	1.5	2.8
<b>AVERAGE B</b>		<b>10277</b>	<b>78</b>		<b>7</b>	<b>101</b>	<b>193320</b>	<b>53791</b>	<b>0.9</b>	<b>2.8</b>
Bukina Faso	C	20137	64	20	1.2	0	0	0	-2.3	3.5
Cameroon	C	27649	68	8.2	0.5	0	0	0	-4.5	3
DRC	C	46059	32	14	22	218	2357910	565200	1.2	2.1
Gabon	C	6890	232	4.6	0.08	228	0	171600	-2.9	2.9
Mauritania	C	9918	139	24	2.3	0	0	0	-4.6	3.3
Mozambique	C	47188	100	43	9.2	72	130236	379200	2.8	3.3
Nigeria (BH)	C	15352	16	2.5	0.3	0	0	0	4	3.5
Somalia	C	10398	45	34	46	229	1388520	546300	0.04	1.7
Sudan	C	28592	35	4	33	280	3143331	18000	-5.6	2
<b>AVERAGE C</b>		<b>23576</b>	<b>81</b>		<b>13</b>	<b>114</b>	<b>780000</b>	<b>186700</b>	<b>-1.3</b>	<b>2.8</b>
Algeria	D	25069	37	1.8	5.6	24	0	12000	-1.2	2.9
CAR(Seleka)	D	1731	65	21	30	171	259517	89400	0.8	2.5
CAR (political)	D	2900	53	14	8.9	384	83262	392400	0.5	2.5
Ethiopia (P, OLF)	D	51667	28	11	17	24	0	12600	-1.2	3.1
Ivory Coast	D	33578	85	9.5	7.1	440	1216596	338100	-1.7	2.9
Kenya (Kik)	D	42661	50	9.6	7.8	0	0	0	1.9	3.5
Kenya (Turk)	D	42661	50	9.6	7.8	0	0	0	1.9	3.5
Niger	D	13152	42	17	5.2	0	0	0	3.1	2.9
Nigeria (P)	D	61352	18	3.5	1	0	0	0	0.4	2.9
Senegal	D	24247	94	14	0.8	144	0	187200	3.9	3.4
Uganda	D	35253	54	19	4.7	14	1060	0	-3.3	3.7
Zimbabwe	D	15741	52	8.5	15	0	0	0	.	2.6
<b>AVERAGE D</b>		<b>29168</b>	<b>52</b>		<b>9</b>	<b>100</b>	<b>130036</b>	<b>85975</b>	<b>0.4636</b>	<b>3.0</b>

## Data Sources

Data sources are from desk research (e.g., news media, government reports, NGO reports, and academic literature), field interviews, and published conflict and intervention

databases. The datasets, major news media sources, and field research methods are summarized below and described more fully in Appendix B.

### ***Conflicts, Conflict Events, and Conflict Actor Datasets***

Until recently, research into conflict dynamics was hampered by the lack of disaggregated, subnational level data for armed conflict and violence to differentiate between activities of different, but simultaneously occurring conflicts within a country (Chojnacki et al., 2012; Collier & Hoeffler, 2001). As a result, cross-country comparisons often conflated data from multiple different conflicts, contributing to the difficulty of inferring causal mechanisms from data analysis. This deficiency has been addressed in recent years by collection of georeferenced event data at the subnational level (Gleditsch et al., 2014).

Data on frequency, type, intensity, and location of conflict events are derived from the UCDP/PRIO Armed Conflict Dataset v.4-2015 (1946-2014), UCDP-GED version 1.5-2011 (1989-2010), and the ACLED version 5 (1997-2015). These datasets differentiate and bound conflicts by issues, actors involved, and level of violence (Pettersson & Wallensteen, 2015; Raleigh & Hegre, 2005). Triangulating data and conflicts trends among these three sources provides a robustness check on the differentiation among conflicts within countries, and their categorization into reference behaviors based on the pattern of frequency of events.

These datasets use different units of analysis, event counting criteria, and timescales. ACLED counts conflict events from 1997-2015, based on the broadest criteria for counting conflict events, including violent events that do not result in direct battle

deaths (e.g. protests and riots) as well as nonviolent events by combatants, such as the establishment of battle headquarters. UCDP/PRIO counts dyadic interactions from 1946-2014 for events that result in twenty-five or more direct battle deaths. The UCDP/GED is an event-based, georeferenced dataset that counts those events from 1989-2010 resulting in one or more direct battle deaths. The reference patterns are across the three datasets.

Databases for civil conflict events rely on reports from actors involved in the conflict (e.g., military or police), third-party observers (such as nongovernmental organizations), and news reports. Relying on actors or observers has the disadvantage that many events are covered differently by different actors or not at all (Weidmann, 2014). For this reason, most databases, including those used in this research, rely on reports from news media, which suffer from inaccuracies, missing data, and biases (Salehyan, 2015). These issues are primarily a concern for classifying the conflicts into reference behavior. Missing data and inaccuracies are addressed to some degree by triangulating patterns across databases, although the possibility that missing data results in misclassification of reference behavior cannot be dismissed.

To partially address missing data concerns, three additional datasets were consulted. The UCDP Actor Dataset v.2.2-2014, with information on all actors in UCDP's datasets on organized violence<sup>102</sup>, and UCDP Conflict Termination Dataset v.2-2015 (1946-2013)<sup>103</sup> provide internal consistency checks. Data on coup d'état events published by the Center for Systemic Peace<sup>104</sup> provides a check on conflict data from an alternate

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<sup>102</sup> UCDP Actor Dataset 2.2-2014, Uppsala Conflict Data Program, [www.ucdp.uu.se](http://www.ucdp.uu.se), Uppsala University

<sup>103</sup> UCDP Conflict Termination Dataset, Uppsala University Department of Peace and Conflict Research [http://www.pcr.uu.se/research/ucdp/datasets/ucdp\\_conflict\\_termination\\_dataset/](http://www.pcr.uu.se/research/ucdp/datasets/ucdp_conflict_termination_dataset/), Retrieved January 2014.

<sup>104</sup> <http://www.systemicpeace.org/inscr/CSPCoupsCodebook2013.pdf>, accessed August 31, 2015.

source. Systematic reporting biases are assumed to be consistent across space and time for each conflict event, so that affects on dynamic patterns should be small.

### ***Human Security***

Human security is not explicitly modeled in econometric studies but is important to the co-evolutionary system dynamic model and the case study. Human security is proxied with data on internally displaced persons, refugees, aid worker security, food insecurity, and violence against citizens. Primary data sources are the United Nations and the Norwegian Refugee Council. UN statistics are collected and published by the UN High Commissioner for Refugees (UNHCR)<sup>105</sup> and country data from the portal, Relief Web.<sup>106</sup> Data from the Norwegian Refugee Council is collected and published by the Internal Displacement Monitoring Center (IDMC).<sup>107</sup> The Aid Worker Security Database provides data for aid worker security.<sup>108</sup> ACLD provides data for violence against citizens.

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<sup>105</sup> UNHCR, The UN Refugee Agency, *Statistics and Operational Data*, <http://www.unhcr.org/pages/49c3646c4d6.html> Retrieved January 2014- February 2016.

<sup>106</sup> Reliefweb, *Countries*, <http://reliefweb.int/countries> Retrieved October 2013 – November 2015.

<sup>107</sup> Internal Displacement Monitoring Center, *Global Figures, Conflict and violence-induced displacement*, <http://www.internal-displacement.org/global-figures/#natural>. Retrieved January 2014-September 2015. IDMC data was also accessed through a secondary source, via the web portal for the Armed Conflict Database of the International Institute of Strategic Studies (IISS). <https://acd.iiss.org/en>. Retrieved January 2014- September 2015.

<sup>108</sup> The Aid Worker Security Database (AWSDB) is a project of Humanitarian Outcomes, funded by contributions from Canada, Ireland, and the US (the Office of US Foreign Disaster Assistance (OFDA/USAID)). AWSDB reports on major incidents (killings, kidnappings and attacks that result in serious injury) involving deliberate acts of violence affecting aid workers. <https://aidworkersecurity.org/about>. Retrieved March 21, 2016.



### *Aid Data*

Impacts from three foreign aid types are evaluated: development (e.g., governance, health, education, and economic assistance [including debt relief]), humanitarian (e.g., food and emergency relief), and military assistance (e.g., training and direct subsidies for purchases). With the exception of South Africa, all of the countries in this study are less developed countries (LDCs) that qualify as recipients of development and humanitarian aid from the official development assistance (ODA) program of the Organization for Economic Co-operation and Development (OECD). The primary source of data for development and humanitarian aid is AidData.org, which compiles georeferenced development and aid data from the OECD, Relief Web, as well as other sources globally.<sup>109</sup>

Many of the countries receive significant external aid in the form of military assistance. No single source of data on foreign military assistance to conflict countries from all potential sources exists. Data on US military assistance from 2000-2015 derives from a database compiled from open source government reports and maintained by the Security Assistance Monitor.<sup>110</sup> While this data provides a sampling of external military support, it is unclear how representative it is without comparative data from other sources, and accounting for US military assistance prior to 2000. With the increase in US

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<sup>109</sup> AidData is a collaborative project between US AID, University of Texas at Austin, ESRI, and the African Development Bank Group and others. The purpose is to provide open source data for international development and research. Data last accessed from <http://aiddata.org/aiddata-research-releases>, October 2015.

<sup>110</sup> The Security Assistance Monitor is a joint program of The Center for International Policy in partnership with the Friends Committee on National Legislation, the Latin America Working Group Education Fund, the Project on Middle East Democracy, and the Washington Office on Latin America. Their mission is to document all publicly accessible information on U.S. security and defense assistance programs throughout the world, including arms sales, military and police aid, training programs, exercises, exchanges, bases and deployments. Data retrieved from <http://www.securityassistance.org/about>, August-September 2015.

counter-terrorism efforts post 2001, this is a potential source of a hidden fixed effect.

Future research efforts should attempt to include data on military assistance other than US and include data from 1989-2000.

### ***Peace Operations involving Military Forces***

External peace operations using military forces are involved in 50% of the conflicts, and 32% of the observations. There is wide variation in the troop strength and deployment period within and among these operations. Some missions are as short as one month and involve only a few tens of troops, while other last many years and involve thousands. To account for this variation, monthly data on troop strength is required, and is measured as the annual sum of the product troops x months. This monthly troop data from different operations is compiled from multiple sources, as there is no single source of data on all peace operations that includes non-UN as well as UN troop statistics, nor is there consistency of reporting between different troop providing organizations such as the United Nations, African Union, and European Commission.<sup>111</sup> Data on monthly UN troop deployments is from the International Peace Institute Peacekeeping database developed and maintained at George Washington University (Perry & Smith, 2013),<sup>112</sup> UN Security Council reports, the annual Military Balance Reports of the International Institute of Strategic Studies (IISS), and academic publications, e.g., (Doyle & Sambanis, 2006; Fortna, 2004; Hultman, Kathman, & Shannon, 2014; Hultman, Kathman, &

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<sup>111</sup> The data compilation effort for this research occurred in partnership with a UMD research team supported by the DOD Minerva project and led by Dr. David Backer. Deniz Cil was particularly helpful in compiling and verifying the dataset for UN and non-UN operations used in this research.

<sup>112</sup> International Peace Institute, *IPI Peacekeeping Database*, Retrieved from <http://www.providingforpeacekeeping.org/contributions/>, October 2013 to August 2015.

Shannon, 2015; Kathman, 2013; Perry & Smith, 2013). Data on monthly troop deployments of non-UN peacekeeping forces and other foreign military interventions is triangulated from academic research publications (Bellamy & Williams, 2015; Howe, 1997; Mullenbach, 2013; Pickering & Kisangani, 2009; Sambanis & Schulhofer-Wohl, 2008), the African Union Peace and Security website,<sup>113</sup> the Geneva Academy Rule of Law in Armed Conflicts Project (RULAC);<sup>114</sup> news media reports (searched and accessed through the news source FACTIVE), mission websites (e.g., AMISOM<sup>115</sup>, ARTEMIS<sup>116</sup>), the SIPRI Multilateral Peace Operations Database,<sup>117</sup> annual IISS Military Balance Reports, and the European Union External Action website.<sup>118</sup>

### ***Governance Data***

The primary governance indicator is the Polity IV Index. Data is from the Polity IV project of the Center for Systemic Peace.<sup>119</sup>

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<sup>113</sup> African Union Peace and Security, *Peace operations conducted by the AU and Partners*, <http://www.peaceau.org/en/page/72-peace-ops>. Retrieved October 2013 – August 2015.

<sup>114</sup> The Rule of Law in Armed Conflicts Project is an initiative of the Geneva Academy of International Humanitarian Law and Human Rights to support the application and implementation of international law in armed conflict. The Project reports on the extent to which norms and rule of law are respected by the relevant actors in active armed conflicts and maintains a global database. *Rule of Law in Armed Conflicts Project*, <http://www.geneva-academy.ch/RULAC/index.php>. Retrieved October 2013 – August 2015.

<sup>115</sup> AMISOM African Union Mission in Somalia <http://amisom-au.org/>. Retrieved August 2014-February 2016.

<sup>116</sup> National Defense and the Canadian Armed Forces, *Operation ARTEMIS*, <http://www.forces.gc.ca/en/operations-abroad-current/op-artemis.page>. Retrieved June 2015 – August 2015.

<sup>117</sup> Stockholm International Peace Research Institute, *SIPRI Military Expenditure Database*, [http://www.sipri.org/research/armaments/milex/milex\\_database](http://www.sipri.org/research/armaments/milex/milex_database). Retrieved October 2013 – August 2015.

<sup>118</sup> European Union External Action, <http://www.forces.gc.ca/en/operations-abroad-current/op-artemis.page>. Retrieved August 2015.

<sup>119</sup> Systemic Peace, Polity IV Project: Political Regime Characteristics and Transitions, 1800-2013, <http://www.systemicpeace.org/polity/polity4.htm>. Retrieved June 2015..

### ***Socio-Economic Country Data***

Socio-economic data (e.g., GDP, % GDP commodity exports, GDP growth rates, population, access to electricity, poverty as GDP per capita of lowest decile,<sup>120</sup> GINI index, CPIA index including corruption and gender equality, male youth unemployment, ratio of female to male schooling) is from the World Bank. Dependency on commodity exports and value of commodity exports is supplemented by analysis from *The Economist*.<sup>121</sup> Data for the human development index (HDI), remittances, forest cover, and impacts from natural disasters are from the UN Development Programme (UNDP) Human Development Reports.<sup>122</sup> Gender equality data is primarily taken from the World Bank. In cases of missing gender equality data, estimates are made using UNDP data. Missing corruption data is estimated from the Transparency International Corruption Perception index.<sup>123</sup> Missing economic data for Somalia is estimated from the trade publication, *Trading Economics*.<sup>124</sup> Ethnic and religious polarization, along with social fragmentation, are triangulated from datasets published by the International Conflict Research Center at the Swiss Federal institute of Technology Zurich<sup>125</sup>, the Minorities at Risk project<sup>126</sup>, and the published Reynal-Querol research dataset (Reynal-Querol, 2001).

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<sup>120</sup> In future studies, comparison of results using the UNDP multidimensional poverty index would be desirable. However, data has not been collected using this index over a sufficiently long period for this research.

<sup>121</sup> *The Economist: Commodity Dependency*, <http://www.economist.com/blogs/graphicdetail/2015/08/commodity-dependency>. Retrieved April 2014-August 2015.

<sup>122</sup> UNDP Human Development Reports, <http://hdr.undp.org/en/data>. Retrieved October 2013-August 2015.

<sup>123</sup> Transparency International Corruption Perceptions Index <http://www.transparency.org/research/cpi>. Retrieved January 2016-February 2016.

<sup>124</sup> <http://www.tradingeconomics.com/>, Accessed July 2015.

<sup>125</sup> <http://www.icr.ethz.ch/data/epr>, Accessed September 1, 2015.

<sup>126</sup> <http://www.cidcm.umd.edu/mar/>, Accessed November 2014.

### ***Military Expenditure and Troop Data***

Data on military expenditures is derived from the Military Expenditures database maintained by the Stockholm International Peace Research Institute (SIPRI)<sup>127</sup>. Data on national armed forces, rebel forces, and foreign forces are from the annual Military Balance Reports of the International Institute for Strategic Studies.<sup>128</sup> In the case study for Somalia, military expenditures are proxied by financial support from the UN and EU to the African Union Mission in Somalia (AMISOM) and US military assistance to Ethiopia and Kenya for unilateral military interventions into Somalia.

### ***Peace Agreements and Negotiated Settlements***

Data on peace agreements and negotiated settlements are triangulated from the UCDP Peace Agreement Dataset v 2.0, 1975-2011<sup>129</sup>, UN Security Council Reports, and news sources accessed through FACTIVA.

### ***Supplemental Data from News Sources***

Secondary sources included media reports of BBC Worldwide and others accessed through Factiva at the University of Maryland libraries, the International Crisis

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<sup>127</sup> <http://www.sipri.org/>, Accessed August 2015.

<sup>128</sup> IISS: *The Military Balance* <https://www.iiss.org/en/publications/military-s-balance>. Retrieved June 2015-October 2015.

<sup>129</sup> Uppsala University Department of Peace and Conflict Research *UCDP Peace Agreement Dataset* [http://www.pcr.uu.se/research/ucdp/datasets/ucdp\\_peace\\_agreement\\_dataset/](http://www.pcr.uu.se/research/ucdp/datasets/ucdp_peace_agreement_dataset/) Retrieved June 2015-October 2015.

Group reports and briefings,<sup>130</sup> the Uppsala University UCDP Conflict Encyclopedia,<sup>131</sup> and from UN Security Council Reports.<sup>132</sup>

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<sup>130</sup> International Crisis Group, *Reports and briefings*, <http://www.crisisgroup.org/en/publication-type/reports.aspx>. Retrieved October 2013-November 2015.

<sup>131</sup> Uppsala Conflict Data Program, *UCDP Conflict Encyclopedia*, <http://www.ucdp.uu.se/gpdatabase/search.php>. Retrieved October 2013 - November 2015.

<sup>132</sup> United Nations Security Council, *Reports of the Security Council Missions*, <http://www.un.org/en/sc/documents/missions/>. Retrieved October 2014 – November 2015; *Reports submitted by/transmitted by the Secretary-General to the Security Council*, <http://www.un.org/en/sc/documents/sgreports/>. Retrieved October 2013 – November 2015.

## **Chapter 3: Research Findings**

Research findings are presented in the following four sections. The first section discusses findings from the macro-level quantitative regression analysis of the correlation between conflict dynamics (measured as reference behavior outcomes) and risk factors associated with each hypothesis posited to explain those dynamics. The second and third sections discuss findings from the case study of causal mechanisms between external interventions and conflict dynamics in Somalia. The second section discusses results of causal modeling of these mechanisms using system dynamics, and the third section discusses qualitative insights of mechanisms provided through field studies. The fourth section integrates findings from the three approaches. Policy implications of these findings are discussed in Chapter 4.

### **Multinomial Logistic Regression Analysis**

To explain the observed groups of persistent conflict behaviors in the pool of 34 conflict cases, I first test the hypothesis drawing on existing explanations in the literature for conflict onset and durations based on country characteristics and conflict dynamics, H1 and H2, described in Chapter 2. I then test alternative explanations involving aid and peace and stability operations, H3 and H4, and their interactions, H5. Causal mechanisms are inferred from the different underlying structures associated with the outcomes, to test different explanatory theories.

The results of multinomial logistic regression analyses using STATA for testing H1-H4 are shown in Tables 2, 4, 6, and 8. The variables used as proxies for risk factors

are either the same as, or strongly correlated with, those proposed in the original hypotheses (Chapter 1), and were selected through correlation analysis as described in Chapter 2. The coefficients for each conflict risk factor in each category are interpreted as the relative likelihood of an observation being in that category compared to the base category, due to that factor. The default base category is the most frequent category, oscillatory behavior (reference behavior D), associated with maximum resiliency of belligerents. For a unit change in a risk factor in other categorical outcomes overshoot and collapse (reference behavior A), damped impulse (reference behavior B), or exponential growth (reference behavior C), the logit of the outcome relative to D is expected to change by the respective estimate of the coefficient, given that all other factors in the model are held constant. Coefficients for factors tested but not shown to be statistically significant in explaining deviations from the reference behavior are marked with an “x”.

The parameters for estimating each model are the pseudo  $R^2$  value,<sup>133</sup> log likelihood,<sup>134</sup>  $\text{prob} > \chi^2$ , and Wald ( $\chi^2$ ). The more reliable and straightforward measures of model explanatory power in multinomial logistic regressions are the log likelihood,  $\text{Prob} > \chi^2$ , and  $\chi^2$  test (Berry & Feldman, 1985; "Stata Annotated Output Multinomial Logistic Regression,").

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<sup>133</sup> Pseudo  $R^2$  is the McFadden's pseudo- $R^2$ , based on log likelihood values, rather than standard errors as in an ordinary least-squares regression.

<sup>134</sup> The log likelihood is used in the chi-square test of whether all predictors' regression coefficients in the model are simultaneously zero in tests of nested models (the null hypothesis). The log likelihood is minimized with each iteration until the difference between iterations is very small and the model is said to have converged.



### Hypotheses 1: Endogenous Country Effects on Outcomes

H1 tests the hypothesis that endogenous country characteristics can explain outcomes for conflict persistence through theorized mechanisms of relative capacity (Model B), political and economic opportunity costs (Model C and D), and grievances (Models E-F). Hypothesized results for influence of risk factors on outcomes (reference behaviors) posited in Chapter 2 are reproduced in Table 1.

**Table 1 Expected Results of Multinomial Regression Analysis H1**

Reference Behavior	ln GDP per cap	GDP Growth	Poverty Depth	Equality	Oil Exports % GDP	State Security Capacity	State Reach	Polarization	Rebel Capacity	Governance	Social Frag
A	+	+	--	+	--	-	+	--	--	-	-
B	-	-	-	-	-	++	-	--	--	-	-
C	--	--	++	--	+	-	-	+	+	--	+
D	-	-	+	-	-	+/-	-	+	+	+	+

The regression analysis (Table 2) fails to reject the null hypothesis for H1. State capacity measured by *ln GDP per capita* and *oil rents* is significantly and negatively associated with overshoot and collapse (A) and exponential (C) compared to oscillatory (D), with overshoot and collapse (A) being the least likely outcome. Contrary to expectations, damped impulse (B) is consistently, significantly and positively correlated with *oil rents*, compared to oscillatory (D). State reach measured by *state security forces per km<sup>2</sup>* is significantly, consistently and positively associated with overshoot and collapse (A) compared to oscillatory (D), whereas state reach is negatively associated with exponential (C) compared to oscillatory (D). State reach measured by *urban population* is consistently and positively associated with overshoot and collapse (A), damped impulse (B), and exponential (C) compared to oscillatory (D). State capacity measured by

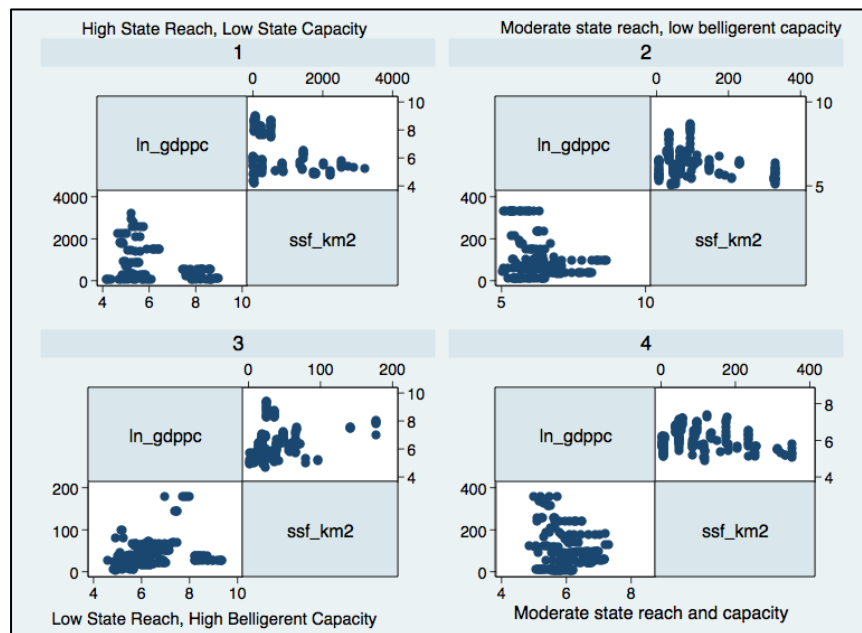
*military expenditures as a percent of GDP* is strongly correlated with damped impulse (B), but is not a significant predictor of overshoot and collapse (A) or exponential (C).

The literature associates male youth unemployment, ethnic polarization, and population size with increased recruiting capacity and cohesion for challengers to the state, leading to belligerent resiliency that enables longer durations. *Ethnic polarization* and *male youth unemployment* are consistently, significantly, and positively correlated with exponential (C) compared to oscillatory (D), but are not significantly correlated with overshoot and collapse (A) or damped impulse (B). *Population* is consistently, significantly, and negatively correlated with overshoot and collapse (A) and damped impulse (B) oscillatory (D).

**Table 2. Multinomial Logistic Regression Results for H1**

Multinomial Logistic Regression Hypothesis Testing H1									
Country Risk Factors		Model B	Model C	Model D	Model E	Model F.1	Model F.2	Model F.3	Model G
		Capacity & State Reach	Capacity & State Reach & Oppy Cost	Capacity & State Reach & Governance	Capacity & State Reach & Equality	Capacity & State Reach & Equality&Frag	Capacity & State Reach & Equality&Frag	Capacity & State Reach & Equality&Frag	Capacity & State Reach & Oppy Cost & Governance&
ln GDP percapita .01, .5	A	x	x	x	(11.3)***	(7)***	(5.2)***		x
	B	.56**	1.9***	x	(.95)***	(.9)***	(1.6)***		.76**
	C	(1.)*	(2.)*	(2.)*	(2.2)***	(1.7)***	(1.6)***		(.91)***
Oilrents (% GDP) .02,0	A	(.9)***	(1.3)***	(.6)***	(3.7)***	x	x		(.95)***
	B	x	x	.05***	.07***	.04***	.04***		.06***
	C	(1.5)***	(.04)***	x		x	(1.6)***		.02*
State Security Forces/km2 .16, 0	A	.009***	.01***	.01***	.05***	.02***	.02***	.01***	.01***
	B	x	.004**	.004***	.004**	.004**	x	.004***	.004***
	C	(.01)***	(.008)**	(.02)**	(.01)***	(.015)***	(.02)***	(.01)***	(.02)***
Mil exp % GDP .02,0	A	49**	51**	x	x	x	x		
	B	53***	54***	49***	55***	64***	58***		
	C	x	x	x		x	46**		
male youth unemployment .03,0	A	.15***	.11**	.1**	(1.5)***	(1.1)***	.07**		
	B	.05***	.05**	x		x	x		
	C	.15***	.2***	.13***	.32***	.35***	.17***		
Percent urban population .02,0	A	.16***	x	.1**	1.8**	1.1***	.37***	.18***	
	B	.06***	.08***	.06***	.22***	.23***	.14***	.08***	
	C	.15***	.15***	.21***	.23***	.23***	.14***	.1***	
Ethnic polarization .03,0	A	x	x	x	(64)***	(33)***	(11)**	(5.8)***	2.86**
	B	x	x	4.3***	(2)*	x	x	3.4***	4.35***
	C	3.5***	5.4***	x	3.8***	2.9***	2.2**	2.1**	3.8***
ln population .09,0	A	(.4)**	x	(.7)**	(12)***	(8)***		(2)***	(1.7)***
	B	(.5)***	(1)***	(1)***	(1.4)***	(1.3)***		(.8)***	(1.03)***
	C	x	.27**	.2*	(.4)***	(.6)***		(.5)***	x
GDP growth .0004,0	A		x						
	B		x						
	C		x						
gdplowtenpc .016, 0	A		.02***						.01**
	B		(.004)***						
	C		.008***						.01***
Polity IV-2 .025,0	A			x					
	B			.07*					
	C			(.14)***					
CPIA .009,0	A			x					
	B			x					
	C			1.9***					
Corruption .02,0	A			x					
	B			2.8***					
	C			(1.6)***					
low10GDPshare .03,0	A				9.2***				
	B				.84*				
	C				1.6***				
gender equality .06,0	A				68***	46***	6.4***	6.5***	5.7***
	B				5.8***	5.7***	.17***	2.3***	2.7***
	C				1.1**	1.3***	x	.9***	1.05**
Social fragmentation 0.01	A					18***	x	13***	7.5***
	B					x	(3.9)***	x	x
	C					8***	3.8***	2.3***	3.4***
PROB > CHI2		0	0	0	0	0	0	0	0
WALD CHI2		534	571	935	499	531	385	775	954
DF		24	30	33	30	33	27	18	24
Log LIKELIHOOD		-386	-289	-322	-219	-218	-331	-492	-399
NO. OBS		474	474	459	466	469	469	623	566
pseudo R2		0.55	0.63	0.61	0.81	0.82	0.58	0.49	0.56
BASE OUTCOME		D	D	D	D	D	D	D	D

The correlation of overshoot and collapse (A) with relatively lower state resource availability and belligerent capacities (e.g., *ln GDP per capita* and negative correlation with *oil rents*), coupled with higher levels of state reach (*security forces per km<sup>2</sup>* and *percent urban population*) is consistent with assumptions of resource constraints on belligerent capacities leading to overshoot and collapse (Figure 1).<sup>135</sup> The correlation of exponential (C) with low state reach coupled with higher belligerent capacities is consistent with the assumption of underlying structures that result in exponential growth (e.g., absence of strong balancing loops through resource constraints or dampening response functions on belligerents). These results are also consistent with research showing the dependence of conflict duration on state capacity to achieve a victory e.g., (de Rouen & Sobek, 2004; Holtermann, 2012).



**Figure 1 Relationship Between State Capacity, State Reach, and Outcome**

<sup>135</sup> The distribution of state capacity for overshoot and collapse (A) measured as *ln GDP per capita* has larger average variance than other outcomes, as it included South Africa and Namibia. However, the economies of these outlier states do not depend on oil rents, in contrast to the outliers in other outcomes, which derive their income from oil (e.g., Angola in damped impulse (B), Gabon in outcome C, and Algeria in outcome D). The most extreme value of the outliers for South Africa and Namibia are less than the most extreme values of

Damped impulse (B) is positively correlated with state capacity measured as percentage of GDP from *oil rents* and *military expenditures as a percentage of GDP*, and negatively correlated with belligerent recruiting capacity as proxied by *population* size. A significant difference between overshoot and collapse (A) and damped impulse (B) appears to be correlation with oil. While dependence on oil is associated with lower institutional state capacity, it also provides an economic resource to support patronage and military responses to challengers. These results are consistent with the assumption of an underlying structure characterized by a strong damping function in damped impulse (B), relative to a causal mechanism of capacity depletion assumed in overshoot and collapse (A), but challenge assumptions in the literature that higher dependence on oil results in longer durations. The impact of oil can be both balancing (B), leading to shorter durations, or reinforcing (default D), leading to longer durations, depending on how the resource is used to manipulate relative capacities between state and belligerents.

In Model C, economic opportunity cost measured by *GDP growth* is insignificant. Economic opportunity cost measured by depth of poverty (*GDP per capita of lowest decile*) is significantly and positively associated with overshoot and collapse (A) and exponential (C), and negatively associated with damped impulse (B). The size of the coefficient for B and C is very small, however. In Model D, political opportunity costs (measured by *polity* and *corruption* indices) are positively and significantly correlated with damped impulse (B) compared to oscillatory (D), and significantly and negatively correlated with exponential (C) compared to oscillatory (D). The size of the effect through *corruption* is stronger than through the *polity* scores. Neither is significantly correlated with exponential (A).

For the most part, the regression results for proxies of opportunity costs in combination with state capacity appear to be consistent with assumed underlying structures for the outcome behaviors. Higher opportunity costs correlated with overshoot and collapse (A) should contribute to overshoot and collapse in the presence of lower belligerent recruiting capacities; higher political opportunity costs correlated with damped impulse (B) contribute to the damping function; lower political opportunity costs correlated with exponential (C) indicate the lack of a balancing loop on exponential growth of conflict.

Examination of the distribution of observations suggests an alternative interpretation, however, of the causal mechanism for overshoot and collapse when the skewed distribution with extreme outliers is taken into account. The bifurcated distribution of observations for poverty depth and polity scores suggest that two mechanisms can lead to overshoot and collapse. Extremely high depth of poverty (very low levels of GDP per capita of lowest decile) result in lack of economic resources for belligerents to engage in conflict, where as low poverty depth (higher GDP per capita of lowest decile) increases opportunity costs, resulting in lack of motivation for popular support for belligerents to engage in conflict and more likelihood of negotiations (Figure 2).

In Model E, all outcomes are positively correlated with *percent share of GDP held by lowest decile* and *gender equality*, compared to oscillatory (D). However, higher levels of gender and economic equality are much stronger predictors of overshoot and collapse (A), all else being equal. Higher value of *GDP share for lowest decile* is interpreted as a proxy for relative deprivation, while *gender equality* additionally is a

proxy for social and institutional cooperative conflict management capacities and respect for human rights.<sup>136</sup>

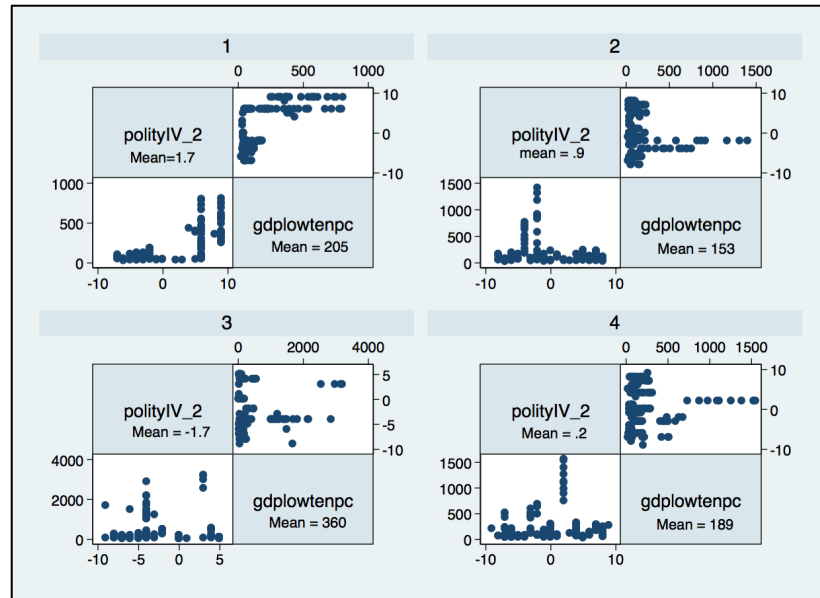


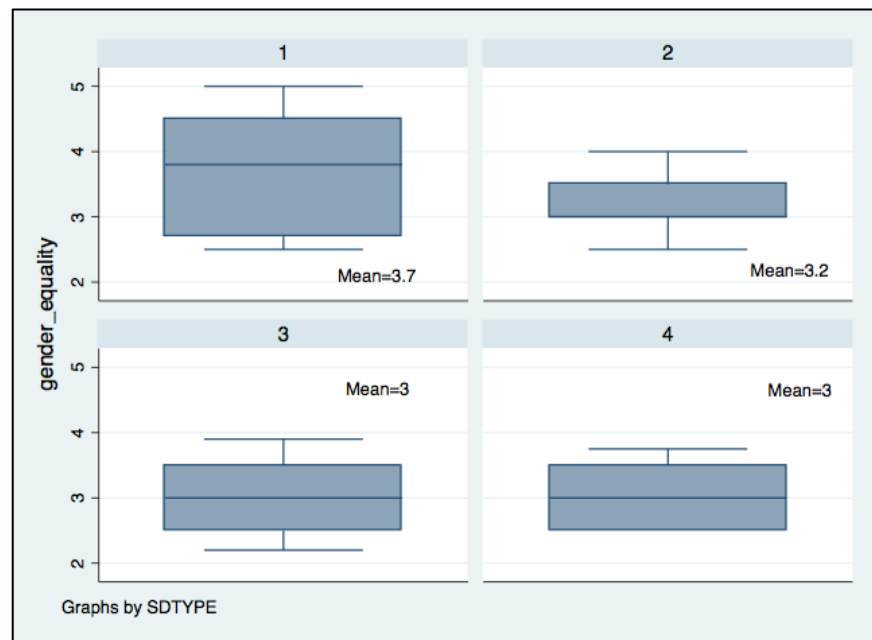
Figure 2 Relationship Between Poverty and Polity and Outcomes<sup>137</sup>

The results in Model E are consistent with those expected for overshoot and collapse behavior. Higher *share of GDP per capita of the lowest decile* reflects less relative economic deprivation, balancing conflict by reducing conflict drivers and increasing opportunity costs (relative to oscillatory (D)). Acting together, the measures of economic and *gender inequality* are proxies for deeper capacities with the society for cooperatively managing grievances and reconciling past aggression. Where these capacities are higher, civilian resiliency is higher, making belligerent recruitment harder,

<sup>136</sup> Gender equality is significantly and positively correlated with the CPIA index (.54) and negatively correlated with corruption (.58). It is more robust across all models than either of these two indicators.

<sup>137</sup> In Figure 2, SDTYPE 1= Outcome A (overshoot and collapse), SDTYPE 2= Outcome B (damped impulse), SDTYPE 3= Outcome C (exponential), and SDTYPE 4 = Outcome D (oscillatory behavior).

resulting in a collapse of aggression.<sup>138</sup> The distribution of observations for gender equality for each of the outcome is consistent with this interpretation. The mean value of gender equality is significantly higher for overshoot and collapse (A), and is lowest for outcomes C and D (Figure 3). Interpreting gender equality as a proxy for cooperative conflict management capacity may amplify balancing feedback in overshoot and collapse (A) due to economic factors discussed for Model D.



**Figure 3 Gender Equality by Outcomes<sup>139</sup>**

Models F.1, F.2, F.3 control for *social fragmentation* (Model F.1) and the potential effects of correlations between risk factors (Model F.2 and F.3). *Social fragmentation* is positively correlated with outcomes A and C, although it does not add to explanatory power of the model. The larger coefficient for overshoot and collapse (A) is consistent with lower state reach. There is possibility of variable inflation due in Models

<sup>138</sup> These assumptions are based on behavioral psychology of aggression, supported by studies of aggression and conflict resolution in primate societies (Flack, Karkauer, & Waal, 2005; Waal, 2000).

<sup>139</sup> In Figure 3, SDTYPE 1= Outcome A (overshoot and collapse), SDTYPE 2= Outcome B (damped impulse), SDTYPE 3= Outcome C (exponential), and SDTYPE 4 = Outcome D (oscillatory behavior).



B-F.1 due to multicollinearity introduced by correlation between *GDP share of lowest decile* and *gender inequality* (.38), *male youth unemployment* and *ln gdp per capita* (.58), *ln gdp per capita* and *oil rents* (.45), and *ln GDP per capita* and *percent urban population* (.67). The correlations between relative state capacity, state reach, poverty, and inequality remain robust in Model F.3 and G.

In summary, the regression analysis rejects the null hypothesis for H1, and coefficients for the likelihood of categorical outcomes are generally consistent with the assumed causal mechanisms for the underlying structures of those outcomes. Outcome D, oscillatory behavior, is the most frequently observed. The relative likelihood of outcomes A and B compared to D are correlated with proxies indicating lower state and belligerent capacity, higher opportunity costs, lower gender and economic inequality, and higher state reach. Percentage of GDP from oil (*oil rents*) is a differentiating factor between outcomes A and B, reinforcing the hypothesis that shorter durations in overshoot and collapse (A) are most likely to be attributable to a mutual collapse of resources whereas in damped impulse (B) they are attributable to strong state response and sustained dampening response to conflict. The relative likelihood of exponential (C) compared to D is correlated with proxies indicating lower state capacity and higher belligerent capacity, lower state reach, and lower governance, and lower capacities for cooperative conflict management (proxied through gender inequality).

### **Hypothesis 2: Conflict Effects on Outcomes**

H2 tests the hypothesis that conflict persistence patterns are explained by characteristics of the conflict environment, with expected results for coefficients of conflict risk factors from regression models shown in Table 3.

**Table 3 Expected Results of Multinomial Regression Analysis for H2**

Reference Behavior	Type of Conflict	Forest Cover	Border Wars	Number Belligerents	Religious Extremism
A	+	-	-	-	-
B	+	+	+	-	-
C	-	+	+	+	++
D	-	+	+	++	-

*Conflicts across the border* are hypothesized to increase relative capacities of challengers to the state by diluting state resources and increasing opportunities for illicit trade, arms, and recruitment. Longer durations are most frequently associated in the literature with territorial conflicts, so that higher values for the risk factor, *type*, should be correlated with shorter durations (e.g., outcomes A or B).<sup>140</sup> Higher number of *belligerent groups* (which are positively correlated with ethnic factions), *conflict on the borders*, and *forest cover* are assumed to preference relative belligerent capacity, lower state reach, and contribute to the difficulty of reaching negotiated settlements e.g., (Fearon, 2004; Hegre, 2004). *Religious extremism* is expected to be correlated with exponential (C).

Models H-M in Table 2 predict the likelihood of outcomes based on correlations between conflict characteristics alone and in combination with country level characteristics, and the explanatory power of these correlations. Model H tests the

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<sup>140</sup> The type of conflict is derived from UCDP/PRIO conflict data project typology of incompatibilities as either territorial or government. Territorial conflicts concern “the status of a territory, e.g., the change of the state in control of a certain territory (interstate conflict), secession or autonomy (internal conflict)”. Government conflicts concern “the type of political system, the replacement of the central government or the change of its composition” (Themnér, 2013), p 5. Territorial conflicts are coded as 1 and government conflicts are coded as 2.

Table 4 Multinomial Regression Tests for H2

Multinomial Logistic Regression Hypothesis Testing H2							
Conflict Risk Factors		Model H	Model I	Model J	Model K	Model L	Model M
In GDP percapita .01,.5	A B C						
Oilrents (% GDP) .02,0	A B C		(.84)*** .06*** x	(.77)*** .08*** x	(.92)*** .06*** x	(.8)*** .07*** x	(.7)*** .09*** x
State Security Forces/km2 .16,0	A B C		.01*** .004*** (.01)***	.01*** .003** (.02)***	.01*** x (.02)***	.01*** .003** (.02)***	.01*** x (.02)***
In population .09,0	A B C		(1.6)*** (.69)*** (.18)***	(1.8)*** (.74)*** (.21)***	(3.7)*** (.8)*** (.02)***	(3.8)*** (.75)*** (.33)***	(3.8)*** (.78)*** (.48)***
gdplowtenpc .016,0	A B C		.008*** .002* .005***	.009** .002* .005***	.02*** .003** .005***	.02*** .003** .006***	.01** .004** .006***
Polity IV-2 .025,0	A B C		x .11*** (.09)***	.13* .13*** (.08)***	x .12*** (.09)***	.27** .19*** (.1)***	.14** .15*** (.16)***
gender equality .06,0	A B C		6*** 3.1*** .9***	6.3*** 3.3*** 1.***	7.4*** 3.3*** 1.2***	7.4*** 3*** 1.5***	9.3*** 3*** 1.8***
Social fragmentation .01,0	A B C		7.1*** x x	7.1*** x x	12*** (1.6)* x	14.5*** x x	15.6*** x x
border wars .001,.0002	A B C	1.4*** x x		1.7** .83*** .6**	2** .8*** .62*	3*** 1.1*** .5*	2.7*** .99*** x
type wars .002,.2	A B C	x (.24)** (.7)***			12*** 1.2*** x	12.2*** 1.*** x	8.2** .5** (.5)*
number belligerents .04,0	A B C	(.1)*** (.14)*** .03***				(.12)* (.2)*** .05**	x (.16)*** .1***
forest .07,0	A B C	(.02)*** .02*** .03***					.08*** .04*** .08***
PROB > CHI2		0	0	0	0		0
WALD CHI2		227	786	823	704		558
DF		12	21	24	27		33
Log LIKELIHOOD		-949	-451	-443	-426		-338
NO. OBS		789	589	588	588	571	571
pseudo R2		0.13	0.56	0.57	0.58	0.59	0.69
BASE OUTCOME		D	D	D	D	D	D

explanatory power of conflict characteristics alone. Model I is the most efficient model<sup>141</sup> for explaining the likelihood of outcomes on basis of endogenous country characteristics alone (e.g., relative state capacity, state reach, opportunity costs, governance, grievances, and social fragmentation), with coefficients consistent with those in Models B-G. Models J-N present the marginal increase in influence of each conflict characteristic when combined with Model I, and the effects on significance, size, and/or sign of the coefficient for the risk factors associated with each outcome.

Results of multinomial regression analysis reject the null hypothesis for H2 (Table 2). Belligerent groups associated with *religious extremists* is strongly and negatively correlated with overshoot and collapse (A), and weakly and negatively correlated with outcomes B and C, relative to oscillatory (D). These results, however, are not robust to subsequent model specifications for testing H2-H5 and are dropped from the models discussed below.

The explanatory power of conflict characteristics alone (Model H) is very low compared to country level characteristics alone (Model I), with log likelihood of -949 (compared to -451) and pseudo  $R^2$  of .13 (compared to .56). Models that include both country and conflict risk factors see a marginal increase in explanatory power compared to H1. Correlation coefficients of the risk factors for country level characteristics are robust to controlling for conflict characteristics.

The likelihood of exponential (C) relative to the base oscillatory (D) in Model H is expected to be positively correlated with *numbers of belligerents, forest cover, border*

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<sup>141</sup> The most efficient model is that which optimizes explanatory power using the least number of variables, controlling for multicollinearity.

*conflict* and *type* of conflict (as indicated in Table 3).<sup>142</sup> Outcomes A and B should have opposite correlations. Results in Table 4 are only somewhat consistent with expectations, do not have strong differentiating or explanatory power, and contain some discrepancies with assumptions of causal mechanisms associated with each outcome.

All else being equal, the likelihood of overshoot and collapse (A) relative to D is positively correlated with *conflict on the border*, and negatively correlated to *number of belligerent* groups and lower *forest cover*. The likelihood of damped impulse (B) relative to D is negatively correlated to *type* of conflict and *number of belligerent groups*, and positively correlated to *forest cover*. The likelihood of exponential (C) relative to D is negatively correlated with *type* of conflict and positively correlated with *number of belligerent groups and forest cover*.

With the exception of the effect of *forest cover* on likelihood of overshoot and collapse (A), the coefficients for conflict risk factors in Models J-M are robust. The strong positive correlation of *forest cover* and *border conflict* with likelihood of outcomes A and B are both surprising and challenge the assumption of weaker belligerent capacity relative to state in these models. The negative correlation between likelihood of outcomes A and B and *number of belligerents* is consistent with the assumed mechanisms in both the overshoot and collapse and the damped impulse structures, and with literature that associates more belligerent groups with longer durations. The positive correlation between likelihood of outcomes A and B and *type* of conflict is also consistent with assumed mechanisms in the underlying structures, and with the literature that associates longer durations with territorial conflicts over land.

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<sup>142</sup> Positive correlation with *conflict type* implies that the incompatibility is primarily political regarding control of government.

In summary, the regression analysis rejects the null hypothesis for H2, although *border conflict*, *type of conflict*, and *number of belligerent groups* provides only marginal increase in explanatory power of the outcomes. Oscillatory behavior (D) is robustly correlated with low *forest cover* and fewer *border conflict* compared to overshoot and collapse (A), damped impulse (B), and exponential (C), which suggests a stronger balancing loop created by increased state reach. Oscillatory behavior (D) results from the corresponding stronger reinforcing loop created by the correlation of D with territorial conflict compared to overshoot and collapse (A) or damped impulse (B). There is weak evidence that exponential growth (C) and D are differentiated by the higher *number of belligerent groups* correlated with C, which is consistent with exponential growth.

### **Hypothesis 3: Aid Effects on Outcomes**

H3 tests the hypothesis that, all else being equal, different types and levels of aid assistance can explain the likelihood of conflict persistence outcomes, controlling for country characteristics and aid effectiveness. Foreign aid is hypothesized to act through multiple mechanisms via balancing and reinforcing feedback loops to affect conflict persistence, as discussed in Chapter 1 and 2. Expected results shown in Table 5 assume that, all else being equal, aid in conflict settings affects conflict persistence through reinforcing feedback loops as both a driver (competition over aid as a resource) and an enabler (increased capacities of belligerents). Balancing affects of aid theoretically should act through mechanisms that increase state capacity, governance, and opportunity costs. However, correlation analysis shows a strong, negative correlation only between higher levels of *aid as percentage of GDP* and opportunity costs (measured as *GDP per*

*capita of lowest decile*). Correlation between aid measures and governance measures is insignificant, and aid is negatively associated with oil rents. This suggests that the contribution of aid to balancing loops for conflict persistence may be weaker than aid contributions to reinforcing loops.

**Table 5 Expected Results of Multinomial Regression Analysis for H3**

Reference Behavior	Total Aid % GDP	% Aid Humanitarian	Military Assistance	State Reach	State Security Capacity	Governance	Aid Effectiveness
A	-	-	-	++	-	-	+
B	-	-	+	-	++	-	-
C	+	++	-	-	-	-	-
D	+	+	-	-	+/-	+	+

The regression analysis tests the hypothesis for the explanatory power of aid alone, and in combination with country characteristics, for the likelihood of outcomes. Four aid variables are *(ln) total aid* (development and humanitarian) *as a percentage of GDP*, *percent of total aid that is humanitarian*, *infant mortality* (as a proxy for aid effectiveness), and *US military assistance*.<sup>143</sup> Non-military aid variables alone have very low explanatory power (Model N in Table 6). Controlling for aid (Models O-S in Table 6) has no significant impact on the coefficients for country level risk factors in Model I.

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<sup>143</sup> Development aid was also tested and found to have no statistical significance as a predictor of any outcome.

Table 6 Results of Multinomial Regression Analysis for H3

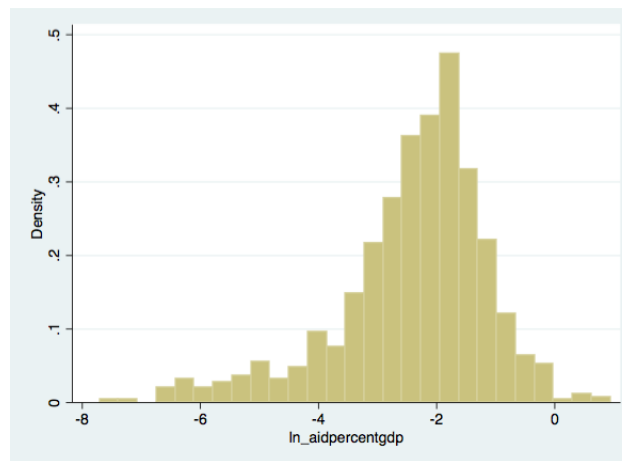
Multinomial Regression Analysis for H3								
Conflict Risk Factors		Model N	Model I	Model O	Model P	Model Q	Model R	Model S
Oilrents (% GDP) .02,0	A		(.84)***	(1.9)***	(.84)***	(.74)***	(.78)**	(1.1)***
	B		.06***	.08***	.08***	.09***	.1***	.08***
	C		x	x	x	x	x	x
State Security Forces/km2 .16,0	A		.01***	.01***	.008***	.01***	.009***	.04***
	B		.004***	.004***	.002*	.005***	.004***	.005**
	C		(.01)***	(.02)***	(.02)***	(.02)***	(.02)***	(.02)***
ln population .09,0	A		(1.6)***	(2.2)***	(1.6)***	(1.9)***	(1.9)***	(8.1)***
	B		(.69)***	(.62)***	(.7)***	(1.3)***	(1.2)***	(.76)***
	C		(.18)***	(.12)***	(.2)***	(.2)***	(.25)***	(.18)***
gdplowtenc .016,0	A		.008***	.03***	.009**	.01**	.01**	x
	B		.002*	.003***	.002*	.005***	.006***	x
	C		.005***	.006***	.004***	.007***	.007***	.003***
Polity IV-2 .025,0	A		x	x	x	.15**	x	1.5**
	B		.11***	.11***	.23***	.2***	.22***	.1**
	C		(.09)***	(.09)***	(.12)***	(.1)***	(.13)***	(.2)***
gender equality .06,0	A		6***	8.5***	6.4***	6.6***	7.2***	20***
	B		3.1***	3***	3.3***	4.4***	4.5***	3.4***
	C		.9***	.77***	1.3***	1***	1.6***	1.1***
Social fragmentation .01,0	A		7.1***	10***	6.8***	7.6***	7.2***	86***
	B		x	x	x	.6***	x	x
	C		x	x	x	x	x	x
ln aid % GDP .006,.0006	A	x		2.5***				
	B	.3***		.44***				
	C	.14**		.3***				
% humanitarian aid 0.02,0	A	x			.32*		.57***	
	B	.11***			.18**		.3***	
	C	x			.26***		.3***	
infant mortality .02,0	A	x				x	.01*	
	B	.005***				.03***	.03***	
	C	x				x	x	
US military assistance .02,.0005	A							.46***
	B							x
	C							x
PROB > CHI2		0	0	0	0	0	0	0
WALD CHI2		69	786	397	582	645	492	287
DF		9	21	24	24	24	27	24
Log LIKELIHOOD		-983	-451	-439	-415	-400	-363	-229
NO. OBS		732	589	589	546	589	546	352
pseudo R2		0.03	0.56	0.58	0.57	0.6	0.61	0.66
BASE OUTCOME		D	D	D	D	D	D	D

Contrary to expectations, the likelihoods of overshoot and collapse (A), damped impulse (B), and exponential (C) relative to oscillatory behavior (D) are all positively correlated with aid, regardless of type. The strongest positive correlation is between the



likelihood of overshoot and collapse (A) and increased levels of *aid as percentage of GDP*. One interpretation is that aid increases opportunity costs, contributing to collapse of conflict. Alternatively, the result could be due to increased development aid following collapse of conflict. The path dependency cannot be determined from the multinomial regression model specified and requires further examination in process tracing through case studies or time lagged regression analyses on micro-level conflict events as the dependent variable. However, some insights are provided by examining the variance in aid within categories and individual countries of conflict (Figures 1-3).

The variable, *ln aid as percentage of GDP*, is normally distributed (Figure 4), which indicates exponentially decreasing frequency of observations with higher aid values. Figures 5-6 reveal outlier observations with high values that could be biasing the results of the regression analysis.<sup>144</sup>



**Figure 4 Density Plot of ln Aid as Percentage of GDP**

<sup>144</sup> In Figures 4-5 , SDType1 = Reference Behavior A, SDType2 = Reference Behavior B, SDType3 = Reference Behavior C, and SDType3= Reference Behavior D.

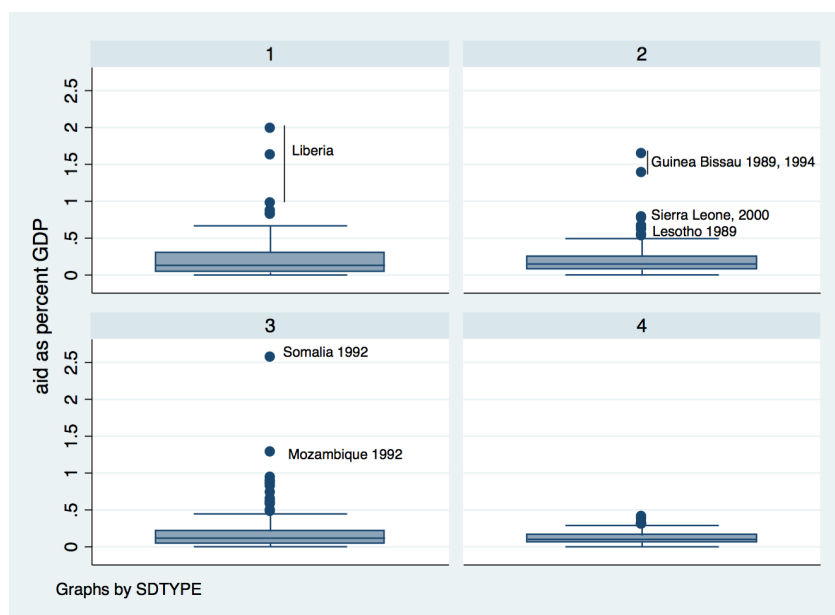


Figure 5 Comparative Density Plots of Aid as Percentage of GDP by Outcome Category<sup>145</sup>



Figure 6 Comparative Density Plots for Aid as Percentage of GDP by Country

<sup>145</sup> In Figures 5-6, SDTYPE 1= Outcome A (overshoot and collapse), SDTYPE 2= Outcome B (damped impulse), SDTYPE 3= Outcome C (exponential), and SDTYPE 4 = Outcome D (oscillatory behavior).

The mean value for *aid as a percentage of GDP* for overshoot and collapse (A) is 20%; for damped impulse (B) is 19%; for exponential growth (C) is 18%; and for oscillatory behavior (D) is 11%. However, overshoot and A, B, and C all contain outliers with observations that are significantly higher than the categorical average. Categorical overshoot and collapse (A) contains the highest variance among observations and oscillatory (D) has the lowest.

In overshoot and collapse (A), the most significant outlier is Liberia, which received a huge infusion of aid beginning in 2007 - 2008 (160-200% of GDP), 4 years after the end of the second civil war, and continued to remained high (~90%) until 2011. In damped impulse (B), the outliers are Guinea Bissau, Sierra Leone, and Lesotho. Guinea Bissau and Lesotho received abnormally high values of aid relative to GDP in 1989 (160% and 50%, respectively) that have no apparent relationship to conflict activity, and again in 1991 for Lesotho (60%) and 1994 for Guinea Bissau (140%). Sierra Leone received abnormally high levels of aid relative to GDP (50-60%) from 2000-2004, prior to and just after the end of the civil war in 2002. The initial infusion immediately followed the Lome peace agreement in 1999 and arrived with the UN peacekeeping mission. The largest anomaly the observations is in exponential (C), with a massive infusion of humanitarian relief aid into Somalia in 1992 during the early stages of the civil war, when aid levels were increased from prewar levels of 36% in 1990 to 260% in 1992. The goal of the failed UNITAF mission led by the US was to safeguard these supplies in advance of a UN peacekeeping mission. Other outliers in exponential (C) are

observations from Mozambique, where aid soared from 44% of GDP in 1991 to 130% in 1992 at the end of the civil war.

These cases show that high levels of aid introduced into active conflict settings or immediately following cessation of violence are more likely to be associated with exponential growth; whereas high levels of aid introduced only after a period of reform are more effective at reducing conflict risk, especially when sustained at a significant level for a number of years post-conflict to avoid foreign aid “shocks” that could trigger conflict recurrence (Nielsen, Findley, Davis, Candland, & Nielson, 2011). The observations reinforce policy recommendations in the literature that advocate a period of at least 4 years of reconciliation, stabilization, and reform to relax binding constraints on absorptive capacity prior to infusing large amounts of aid into post-conflict settings (Chavet & Collier, 2006).

This argument is supported by the results for *humanitarian aid as a percentage of total aid*, which has differentiating power among overshoot and collapse (A), damped impulse (B), and exponential (C) only when controlling for aid effectiveness (Model R). In this case, higher levels of humanitarian aid as a percentage of total aid are more strongly correlated with the likelihood of overshoot and collapse (A).

*US military assistance* alone contributes more explanatory power for the likelihood of outcomes, and is positively correlated with overshoot and collapse (A) (Model S). However, this result may be affected by missing data and fixed effects, in that no observations prior to 2000 are included in the analysis due to lack of data. The strategic concerns of the US in the global war on terror since 2001 may introduce a bias in the data. The largest single recipients of US military assistance in the observations are

Somalia and Sudan, both countries with exponential growth and of concern in the global war on terror. As a group, countries with overshoot and collapse (A) receive the largest amount. While these countries (Chad, Burundi, Liberia, Namibia, Rwanda, and South Africa) do not hold particularly strategic positions viz-a-viz the war on terror or pose terrorist threats, the violent civil wars that they experienced destabilized entire regions with repercussions that are still of concern today.

In summary, the regression results reject the null hypothesis for H3. They show that aid provides marginal explanatory power to differentiate likelihood of outcomes when considered in combination with country risk factors that impact aid effectiveness and absorptive capacity. However, the similarity of positive correlation of aid variables with different outcomes precludes direct interpretation of results on the basis of the multinomial regression analysis alone. A temporal dimension is required to account for different mechanisms that reinforce or balance conflict, depending on when the aid is introduced relative to the conflict trajectory. This path dependency introduces the possibility of Type I errors (failure to reject the null hypothesis).

#### **Hypothesis 4: Peace Operation Effects on Outcomes**

H4 tests the hypothesis that the extent of interventions through peace operations can explain outcomes for conflict persistence, where expected results are as shown in Table 4. The independent variables are troop-mission months of different types of peace operations (defined in Chapter 1 and discussed in Chapter 2) and *peace agreements or negotiated settlements*.<sup>146</sup> The likelihood of oscillatory behavior (D) is expected to be

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<sup>146</sup> Other potential independent variables to measure the presence of peace operations are troop size alone, mission months, and a binary 0/1. All of these variables were tested; the variable, troop-mission months, was found to be the most robust and significant indicator.

negatively correlated with the extent of peace operations compared to overshoot and collapse (A) or damped impulse (B); exponential (C) is expected to be correlated with higher extent of coalition or single actor operations; overshoot and collapse (A) is expected to be correlated with a higher extent of UN operations following negotiated settlements or peace agreements, and damped impulse (B) is expected to be correlated with a higher extent of regional operations. Metadata on these interventions were previously summarized in Table 5, Chapter 2 and are discussed in more detail below.

**Table 7 Expected Results of Multinomial Regression Analysis for H4**

Reference Behavior	UN Missions	Regional Missions		Ad hoc missions		Peace Agreements or Settlements
		AU Missions	Other Regional Organizations	Coalition Missions	Single Actors	
A	++	-	-	-	-	++
B	-	-	+	+	+	-
C	-	+	+	++	++	+
D	--	-	-	-	-	-

Group A, overshoot and collapse, consists of Liberia, South Africa, Namibia, Burundi, Rwanda, and Chad. Five of the six conflicts in Group A - Liberia, Chad, Namibia, Rwanda and Burundi - experienced military interventions by ad hoc coalitions or single actors.<sup>147</sup> Group B, damped impulse, consists of Sierra Leone, Angola, Mali, Lesotho, Guinea-Bissau, Guinea, and the Republic of Congo. Four of these seven experienced military interventions by a single actor -- Mali, Lesotho, the Central African

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<sup>147</sup> Approximately 4000 US troops were present in Liberia in 2003 (1200 of which were advisors) compared to regional ECOMOG peacekeepers from 1990-1998 that peaked with 12000 troops from 1993-1997; and UN peacekeeping troops from 2003 – present, peaking at 14,500 in 2006. The South African Protection Support Detachment had 700 troops in Burundi from 2000-2003 (Boshoff, Vrey, & Rautenbach, 2010). The African Union Mission (AMIB) and the UN Mission (ONUB) replaced the SAPSD at the end of 2003. France has had a continuous presence of approximately 1000 troops in Chad since 1990, while the EU deployed a mission of 3700 troops for 12 months to Chad in 2008.

Republic, and the Republic of Congo.<sup>148</sup> Coalition and single actors were present in Sierra Leone, Mali, and Congo, and Lesotho for a total of 349 mission months. Group C, exponential growth, consists of Somalia, Nigeria (Boko Haram), Mozambique, Sudan, Mauritania, Burkina Faso, Cameroon, Gabon, and the DRC. Five of these – Somalia, Sudan, the DRC, Gabon, and Mozambique – experienced military interventions by single actors or coalitions.<sup>149</sup> Group D, oscillatory behavior, consists of Senegal, Ethiopia (ONLF, OLF and political), Ivory Coast, Uganda, Kenya (Kikuyu and Turkana), Nigeria-political, Algeria, Zimbabwe, Niger, and CAR (political and Seleka coalition). Five of these - Ivory Coast, Algeria, Ethiopia, Senegal, and the CAR experienced military interventions by external single actors or coalitions.<sup>150</sup>

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<sup>148</sup> France intervened on the side of the government in Mali with 4000 troops from January 2013-July 2014 (Operation Serval); the South African Development Community (led by South Africa and Botswana) intervened on behalf of the government in Lesotho with 700 troops from September 1998-May 1999 (Likoti, 2007); in 1997 Angola intervened in the Republic of Congo to support rebels with 1000 troops to gain control of Brazzaville after a coup that reinstated former Marxist dictator Sassou'Nguesso. The EU provided 2275 troops from June 2006 – November 2006 to support historic elections in the Congo (EUFOR RD Congo).

<sup>149</sup> The US-led coalition, UNITAF, intervened in Somalia from December 1992-May 1993 with 37000 troops to restore order ahead of a UN Peacekeeping force, and to safeguard relief supplies; Ethiopia intervened with 10000 troops ostensibly to support the Transitional Federal Government of Somalia in fighting against the ICU from July 2006 – January 2009; Kenya intervened from October 2011 - June 2012 with 2400 troops to counter Al Shabaab in southern Somalia. Rwanda, Uganda, Angola, and Zimbabwe intervened in support of the DRC government with up to 3100 troops in 1998-1999. Rwanda and Uganda switched their support to the opposition with 9000 troops in 1999-2000; while Zimbabwe, Angola, Namibia, and Sudan supported the government with up to 13,500 troops. The EU has intervened twice in the DRC with more than 2000 troops: France successfully led the EU Interim Emergency Multinational Force (IEMF) from June 2003- September 2003 in Operation Artemis to restore order, improve humanitarian conditions, disarm militias, and protect government infrastructures, IDPs, civilian population, UN personnel (MONUC), and humanitarian aid workers. Since October 2002 France has maintained an intervention force of 450 troops to support local armed forces of the government and the regional African force FOMUC in the Central African Republic (Operation Boali).

<sup>150</sup> France intervened to support the UN Operation in Cote d'Ivoire (UNOCI) with a rapid reaction force from September 2002 – January 2015 with a peak of 5000 troops in a mission that evolved from intervention and peace enforcement to stabilization and reorganization (Operation Licorne). At the request of the Central African Republic, France deployed 1700 troops from December 2013-September 2014 to support the African-led International Support Mission (MISCA) restore order in areas targeted by the Muslim rebel group, Seleka and “use any necessary means” to disarm their militias and prevent genocide (Operation Sangaris).

Four of the six conflicts in Group A experienced UN peacekeeping operations for a total of six missions with a combined 369 UN mission months: Liberia, Burundi, Chad, and Rwanda. Three of these – Liberia, Burundi, and Chad – also experienced regional peacekeeping operations for a total of six missions and 156 mission months.<sup>151</sup> Three of the seven conflicts in Group B experienced UN peacekeeping operations for a total of seven missions with a combined 245 mission months: Sierra Leone, Angola, and Mali. Two of these – Sierra Leone and Mali, also experienced regional peacekeeping operations, along with Guinea-Bissau, for a total of nine regional peacekeeping operations and 120 mission months.<sup>152</sup> Four of the nine conflicts in Group C experienced UN peacekeeping operations for a total of seven missions with 224 mission months: Somalia, Sudan, Mozambique, and the DRC.<sup>153</sup> Of the twelve conflicts in Group D, only the Ivory Coast and CAR experienced UN peacekeeping operations for a total of five missions with combined 182 mission months.<sup>154</sup>

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<sup>151</sup>The UN peacekeeping operations in Group A are: UNOMIL (September 1993- September 1997) and UNMIL (September 2003 through present) in Liberia; ONUB (May 2004-December 2006) and BINUB (February 2007-December 2012) in Burundi; MINURCAT (September 2007-December 2010) in Chad and UNAMIR (October 1993-March 1996) in Rwanda. Regional peacekeeping operations in Group A are: ECOMOG-Lib (August 1990 – December 1998) and ECOMIL (September 2003- October 2003) in Liberia; and AMIB (April 2003- May 2004) and AUSTF (January 2007 – April 2009) in Burundi.

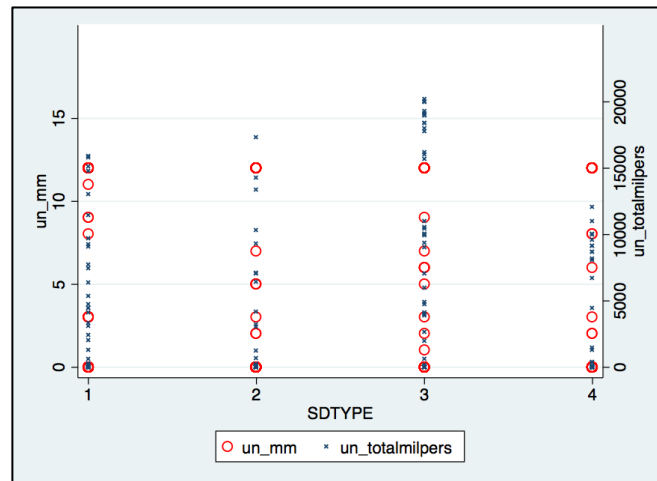
<sup>152</sup> The UN peacekeeping operations in Group B are: UNAMSIL (October 1999 – December 2005), UNOMSIL (June 1998-October 1999) in Sierra Leone; UNAVEM I, II, III (November 1990 – June 1997), and MONUA (June 1997-February 1999) in Angola; and MINUSMA (July 2013 – present) in Mali. The regional peacekeeping operations in Group B are: ECOMOG-SL (October 1997-December 1999) in Sierra Leone; AFISMA (January 2013 – July 2013) and EUTM (February 2013 to present) in Mali; FOMUC (January 2003- July 2008), CEN-SAD (December 2001 - January 2003), MICOPAX (July 2008 – March 2013), and ECOMOG-GB (February 1999 – May 1999), MISSANG-GB (March 2011 – June 2012), ECOMIB (May 2012 – present) and EU SSR (June 2008 – September 2010) in Guinea-Bissau.

<sup>153</sup> The UN peacekeeping operations in Group C are: UNOSOM I, II (April 1992-March 1995) in Somalia; UNMIS (March 2005 – July 2011) and UNIFSA (August 2011 to present) in Sudan; MONUMOSZ (December 1992-December 1994) in Mozambique;; and MONUC (March 1999 – June 2010) and MONUSCO (March 2013 to present) in the DRC.

<sup>154</sup> The UN peacekeeping operations in Group D are: MINUCI (May 2003- April 2004) and UNOCI (February 2004 – present) in the Ivory Coast; MISCA (December 2013 – September 2014) in CAR-Seleka; and MINURCA (April 1998-February 2000) and BONUCA (February 2000-August 2000) in the CAR.



The frequency distribution of *UN peacekeeping mission months* and *personnel* for the different reference behavior outcomes is shown in Figure 7, the frequency distribution of *regional peacekeeping mission months* and *personnel* for different reference behaviors is shown in Figure 8, and that of *coalition and single actor mission months* is shown in Figure 9. The wide variation in the number of mission months per year for each outcome category means that annual troop data alone is not sufficient to indicate presence of peace operations. The measure of actual annual presence for each type of mission is calculated as the annual sum of the product of troops per month x mission months for each year. The frequency of observations for *troop-mission months* for each category is shown in Figures 10-11.<sup>155</sup>



**Figure 7 Frequency Distribution of UN Mission Months and Personnel by Outcome**

<sup>155</sup> In Figures 7-11, SDTYPE 1= Outcome A (overshoot and collapse), SDTYPE 2= Outcome B (damped impulse), SDTYPE 3= Outcome C (exponential), and SDTYPE 4 = Outcome D (oscillatory behavior).

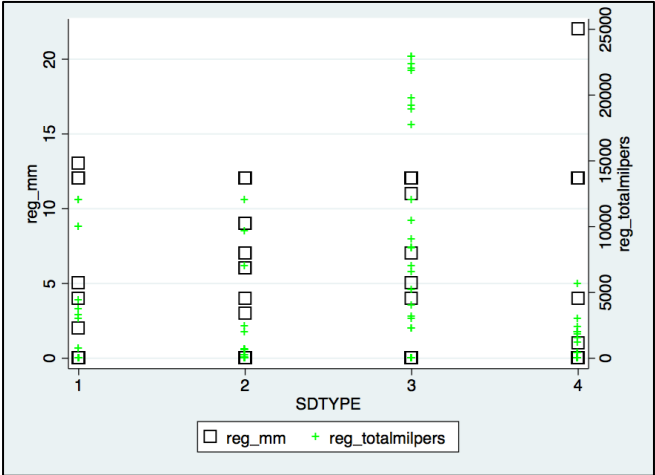


Figure 8 Frequency Distribution of Regional Mission Months and Personnel by Outcome

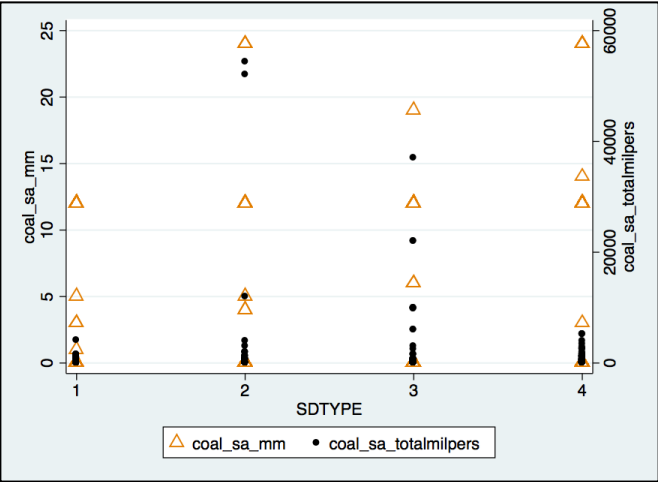


Figure 9 Frequency Distribution of Coalition and Single Actor Mission Months and Personnel

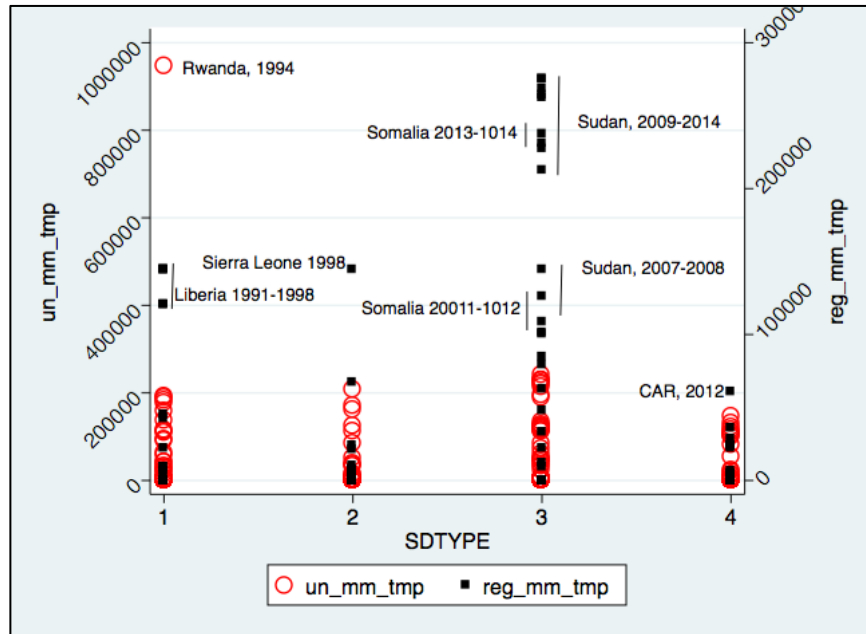


Figure 10 Frequency Distribution of UN and Regional Troop-Mission Months

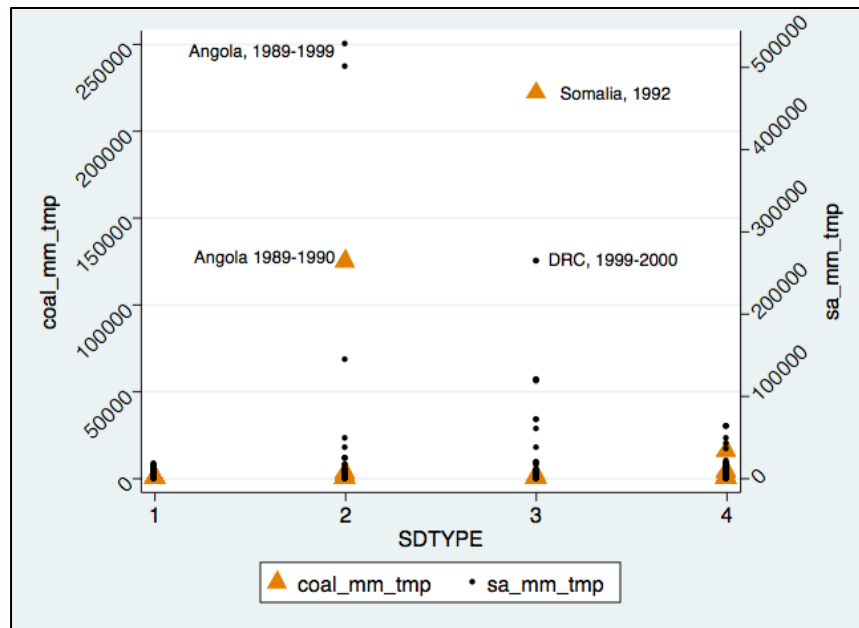


Figure 11 Frequency Distribution of Coalition and Single Actor Troop-Mission Months

Regression results Models U-Z in Table 8 reject the null hypothesis for H4, although the explanatory power of the models, indicated by pseudo  $R^2$  and log likelihood, is only marginally increased compared to Model I (the most efficient model for country

risk factors alone).<sup>156</sup> The direction and significance of coefficients for UN and regional peace operations are correlated with outcomes as expected, and with one exception, there is no affect on coefficients for country risk factors when compared to Model I. The one exception is that poverty becomes insignificant as an indicator for damped impulse (B) when controlling for UN and regional peace operations.

UN missions alone (Model U) have more explanatory power for the likelihood of outcomes than regional missions alone (Model V). The coefficients for coalition and single actor missions (Model X) and for peace agreements and settlements (Model Z) are as predicted in Table 7, but are not statistically significant, although the explanatory power is highest when controlling for these mission types (Model Z).

The likelihood of A, B, and C relative to D are positively correlated with *UN troop mission months*. However, the correlation coefficient is 3 times higher for overshoot and collapse (A) than for damped impulse (B) or exponential growth (C). With only one outlier observation for overshoot and collapse (A) (Rwanda, 1994, as shown in Figure 10), this result is robust. Recalling from H1 testing that overshoot and collapse (A) is associated with lower state and belligerent capacity, higher state reach and gender equality, a theoretical interpretation of these results could be that the presence of UN troops in the cases included in overshoot and collapse (A) reduce fear and uncertainty following cessation of violence, helping to take advantage of conditions that support peacebuilding and community resiliency through stronger reconciliation mechanisms (Fortna, 2008; Walter, 2010).

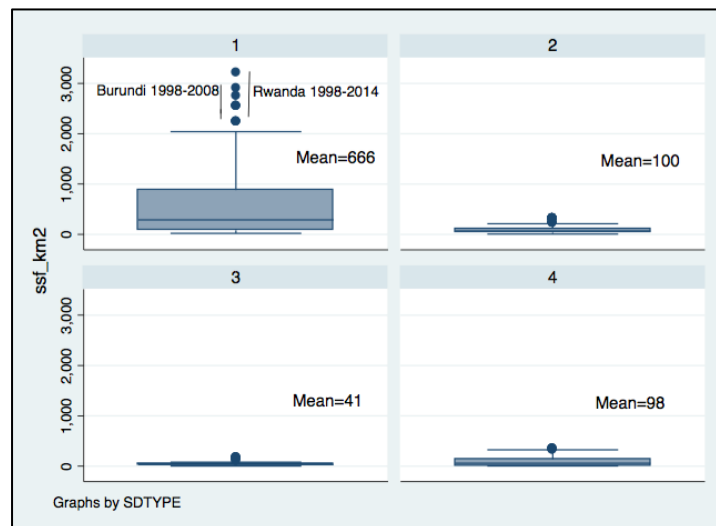
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<sup>156</sup> Model I has pseudo  $R^2$  of .56 and log likelihood of -451.

Table 8 Results of Multinomial Regression Analysis for H4

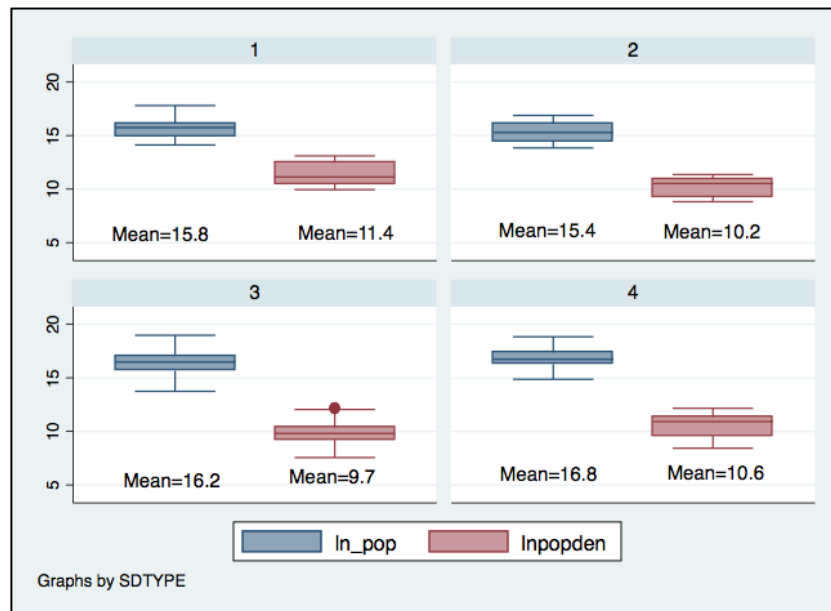
Multinomial Logistic Regression Analysis for H4							
Conflict Risk Factors		Model U	Model V	Model W	Model X	Model Y	Model Z
Oilrents (% GDP) .02,0	A	(1.9)**	(.82)***	(1.9)**	(.84)***	x	(2.4)**
	B	.07***	.07***	.07***	.07***	.07***	.07***
	C	x	x	x	x	x	x
State Security Forces/km2 .16,0	A	.01***	.01***	.01***	.01***	.01***	.01***
	B	.005***	.004***	.005***	.004***	.005***	.005***
	C	(.02)***	(.02)***	(.02)***	(.01)***	(.02)***	(.02)***
ln population .09,0	A	(2)***	(1.7)***	(2)***	(1.6)***	(2)***	(2.1)***
	B	(.78)***	(.71)***	(.8)***	(.7)***	(.8)***	(.8)***
	C	(.26)***	(.25)***	(.3)***	(.2)***	(.3)***	(.3)***
gdplowtenpc .016,0	A	.02***	.008**	.02***	.008***	.02***	.02***
	B	x	x	x	.002*	x	x
	C	.004***	.004***	.004***	.005***	.004***	.004***
Polity IV-2 .025,0	A	x	x	x	x	x	x
	B	.09***	.12***	.1***	.11***	.11***	.1***
	C	(.12)***	(.08)***	(.12)***	(.09)***	(.11)***	(.12)***
gender equality .06,0	A	7***	6.1***	7.1***	5.9***	7.1***	7.4***
	B	3.6***	3.2***	3.6***	3.1***	3.6***	3.7***
	C	1.4***	1.3***	1.6***	.9***	1.5***	1.6***
Social fragmentation .01,0	A	3.9***	(.12)***	4.1***	7***	4.8***	3.5***
	B	x	.01*	x	x	x	x
	C	x	.02***	x	x	x	x
UN mm troops .01,0	A	.06***					
	B	.02***					
	C	.02***					
Reg mm troops .01,0	A		(.12)***				
	B		.01*				
	C		.02***				
UN + Reg mm troops 0.02	A			.06***			.07***
	B			.02***			.02***
	C			.02***			.02***
Coal + SA mm troops 0.003	A				x		(.8)***
	B				x		x
	C				x		x
Total mm troops .01,0	A					.04***	
	B					.01***	
	C					.01***	
Peace or settlement 0.007	A						x
	B						x
	C						x
PROB > CHI2		0	0	0	0	0	0
WALD CHI2		669	814	625	791	510	487
DF		24	24	24	24	24	30
Log LIKELIHOOD		-418	-444	-414	-450	-420	-408
NO. OBS		589	588	588	588	589	588
pseudo R2		0.6	0.58	0.6	0.57	0.6	0.62
BASE OUTCOME		D	D	D	D	D	D

UN peace operations are more likely to reduce the security dilemma that result from relatively low, but equal state and belligerent capacities, reinforcing endogenous conflict management represented by gender equality, and supporting state reach, where state reach is proportional to population and security force density, and inversely proportional to size of population. This is less likely where oil is present (strongly correlated with damped impulse (B)), ability to enforce commitments is asymmetric, and endogenous cooperative conflict management capabilities (indicated by polity and gender equality scores) are low (e.g., exponential growth, C, and oscillatory behavior, D). On the average, both state reach and gender equality are higher for cases in overshoot and collapse (A) (Figures 3, 12-13), supporting this interpretation.<sup>157</sup> However, the wide variance within the group for gender equality and state security forces weakens the argument.



**Figure 12 Comparative Density Plots for State Security Forces by Outcome**

<sup>157</sup> In Figures 12-13, SDTYPE 1= Outcome A (overshoot and collapse), SDTYPE 2= Outcome B (damped impulse), SDTYPE 3= Outcome C (exponential), and SDTYPE 4 = Outcome D (oscillatory behavior).



**Figure 13 Comparative Density of ln Population and ln Population Density by Outcome**

The marginal increase in explanatory power of Models W, Y, and Z, which include UN and regional peace operations, is comparable to Models Q and R, which include *humanitarian aid as a percent of total aid* and *infant mortality* as a proxy for aid effectiveness, raising some concern as to whether these models are responding to a similar hidden effect. However, correlation between *infant mortality* and peace operation variables is low (maximum of .1), and there is only moderate correlation between *humanitarian aid as a percent of total aid* and combined *UN and regional troop-mission months* (.25).

In summary, regression analysis rejects the null hypothesis for H4, although explanatory power of peace operations alone is at best incremental, and does not change the coefficients for likelihood of outcomes obtained by considering country level characteristics alone. The results for coefficients on peace operations are as expected, and are consistent with assumptions for causal mechanisms in the literature for peace

operations, and with the assumptions for how those mechanisms act as balancing and reinforcing loops in underlying structures associated with each outcome to affect conflict duration and belligerent resiliency. In particular, they help to differentiate between outcomes A and B, with the likelihood of overshoot and collapse (A) being positively correlated with UN peace operations and damped impulse (B) correlated with coalition and single actor missions.

On the average, cases in overshoot and collapse (A) generally have lower state and belligerent capacities that are roughly equal, accounting for asymmetric advantages of belligerents, but higher state reach and gender equality that favor cooperative conflict management. In contrast, relative capacities of observations in damped impulse (B) tend to strongly favor the state, which may increase the security dilemma for belligerents. Large variances in the observations for these risk factors within outcome categories indicate a need for deeper analysis through individual case studies. UN, regional, and coalition/single actor missions are all associated with exponential growth in exponential (C). Removing the outlier observations for Angola, coalition and single actor missions are more likely in conflicts of longer durations (Groups C or D).

### **Hypothesis 5: Interactive Effects between Conflict, Peacekeeping, and Aid on Outcomes**

H5 tests the hypothesis that interactions between aid, peace operations, and state capacity explain the outcomes, controlling for state reach, the security environment, and opportunity costs. Expected outcomes are summarized in Table 9.



**Table 9 Expected Results of Multinomial Regression Analysis for H5**

Reference Behavior	Aid x Peacekeeping Missions x State Security Capacity	State Reach	Conflict Type	Economic Opportunity Costs
A	+	++	+	+
B	-	+	-	+
C	+	-	+	--
D	-	-	-	-

The original assumption underlying this hypothesis is that the factors tested by previous hypotheses in isolation would not provide strong explanatory power. However, as the previous sections make evident, the ensemble of country level characteristics accounting for relative capacities, state reach, opportunity costs, governance, and equality are strong explanans for the outcomes (H1). Factors accounting for conflict characteristics (H2), aid (H3), or peace operations (4) provide only marginal increases in explanatory power over country factors, but do provide insights into causal mechanisms for how those interventions interact with country characteristics. The models created for testing H5 provide robustness checks on these results, and insights into additional causal mechanisms from interactive affects.

The regression results for testing H5 are in Models IA-3, IA-4, IA-6, IA-10, and IA-11 in Table 10.<sup>158</sup> The most efficient models for testing each of the previous hypotheses also appear in Table 10 for comparison (Models I, M, R and Z). Model IA-3 includes aid, state capacity and peacekeeping forces, but does not control for conflict type. Model IA-4 controls for type of conflict; Model IA-6 controls for state reach; Model IA-10 controls for both state reach and type of conflict. Model IA-11 tests for the

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<sup>158</sup> These models also control for coalition and single actor troop missions months, but the coefficients are statistically insignificant so are not included in Table 10.

ratio between state military capacity and aid by introducing the variable,  $\ln$  of the ratio of military expenditures to total development and humanitarian aid received.

Models IA-10 and IA-11 have the greatest explanatory power, measured by both  $R^2$  and log likelihood. Log likelihood values are significantly less in Models IA-10 and IA-11. The  $R^2$  values of .8 and .77 for Models IA-10 and IA-11, respectively, are a marginal increase over the maximum  $R^2$  value of .69 for Model M. These high  $R^2$  values raise concerns of variable inflation due to multicollinearity. However, statistical tests on each regression and correlation analysis between variables (discussed in Chapter 2) confirm that this is not the case.

Several results stand out in Table 10. First, the negative correlations between oil, population and overshoot and collapse (A), and the positive correlations between *infant mortality*, *poverty*, *social fragmentation* and overshoot and collapse (A) lose statistical significance when controlling for peace operations, humanitarian aid, and conflict characteristics. Second, the sign and order of magnitude of the coefficient for type of conflict changes for exponential growth (C), while the coefficients for type of conflict become insignificant for overshoot and collapse (A) and damped impulse (B). Third, coefficients for *UN and regional troop mission months*, *percent humanitarian aid*, *gender equality*, *polity*, *forest cover*, and *state security forces/km<sup>2</sup>* are robust for the likelihood of all outcomes across all models. Additional coefficients for the likelihood of damped impulse (B) and exponential (C) that are robust across models are *ln population and poverty*. Coefficients for *oil rents* and *ethnic polarization* are significant and robust only for the likelihood of damped impulse (B); coefficients for *type* are not robust, but *type* is important as a control.

These results reject the null hypothesis for H5, with several significant effects on coefficients of influential factors when including aid, conflict, and peace operations together. The results are insensitive to control for coalition and single actor interventions and *number of belligerents*. The influences of aid and peace operations by themselves on likelihood of outcomes are not as strong as country characteristics. This suggests that these interventions do not operate as independent, exogenous mechanisms on conflict dynamics, but as amplifiers or stabilizers of conflict through endogenous country factors.

Table 10 Multinomial Regression Analysis Results for Testing H5

Multinomial Logistic Regression Analysis for H5										
Conflict Risk Factors		Model I	Model M	Model R	Model Z	IA3	IA4	IA6	IA10	IA11
Oilrents (% GDP) .02,0	A	(.84)***	(.7)***	(.78)**	(2.4)**	(4.3)***	x	x	x	
	B	.06***	.09***	.1***	.07***	.17***	.12***	.18***	.18***	
	C	x	x	x	x	.06***	x	.05**	x	
State Security Forces/km2 .16,0	A	.01***	.01***	.009***	.01***	.02***	.03*	.02**	.03*	.02***
	B	.004***	x	.004***	.005***	.01***	.009***	.004*	.005**	(.004)*
	C	(.01)***	(.02)***	(.02)***	(.02)***	(.02)***	(.02)***	(.02)***	(.02)***	(.03)***
ln population .09,0	A	(1.6)***	(3.8)***	(1.9)***	(2.1)***	(2.8)***	x	(6.1)**	x	(9.2)**
	B	(.69)***	(.78)***	(1.2)***	(.8)***	(2)***	(1.8)***	(1.9)***	(1.8)***	(1.4)***
	C	(.18)***	(.48)***	(.25)***	(.3)***	(.57)***	(.66)***	(.58)***	(.7)***	(.7)***
gdplowtenpc .016,0	A	.008***	.01**	.01**	.02***	.02***	x	x	x	x
	B	.002*	.004**	.006***	x	.006**	.005*	.009***	.008**	.01***
	C	.005***	.006***	.007***	.004***	.007**	.006**	.01***	.009***	.009*
Polity IV-2 .025,0	A	x	.14**	x	x	x	x	x	x	x
	B	.11***	.15***	.22***	.1***	.27***	.23***	.23***	.22***	.14***
	C	(.09)***	(.16)***	(.13)***	(.12)***	(.13)***	(.14)***	(.19)***	(.18)***	(.12)***
gender equality .06,0	A	6***	9.3***	7.2***	7.4***	11***	14**	24**	23**	17**
	B	3.1***	3***	4.5***	3.7***	6***	5.9***	5.8***	5.8***	4.2***
	C	.9***	1.8***	1.6***	1.6***	2.5***	2.6***	2.6***	2.6***	2.5***
social frag .01,0	A	7.1***	15.6***	7.2***	3.5***	x	x	x	x	27*
	B	x	x	x	x	x	x	x	x	x
	C	x	x	x	x	3.8***	3.7***	3.2***	2.6**	3.8***
ethnic polarization .03,0	A					7.6***	x	x	x	x
	B					7.6***	7.8***	5.9***	6.2***	3.5**
	C					2.2***	x	x	x	(2)
type wars .002,,2	A		8.2**				x		x	14**
	B		.5**				x		x	1.2***
	C		(.5)*				2.4***		1.7***	2.1***
number belligerents .04,0	A		x							
	B		(.16)***							
	C		.1***							
forest .07,0	A		.08***					.34*	.25**	.5***
	B		.04***					.05***	.04***	.07***
	C		.08***					.08***	.08***	.04***
% humanitarian aid 0.02,0	A			.57***		.52**	1.1*	.92***	1.3*	17**
	B			.3***		.25**	.29***	.35***	.36***	9.6***
	C			.3***		.29***	.32***	.45***	.4***	11***
infant mortality .02,0	A			.01*		x	x	x	x	(.04)**
	B			.03***		.04***	.03***	.04***	.04***	.04***
	C			x		x	(.01)***	x	(.01)**	x
UN + Reg mm troops 0.02	A				.07***	.1***	.09***	.07***	.06**	.04***
	B				.02***	.02***	.02***	.01***	.01***	.01**
	C				.02***	.01***	.008**	x	x	x
mil expenditures: aid .01,0	A									.5
	B									.5**
	C									(.33)
PROB > CHI2		0	0	0	0					
WALD CHI2		786	558	492	487	330	356	363	454	412
DF		21	33	27	30	39	39	39	42	42
Log LIKELIHOOD		-451	-338	-363	-408	-256	-245	-227	-220	-216
NO. OBS		589	571	546	588	522	522	522	522	465
pseudo R2		0.56	0.69	0.61	0.62	0.69	0.74	0.74	0.8	0.77
BASE OUTCOME		D	D	D	D	D	D	D	D	D

## Summary of Regression Analysis

The regression analysis rejects the null hypothesis for H1-H5. The four reference patterns of conflict persistence are strongly correlated with risk factors postulated in the five hypotheses. Conflict risk factors associated with state characteristics posited by H1 have the highest explanatory power for differentiating among reference behaviors.

However, robust results for correlation coefficients of the state characteristics require control for the influence of the additional risk factors tested in H 2-H5 associated with conflict characteristics, peace operations, aid, and interactive variables. Summary statistics (Table 11) aid to interpret relative influence of the risk factors based on the regression coefficients. The robust, strongly differentiating correlation of *gender equality* for likelihood of outcomes in all of the regression models is unexpected.

**Table 11 Summary Statistics for Explanatory Variables**

Variable	Observations	Mean	Std. Dev.	Min	Max
Oil rents (%)	751.00	7.66	15.81	0.00	73.00
ssf/km2 (scaled by 1000km <sup>2</sup> )	704.00	184.90	410.01	2.54	3208.33
Ln population	795.00	16.14	1.17	13.74	18.97
GDP per capita lowest decile	710.00	227.43	376.50	22.15	3217.51
Polity IV-2	781.00	0.14	4.99	-9.00	9.00
Gender equality	801.00	3.19	0.65	2.20	5.00
Ethnic polarization	758.00	0.55	0.18	0.00	0.89
Social fragmentation	757.00	0.30	0.22	0.00	0.67
Conflict type	810.00	1.76	0.61	0.00	3.00
Forest cover (%)	810.00	29.21	23.72	0.30	85.00
UN-Regional troop - mission months (1000)	809.00	17.10	61.01	0.00	946.96
Coalition-single actor troop-mission months (1000)	810.00	5.75	37.05	0.00	652.80
Ln % humanitarian aid of total	733.00	-3.81	2.25	-10.97	0.03
Annual infant mortality rate (deaths per 1000)	807.00	136.97	57.65	25.60	332.90
Ln military expenditure to aid	610.00	-1.51	1.50	-6.81	4.20

Taking into account scale differences of the variables in Table 11 and order of magnitude of correlation coefficients in Table 10, the influence of the two variables, *population size* and *gender equality*, appear to be the strongest predictors of the likelihood of overshoot and collapse, although only *gender equality* is robust to all model specifications. Four variables -- *density of state security forces*, *gender equality*, *poverty*, and *infant mortality* -- have roughly equal influence on the likelihood of damped impulse and exponential behaviors relative to oscillatory behavior. The influence of *polity scores*, *social fragmentation* and *ethnic polarization*, *forest cover*, *percent humanitarian aid*, and *UN-regional troop mission months* are an order of magnitude less, where they are significant predictors.

Correlations between the most significant, differentiating predictors and reference behaviors may be explained through relative mechanisms of coercive power (state military strength and reach), cooperation capacity (proxied by *gender equality*), economic deprivation and opportunity cost (*poverty*), and institutional capacity (proxied by *infant mortality* as an indicator of aid effectiveness) operating through conflict balancing and reinforcing feedback structures associated with the different reference behaviors. The relative strength of cooperative and coercive mechanisms as proxied by relative values of the variable *gender equality* (which creates balancing feedback) and state military strength (that may be balancing or reinforcing, depending on relationship to other factors) are shown for the four different reference behaviors in Figure 14.

Figure 14 shows that higher values of both *state security forces/km<sup>2</sup>* and *gender equality* characterize overshoot and collapse behavior. These are consistent with assumptions of strong, but delayed balancing loops in the overshoot and collapse

structure in which asymmetric capabilities of belligerents (proxied through higher association with *forest* and *ethnic polarization*) enable rapid conflict escalation that cannot be sustained (due to lower *population*, higher *social fragmentation*, higher opportunity costs). Damped impulse is differentiated from other behaviors by strong and positive correlation with *oil* and *i*, but characterized by only moderate values for state *security forces/km<sup>2</sup>* and *gender equality*. Lower values of *state security forces/km<sup>2</sup>* and *gender equality* characterize exponential behavior. Moderate values of *state security forces/km<sup>2</sup>* and low to moderate values of *gender equality* characterize oscillatory behavior, with greater variances in *state security forces/km<sup>2</sup>* for oscillatory behavior than for damped impulse, as one would expect.

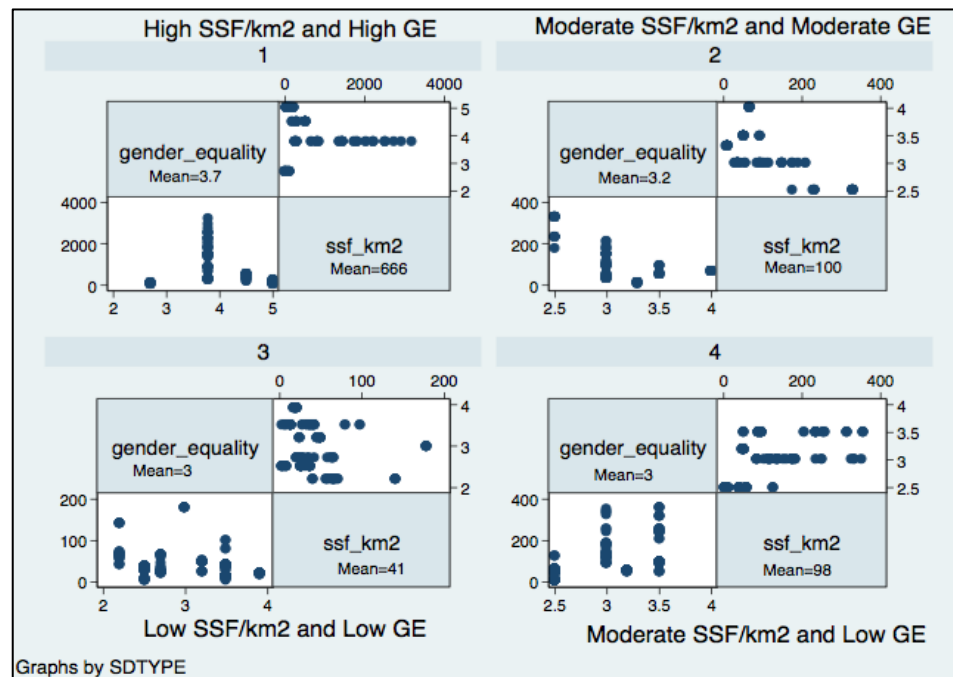


Figure 14 Relationships Between State Strength and Gender Equality by Outcome<sup>159</sup>

<sup>159</sup> In Figure 14, SDTYPE 1= overshoot and collapse, SDTYPE 2= damped impulse, SDTYPE 3= exponential, and SDTYPE 4= oscillatory behavior. The values for *ssf/km<sup>2</sup>* in Figure 14 are scaled by a factor of 1000 *km<sup>2</sup>*.

The relative strength of grievance, opportunity costs and institutional mechanisms, proxied through values of *poverty* (which is in both balancing and reinforcing feedback structures) and *infant mortality rates* (the inverse of which is balancing) are shown for each reference behavior in Figure 15. In Figure 15, lower *infant mortality* rates combined with moderate *poverty* levels characterize overshoot and collapse. Relatively high *infant mortality* rates and *poverty* characterize damped impulse, indicating lower institutional capacity and opportunity costs, reducing the balancing potential of these mechanisms. Relatively moderate *infant mortality* rates and lower *poverty* (*higher GDP of lowest decile*) are characteristic of exponential behavior. This result demonstrates that resources of the lowest decile operate through multiple pathways, and can amplify conflict risk as a resource, as well as balance conflict risk as an opportunity cost. Higher *social fragmentation*, also correlated with exponential behavior, may be a tipping factor in this case.

Oscillatory behavior is characterized by the lowest *infant mortality* rate coupled with moderate *poverty*, with values similar to overshoot and collapse. This shows that institutional capacity and opportunity cost are balancing, as in the case of overshoot and collapse, but are accompanied by weaker security presence and governance, higher populations and are more likely to involve contestation over territory than in the case of overshoot and collapse. These second-tier influencers operate through mechanisms of governance (proxied by *polity*), grievance (proxied by *ethnic polarization*), and asymmetric belligerent capacities (proxied through *forest cover*, *population*, and *social fragmentation*). UN peace operations reinforce cooperative mechanisms and reduce the



security dilemma of asymmetric capabilities; regional peace operations reinforce state capacities.

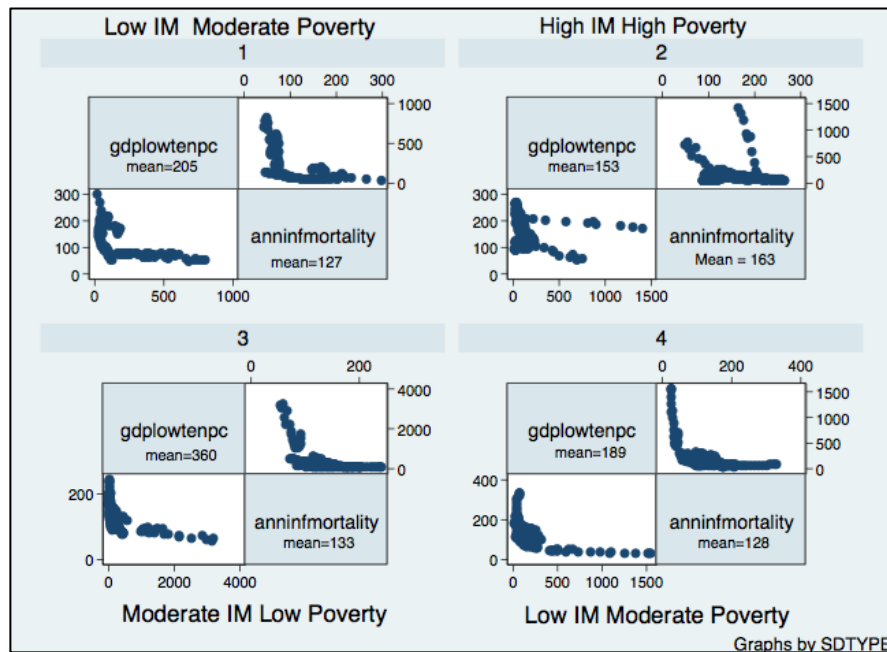


Figure 15 Relationships Between Infant Mortality and Poverty by Outcome<sup>160</sup>

## Somalia Case Study

The regression analysis of the previous section provided insight for what factors have the most influence in affecting likely outcomes of conflict behaviors. This section discusses how factors specifically associated with aid and peace operations affect conflict behaviors through a case study of the Somalia civil conflict. Somalia provides a salient case study over several decades with distinct phases of different types of intervention strategies and level of external presence in a persistent conflict, during which time there

<sup>160</sup> In Figure 15, SDTYPE 1= overshoot and collapse, SDTYPE 2= damped impulse, SDTYPE 3= exponential, and SDTYPE 4 = oscillatory behavior.

was little change in governance structure (due to its absence). These distinctive phases offer a type of controlled experiment for isolating the effects of external interventions for a within case comparison of the effect of different intervention strategies by the external actors.

As before, the unit of analysis is the reference behavior of conflict. However, in the case study it is considered within distinct time sub-intervals of time, and associated with causal models in which the balance between feedback loops, rather than risk factors, are the predictors of outcome behavior. The relationships between intervention variables, the feedback loops that they generate, and risk factors from the previous analysis are discussed for each phase of conflict to assess the congruency between the previous macro-level, comparative regression analysis of outcome predictors across conflicts over time, and this mesa-level analysis based on causal relationships between those predictor and structural conditions across time within a single conflict.

First, dynamics effects of peace operations and aid interventions during different phases of the Somalia conflict are discussed and evaluated through the framework of system dynamics and reference behaviors, based on archival research. In so doing, patterns of conflict dynamics in Somalia from 1989-2014 at the micro-level are also considered to compare findings of risk factors and causal mechanisms derived from the macro-level, cross-conflict comparative analysis and the micro-level.<sup>161</sup> This is followed by a discussion of findings from field interviews conducted from June 2014-September 2014 regarding these causal mechanisms and conflict dynamics.

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<sup>161</sup> Data for the micro-level analysis is from the Armed Conflict Event and Location Dataset (ACLED) version 5.

**Somalia Case Study: External Interventions and Conflict Dynamics**

The United Republic of Somalia was created on July 1, 1960, following a period of UN trusteeship of territory inhabited by Somalis in the Horn of Africa that had previously been occupied by the French, Italians, Great Britain, and Ethiopia. After leading a bloodless coup in 1969, General Siad Barre established a socialist political system under military rule with close ties to the Soviet Union. Clan-based armed resistance to Barre's rule, led in large part by General Aidid and the United Somali Congress (USC), waged guerilla warfare against the regime throughout the 1980s. The resistance movement was encouraged by events in neighboring Ethiopia, where Emperor Haile Selassie I had been overthrown by the Derg in 1974, which was in turn ousted by Mengistu in 1987 to form the People's Republic of Ethiopia. Both Mengistu and Barre were overthrown in 1991. Aidid's USC and other clan-based militias pushed aside traditional elders as they clashed violently for power in Somalia subsequent to Barre's fall, leading to collapse of the central government, and the secession of the northwest region into the self-declared Republic of Somaliland in 1991 <sup>162</sup>.

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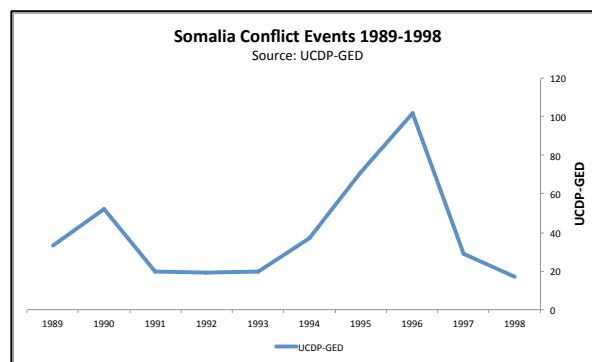
<sup>162</sup> Administrative districts Adwal, Woqooyi Galbeed, Togdheer, Sool and Sanaag in Figure 16, with Sool and Sanaag later being contested with the semi-autonomous region of Puntland.



**Figure 16 Political Administrative Regions of Somalia**

Five phases of international involvement in the Somalia conflict followed. The first phase from 1992- 1995 involved the UN Operations in Somalia I (UNOSOM I), UN Operations in Somalia II (UNOSOM II), and the US-led, UN-authorized multilateral United Task Force (UNITAF). The second phase, after the withdrawal of the US and UN from Somalia, and the death of General Aidid in 1995, saw the emergence of decentralized, autonomous regional governments with little involvement from the international community. The third phase, 2006-2008, was initiated by the unilateral intervention of Ethiopia to counter the growing power and influence of the Islamic Courts Union (ICU) as a primary governance mechanism in Somalia. The fourth phase began

after the withdrawal of ENDF and increasing presence of the UN authorized African Union Mission in Somalia (AMISOM), originally deployed in 2008, with episodic unilateral troop excursions from Kenya and Ethiopia along the borders. A fifth phase of international involvement was introduced in 2013 with the expansion of AMISOM to include troops from Ethiopia and Kenya, and the adoption of peace and state building initiatives through the Somali Compact Partnership between the Federal Government of Somalia (FSG) and the international community, based on the Busan New Deal Principles (Booth, 2012), and the 4-year strategy contained in Vision 2016 for transition to democracy.<sup>163</sup> During this time, the UN established the Assistance Mission in Somalia (UNSOM) in to support the FSG with peace building, state building and governance, and coordination of international assistance. Different patterns of conflict events during these phases are overshoot and collapse in phase 1 (Figure 17), oscillatory behavior during phase 2, and exponential growth throughout phases 3-5, beginning with a surge in conflict events with Ethiopia's intervention in 2006 (Figure 18).



**Figure 17 Somalia Conflict Events 1989-1998**

<sup>163</sup> Vision 2016 is the strategy of the FSG launched in 2014 to reach agreement on a final constitution. Center on International Cooperation, "Somalia's New Deal: The compact and its implementation so far", August 8, 2014, <http://cic.nyu.edu/blog/global-development/somalia%E2%80%99s-new-deal-compact-and-its-implementation-so-far>. Retrieved March 26, 2016. The strategy was led by Somalis, with mediation by the regional Intergovernmental Authority for Development (IGAD).

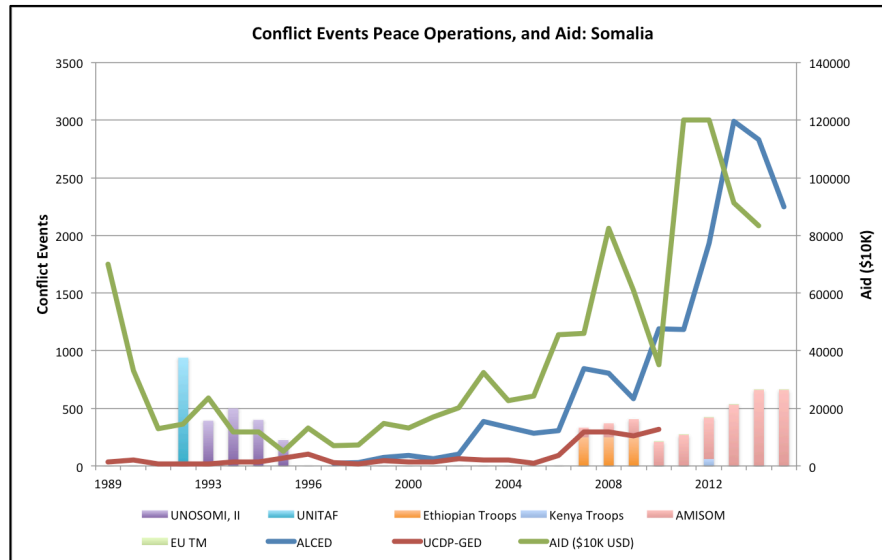


Figure 18 Somalia Conflict Events, Aid, and Peacekeeping Troops 1989-2015

### *Phase I of Somalia Conflict 1992-1994: Overshoot and Collapse*

In the turmoil immediately following the collapse of the Barre regime, warlord-led militias used military power for extortion and pillaging the extensive international humanitarian aid operations providing relief from the 1991-1992 famine as their main source of income (Natsios, 1996). UNISOM I was authorized with 50 observers and 3500 security personnel in April 1992 to monitor a UN-negotiated cease-fire in Mogadishu and to provide protection and security for the distribution of humanitarian supplies within Mogadishu and its environs, and ultimately throughout Somalia. In December 1992, as the security situation deteriorated with attacks by clan militias on the UNOSOM I forces and complete absence of government control, UN authorized Member States to form the Unified Task Force (UNITAF) as a Chapter VII mission with an eventual deployment of 37,000 troops, led by the US in Operation Restore Hope, to establish a safe environment for the delivery of humanitarian assistance. These troops

were deployed across approximately 40% of Somalia primarily in the south and central districts.<sup>164</sup>

The success of the UNITAF mission depended on developing trust, understanding, and maximum coordination between the military and humanitarian relief community. The Civilian-Military Operations Center (CMOC), led jointly by US Marines, CARE, and US AID Office of Foreign Disaster Assistance (OFDA), achieved this objective through daily planning and information sharing between the UN, international NGOs (INGOs), UNITAF and representatives of military commands for logistic support, protection of humanitarian relief supplies, medical assistance, and rebuilding of educational and transportation infrastructures. The most serious, and unresolved challenge for the mission was what to do with the heavily armed private guards retained by most of the relief organizations before UNITAF's arrival, for fear of reprisals if they were let go, and banditry if they stayed. The guards, who usually belonged to whatever militia was dominant in the area, had been earning up to \$2000 each per month plus food from the INGOs, who provided the only stable jobs in the country. According to Hirsch and Oakley, political advisor and US special envoy to Somalia 1992-1993, respectively, "the closest UNITAF came to a solution was in banning all armed guards from Kismayo, providing radio contact for emergencies and some direct military protection for humanitarian agencies, and starting local Somali police forces that helped protect relief installations" (Hirsch & Oakley, 1995, p. 69).

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<sup>164</sup> *United Nations Operations in Somalia I – (UNOSOM I)*, prepared by the Department of Public Information, United Nations, March 21, 1997.  
<http://www.un.org/en/peacekeeping/missions/past/unosom1backgr2.html>, Retrieved July 2015.

In early 1993, 15 Somali political movements agreed to a ceasefire at the National Reconciliation Conference convened in Addis Ababa, and endorsed an accord on disarmament, reconstruction, restitution, and the formation of a transitional government. In March 1993, UN authorized the transition of tasks from UNITAF to an expanded UNSOM II mission with 15,000 troops to take over the provision of security and the disarmament and political reconciliation processes. At the same time, aid donors pledged over \$130 million to support a comprehensive Relief and Rehabilitation Programme for Humanitarian Assistance to Somalia, developed in consultation with 190 Somali representatives.<sup>165</sup>

The accord did not hold, however, due to infighting among clan leaders for the presidency of the transitional government, Aidid's distrust of the UN's role in the Somali political process (which he propagated throughout Somalia via radio broadcast), noncooperation in the disarmament process and continued banditry. Somali militia belonging to General Aidid brutally attacked UN soldiers in June 1993, to which UN responded with a call for Aidid's arrest and military action, forced disarmament, and repositioning UN civilian staff to Kenya. US Rangers and Quick Reaction Force launched an operation to capture key aides of General Aidid in support of the UN's call, losing two helicopters and the lives of eighteen soldiers in the process, and leading to the withdrawal of US forces from Somalia in 1994. By October 1994, Aidid declared a unilateral cessation of hostilities against UNOSOM II, but fighting continued between the two major clan leaders. With attrition in troops from Member Countries for UNSOM II

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<sup>165</sup> This agreement was endorsed as well by representatives of women's and community organizations, elders, and scholars. *United Nations Operation in Somalia II (UNOSOM II)*, <http://www.un.org/en/peacekeeping/missions/past/unosom2backgr2.html>, Retrieved July 2015.



following the US withdrawal from Somalia, and “in view of the limited possibilities for UN political efforts related to Somalia”, the UN declared UNSOM II over in March 1995 (Rutherford, 2008).

While the humanitarian goal of the UNOSOM and UNITAF missions are generally agreed to have been successful in providing much needed relief and saving lives, Lyons and Samatar (1995) argue that preventable mistakes led to violence escalation and set the stage for the collapse of support for these missions. First, lack of engagement by the international community throughout 1991 left Somalia to nongovernmental organizations providing humanitarian assistance that was exploited as a resource commodity by belligerents with impunity. Second, when the UN and US did intervene, the pursuit of tactical goals above all else - the safe passage of aid - resulted in accommodation of militia leaders that gave them credibility they would not have otherwise had, ignored mass atrocities, and discouraged more peaceful elders from stepping forward. Third, the emphasis on disarmament was counterproductive without a political strategy, leaving individuals without alternative means to achieve security, and strengthening the hand of the militias (Lyons & Samatar, 1995). Lyons and Samatar cite an assessment by the African Rights Organization<sup>166</sup> that concluded, “UNITAF had more success disarming merchants and the guard forces of private relief groups than it did reducing the threat from armed bandits or more organized militia groups who hid their weapons or moved them out of town (p. 42)”.

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<sup>166</sup> The African Rights Organization is an international human rights organization that documents human rights violations and conflict and promotes dialogue. The lead author of the assessment, Rakiya Omaa, was reportedly fired by Human Rights Watch from her position as executive director of the human rights group, Africa Watch, for publishing the assessment criticizing the US deployment.

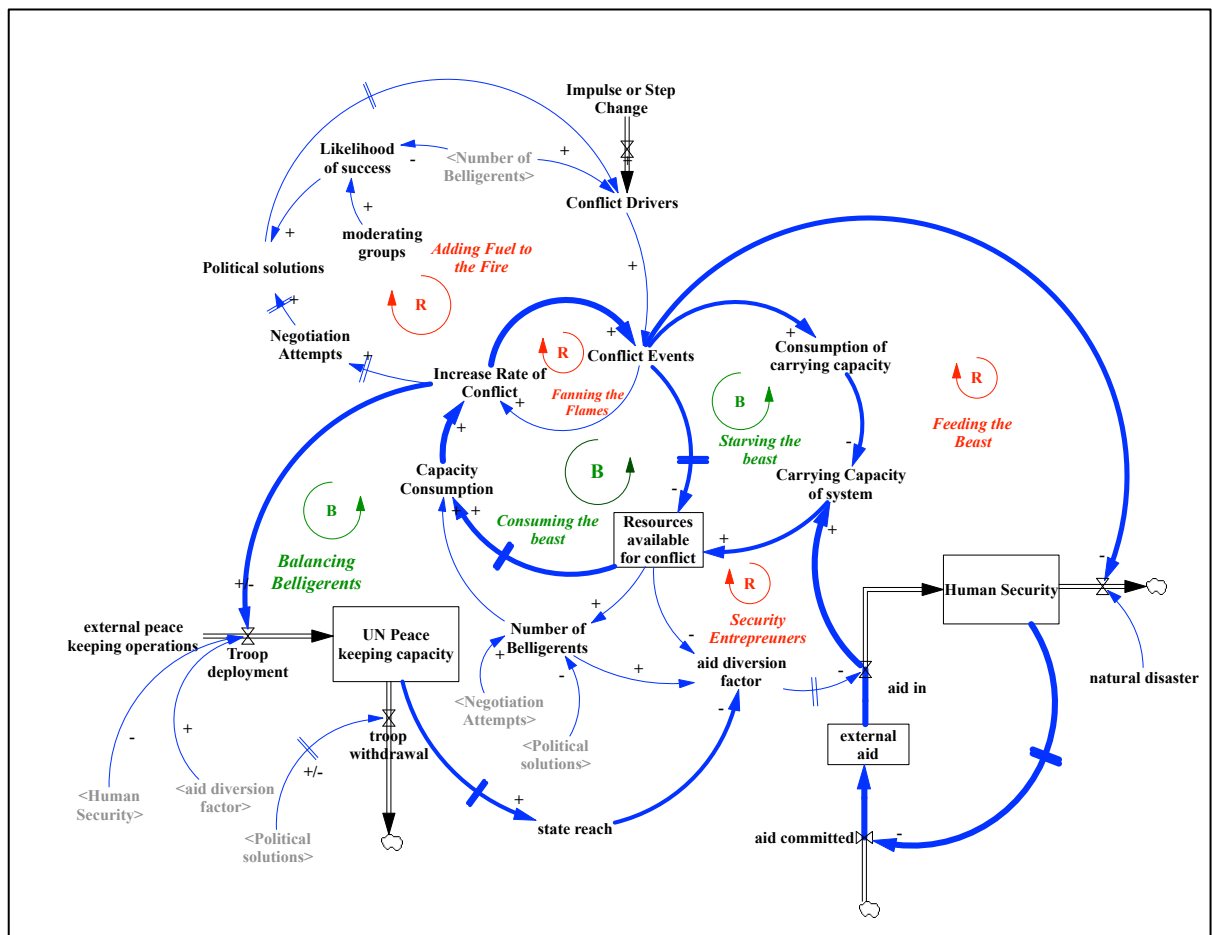
The UN Secretary General had presented 3 options in a report November 1993 for the extension of the UNOSOM II mandate to provide security for humanitarian relief and space for the political reconciliation process: (1) increase troop levels to retain coercive mandate for disarmament and create a professional Somali police force; (2) maintain reduced troop levels and discharge the disarmament mandate through voluntary measures of cooperative Somali partners but maintain some defensive capacity; (3) maintain minimal troops and limit use of force to self-defense and security of the Mogadishu airport and ports and supply routes. The Security Council adopted Option (2) in May 1994, due to lack of required material support from the international community for option 1. Recurrence of inter-clan fighting, banditry, and attacks against UN personnel ultimately brought humanitarian activities to a standstill.

The dynamics of the interactions between actors in the Somalia conflict from 1991-1995 are consistent with feedback structures in the overshoot and collapse model (Figure 18, Chapter 1), if aid and peacekeeping resources are treated as measures of state capacity in lieu of GDP or oil rents. There are four major conflict reinforcing feedback loops in the causal loop model of these dynamics, compared to three major balancing loops, which contain delays (Figure 19).<sup>167</sup> In the causal loop model of these interactions shown below belligerents (i.e., the Somali clan-based militia) obtain resources through *aid diversion*, which increases with decreased *human security*, creating a strong reinforcing loop (“Feeding the Beast”) that accelerates conflict growth rate more than exponentially, due to the amplifying reinforcing loops created by increased *aid in* as a response to decreased *human security* (“Security Entrepreneurs”), increase in *number of*

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<sup>167</sup> In Figure 19, major conflict balancing feedback loops are labeled with a “B”, and major conflict reinforcing (amplifying) feedback loops are labeled with an “R”.

*belligerents*, and failed *negotiation attempts*. Exponential growth of conflict is balanced only by the *consumption of resources* (“Consuming the beast” loop), and *peacekeeping capacity* through the delayed action of *state reach* on *aid diversion* (“Balancing belligerents” loop). The presence of strong reinforcing loops with no delays, balanced by resource-constrained loops containing delays, is characteristic of overshoot-and-collapse behavior.



**Figure 19 Overshoot and Collapse Structure of Somalia Conflict with Balancing and Reinforcing Loops by Peacekeeping and Aid Interventions, 1992-1994**

Not shown are exogenous factors<sup>168</sup> that influence rate of *troop deployment* and *withdrawal*. The initial deployment of 3700 for humanitarian purposes was too low for *UN peace keeping capacity* to create a strong balancing loop until reinforced by the additional 37,000 UNITAF troops. The *UN peacekeeping capacity* was itself balanced (e.g., reduced) through *troop withdrawals* in a delayed recognition of the low *likelihood of success of negotiation attempts* to achieve *political solutions*. As noted by Lyons and Samatar (1995), appeasement strategies over-inflated militia leaders' positions relative to the influence of traditional clan elders in these *negotiation attempts*, significantly reducing the *likelihood of success for political solutions* to conflict. This influence was a key nonmaterial resource that could have led to higher *likelihood of success of negotiation attempts*, which in turn would have reinforced support for continued *troop deployment for peacekeeping capacity*. The disillusionment with the missions was amplified by international concerns about direct involvement of peacekeeping forces in conflict and loss of troop lives.

Causal pathways embedded in the model for the variables *resources available*, *conflict events*, *conflict drivers*, *peacekeeping capacity*, *aid diversion*, *aid in*, *likelihood of success*, and *number of belligerents* are illustrated in Figures 20-27.<sup>169</sup> Reinforcing feedback on *aid diversion*, which results from negative *human security*, positive *number of belligerents*, *resources needs*, and *conflict events*, increases *resources available* (Figure 20-21). Feedback from *state reach* (which increases with *peacekeeping capacity*

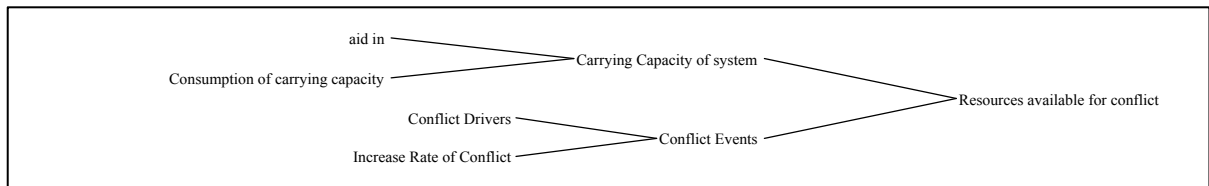
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<sup>168</sup> Examples include domestic politics in the US, where the first Bush administration was transitioning to the new Clinton administration. These politics and administrative shifts are attributed to playing a large factor in decisions regarding the initial US support to the mission in Somalia, and subsequent hasty withdrawal.

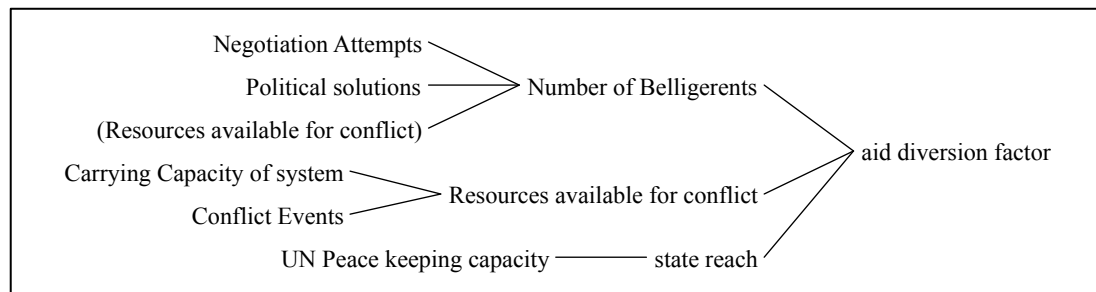
<sup>169</sup> Self-reinforcing and co-evolutionary variables embedded in these pathways are indicated by parentheses.

to reduce *aid diversion*) and *consumption of resources* balance *resources available*.

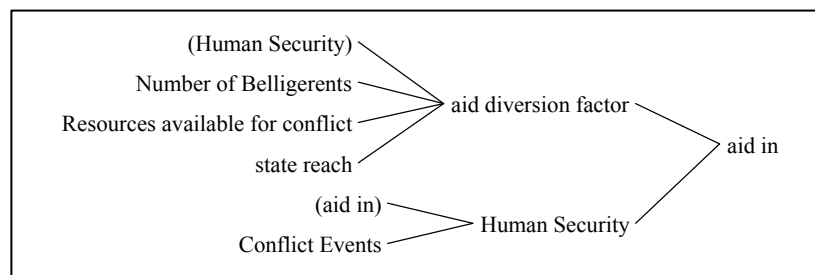
However, competing feedback loops on *aid in*, between *human security* needs and *aid diversion* create a tipping point that ultimately collapses *resources available* (Figure 21-22).



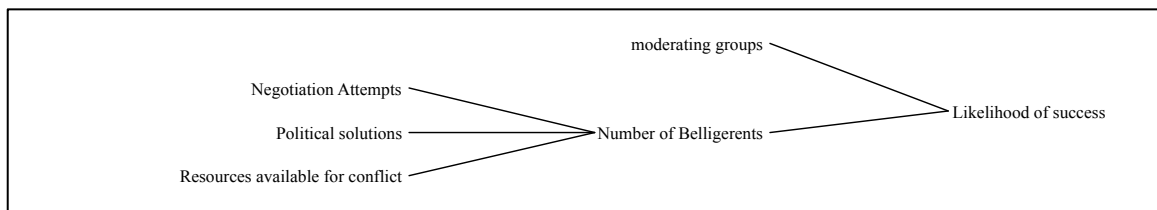
**Figure 20 Causal Pathway for Belligerent Resources, Somalia 1992-1995**



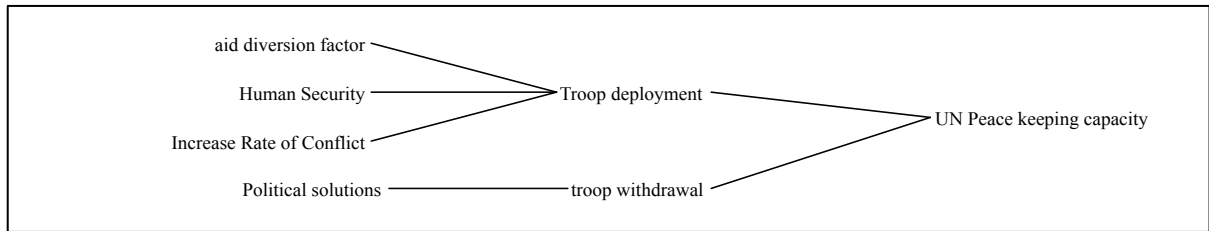
**Figure 21 Causal Pathways for Aid Diversion, Somalia 1992-1995**



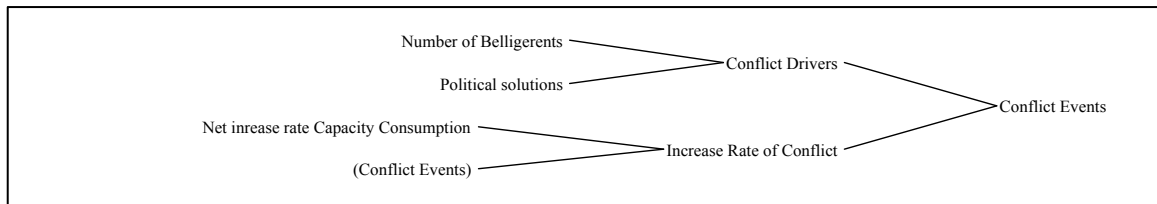
**Figure 22 Causal Pathways for Aid in Somalia 1992-1995**



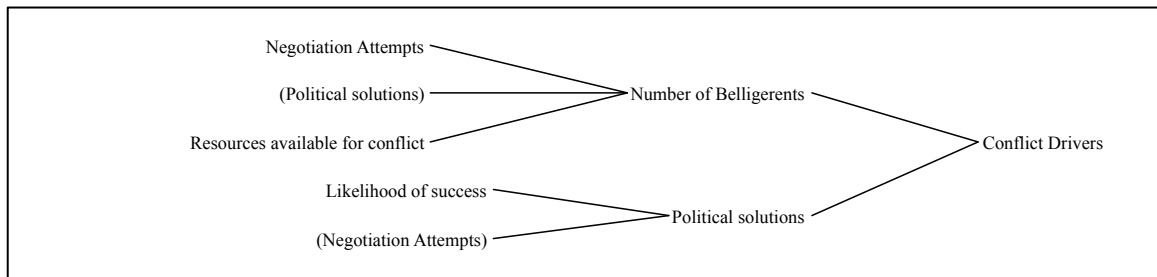
**Figure 23 Causal Pathway for Likelihood of Success in Somalia 1992-1995**



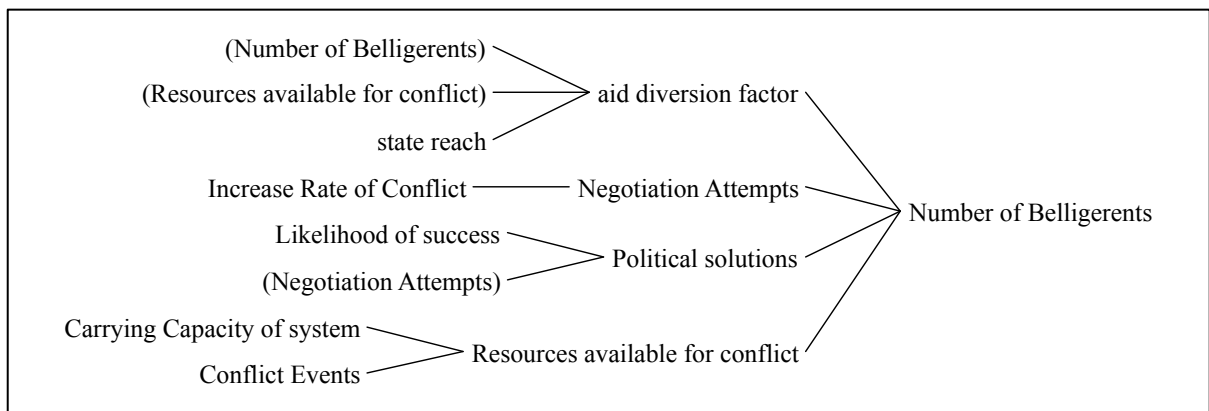
**Figure 24 Causal Pathways for Peacekeeping Capacity, Somalia 1992-1995**



**Figure 25 Causal Pathways for Conflict Events, Somalia 1992-1995**



**Figure 26 Causal Pathway for Conflict Drivers, Somalia 1992-1995**



**Figure 27 Causal Pathways for Number of Belligerents, Somalia 1992-1995**

There is strong reinforcing feedback between *negotiation attempts* and *number of belligerents* that creates a negative influence on *likelihood of success*, in comparison to a weak positive influence from *moderating* groups on likelihood of success, reflecting the

priorities and strategies of the missions (Figure 23).<sup>170</sup> *Peacekeeping capacity* is driven strongly by *human security*, *conflict* and *aid diversion*, with a delayed response to feedback from *political solutions*, which is influenced by both the number of belligerents and moderating groups (Figure 24). The delayed response of *peacekeeping capacity* to the low *likelihood of success* compared to the relatively rapid response to *human security* needs, creates disequilibrium conditions for leading to overshoot and collapse. An alternative outcome could be produced by strengthening the influence of *moderating groups* to increase *likelihood of success* of *political solutions*, which reduces *number of belligerents* as an amplifier for *conflict drivers* and *aid diversion* (Figure 27).

These dynamics in the first phase of the Somalia conflict are consistent with the predicted risk factors determined from the regression analysis in the previous section for overshoot and collapse. Relatively high values are predicted for state capacity and state reach for the likelihood of overshoot and collapse, compared to oscillatory behavior (Table 10). Higher percentages of humanitarian aid to total aid, UN and regional troop mission months, and social fragmentation (correlated with number of belligerent groups) increase the likelihood of both overshoot and collapse and exponential behavior, with the stronger affect being on the likelihood of overshoot and collapse relative to oscillatory behavior.

The proliferation of new fault lines within clans during this period clearly increased social fragmentation, as predicted. Aid surged to 256% of GDP during the drought in 1992 (from 14% in 1991), 42% of GDP in 1993, and 12% of GDP in 1994.

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<sup>170</sup> Six competitive factions populated the Somalia political landscape in early 1991, compared to over two dozen that had emerged by 1995 as a result of UN sponsorship for representation in Somalia peace talks based on factional leadership as criteria for participation (Menkhaus, 2004), p. 19.

Eighty percent of this was humanitarian aid in 1992; seventy percent in 1993; and 21% was humanitarian aid in 1994.<sup>171</sup> Different bilateral donors (EU, Italy, Netherlands, Canada, US, Norway and Sweden) provided ninety-five percent of the aid, making coordinated oversight difficult. The combined number of UNOSOM and UNITAF forces at their maximum was 52,000, deployed across an estimated 250,000 km<sup>2</sup> to yield approximately 210 troops/1000-km<sup>2</sup>. This is in the mid-range of the levels of state reach and capacity that are correlated with increased likelihood of overshoot and collapse in the regression analysis. The ratio of military expenditures to aid during this phase falls in the high range of the regression analysis (9.7),<sup>172</sup> which is consistent with the predicted range for overshoot and collapse compared to oscillatory behavior, although this factor is not statistically significant for overshoot and collapse. There one inconsistency with the regression results -- the predicted association of higher levels of gender equality, assumed to be a proxy for increased presence of moderating conflict management capabilities.

### ***Phase 2 of Somalia Conflict 1995-2006: Quasi-Equilibrium Oscillations***

In the next phase of the conflict, from 1995-2006, there were 12 failed reconciliation conferences leading up to the establishment of the clan-based, Ethiopian-

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<sup>171</sup> Source: AidData.org, <http://aiddata.org/>; UNHCR Reliefweb, <http://reliefweb.int/>, Retrieved March 2015.

<sup>172</sup> The ratio of military expenditures to aid uses expenditures of UN authorized missions in lieu of state military expenditures. AidData.org reports that aid disbursed in Somalia between 1992-1994 to be \$16 million USD (compared to committed of \$328). There is a wide variance in reported expenditures for UNOSOM missions, ranging from \$959million USD - \$1650 million USD (*The Military Balance 1996-1997*, 1996), (*Somalia – UNOSOM II, Mission Background*, <http://www.un.org/Depts/DPKO/Missions/unosom2b.htm>. Retrieved March 16, 2016); reported expenditures for UNITAF range from \$883 million USD to 2.2 billion USD (*Peace Operations: Cost of DOD Operations in Somalia*, GAO/NSIAD-94-88, <https://www.gpo.gov/fdsys/pkg/GAOREPORTS-NSIAD-94-88/html/GAOREPORTS-NSIAD-94-88.htm>. Retrieved March 16, 2016), (*The Military Balance 1996-1997*, 1996)

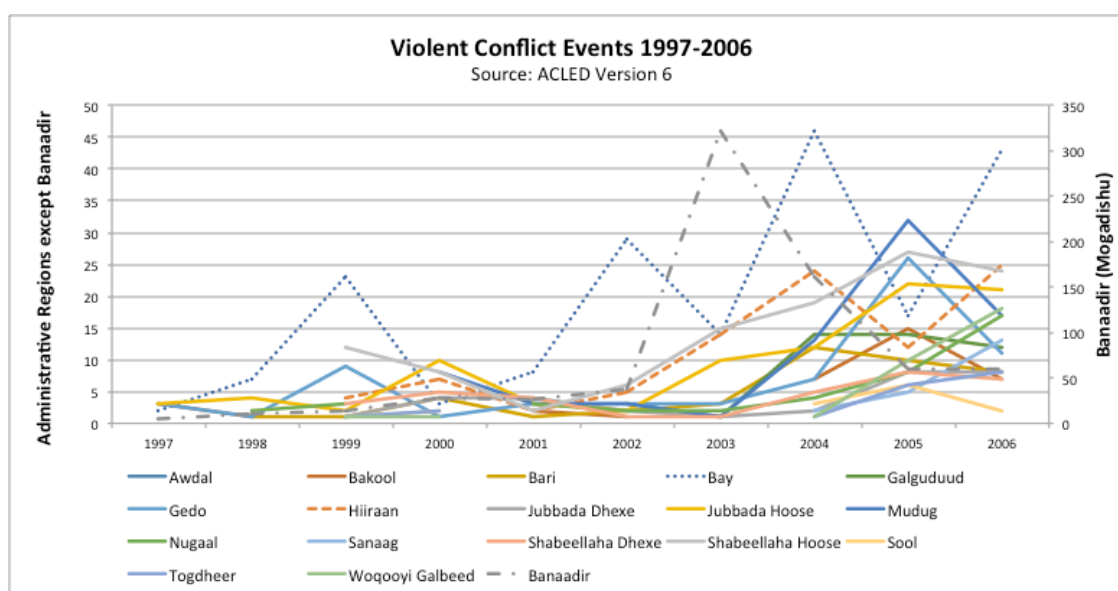


backed Transitional Federal Government (TFG) in 2004-2005, with financial support from the international community (e.g., UNDP, World Bank, and the European Commission). Members of the internally disputed TFG continued previous patterns of factional in fighting, and failed to engage on key issues. The Union of Islamic Courts (UIC), an umbrella group of Sharia courts in Mogadishu, formed as a rival power to the TFG for leadership in south and central Somalia, and to the US-backed Alliance for Restoration of Peace and Counter-terrorism for local control in Mogadishu (Barnes & Hassan, 2007; Dagne, 2007; Eriksson, 2013; Menkhaus, 2007).

While the dominant Hawiye clans supported the UIC, the Council transcended sub-clan factions and the UIC militia formed in 2000 represented the first significant non-warlord-controlled and pan-Hawiye military force with wide appeal that initially brought together moderate and extreme wings of political Islam, and provided a voice for the weaker clans. The influence of the UIC grew to extend outside Mogadishu and included most of the lower Shabelle region of Somalia by 2004-2005 (Barnes & Hassan, 2007). In June 2006, forces of the UIC took control of the capital, which became relatively peaceful during their six-month rule (Dagne, 2011).

During this period, a number of regional and trans-regional authorities came into existence as well, forming a montage of decentralized local polities and informal social pacts, primarily along clan lines, that provided a minimal level of popularly supported governance, public order, and stability that was inversely related to status of efforts to rebuild a national government (Menkhaus, 2004). Some of these adopted principles of co-existence and power sharing, as in Somaliland, while others engaged in hegemonic,

clan-based favoritism and oppression.<sup>173</sup> Outside of Mogadishu, armed conflict was episodic and comparatively low, with many regions enjoying relative peace (Figure 26). The primary violent conflicts that did exist were within clans at the local level (Dagne, 2007). Exceptions to this trend were outbreaks in 2002 and 2004 in the Bay and Hiiraan districts, triggered in part by political maneuvering in advance of the IGAD-sponsored peace negotiations in Djibouti. These conflicts were between relatively weak clans who favored federalism, and larger, predatory clans who preferred a strong central state (Menkhaus, 2004). Another surge in conflict occurred in 2005, as the TFG moved into Somalia.

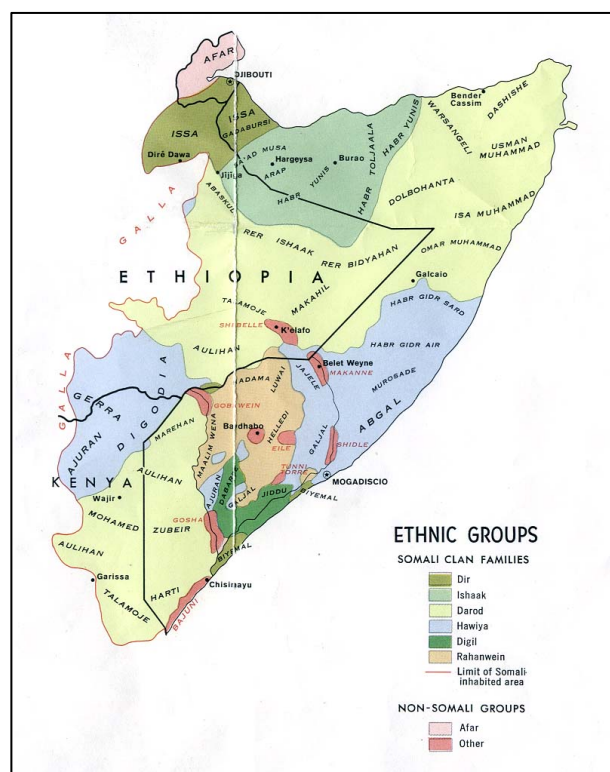


**Figure 28 Somalia Conflict Event Frequencies by Administrative Districts 1997-2006**

The regional authorities that emerged served two different purposes for participants that determined the likelihood of conflict versus cooperative conflict management through power sharing and co-existence. Some authorities were viewed by

<sup>173</sup> The strongest and most resilient of these regional polities have been Somaliland and Puntland. The northeast region of Somalia, comprised of Mudug, Nugal, and Bari, in the Northeast, was declared the semi-autonomous state of Puntland in 1998 (Figure 16). The Sool and Sanaag regions remain contested with Somaliland to this day.

participants as building blocks to seats of power in a central state, attracting political figures that engaged in power struggles with no real interest in the provision of local services. In contrast, some political administrative units were formed at the local municipal level to provide day-to-day governance through Sharia courts made up of coalitions of clan elders, intellectuals, businessmen and Muslim clergy. While these coalitions were fragile with powers that waxed and waned, many were successful in providing local rule-of-law and services through traditional, moderate elements viewed as legitimate by their communities. The successful municipalities were supported by moderating civil society groups and local NGOs in partnership with the UN and INGOs committed to local capacity building (in contrast to state building), but were limited to local areas where power of warlords and their militia was weak (Bradbury, 2009; Menkhaus, Sheikh, Quinn, & Farah, 2010). Estimates of militia sizes in this period range from 20,000 to 32,000 (*Military Balance Report 2007*, 2007), spread across administrative districts and borders, based on clan distributions (Figure 27).



**Figure 29 Geographical Distribution of Major Somali Clan Families<sup>174</sup>**

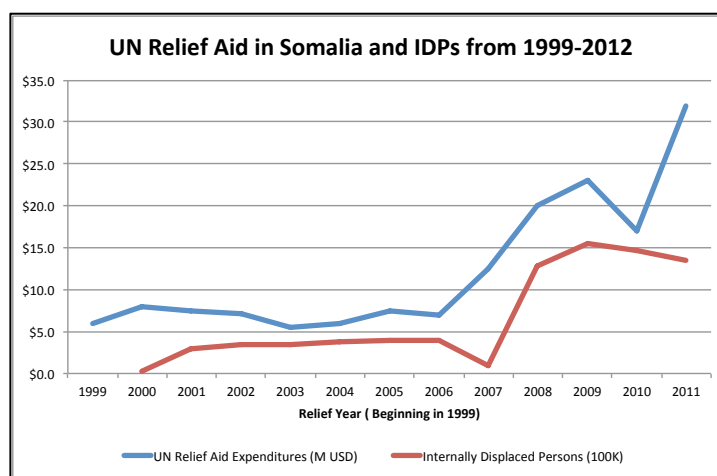
Total aid and relief aid during this time was comparatively low, with the majority being provided through bilateral donors, for a total of \$1772 million USD over the 10-year period (Figures 27 - 30), in contrast to an estimated annual average of at least \$500 million USD in remittances during the same period.<sup>175</sup> Reported security incidents against aid workers was also relatively low (59 attacks) compared to later periods, occurring most frequently on roads, and across all regions but slightly more in south central Somalia (Figure 30)<sup>176</sup>. With the aid being less of a target than in the previous phase, and more local level accountability at the municipal levels, it is assumed that a higher

<sup>174</sup> Source:

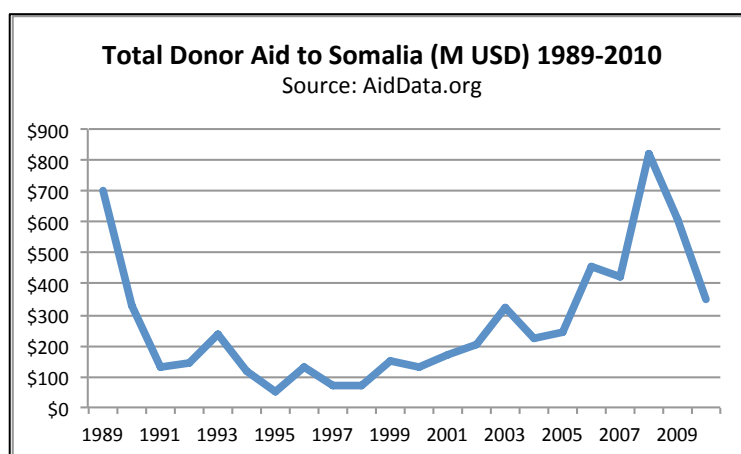
<sup>175</sup> UNDP provides no official data for remittances to Somalia during this period. Estimates are extrapolated from reports in news sources (allAfrica.com), NGOs (Rift valley Institute), and the Economist Intelligence Unit.

<sup>176</sup> Source: The Aid Worker Security Database, 1997-present, <https://aidworkersecurity.org/about> Retrieved June 2015.

percentage of aid reached intended recipients during this phase with less being captured or diverted to support conflict.



**Figure 30 UN Relief Aid in Somalia and IDPs 1999-2013<sup>177</sup>**



**Figure 31 Total Aid to Somalia 1989-2010**

<sup>177</sup> Sources: UNHCR ReliefWeb, <http://reliefweb.int/>; International Displacement Monitoring Center (IDMC) <http://www.internal-displacement.org/>, Retrieved March 2014

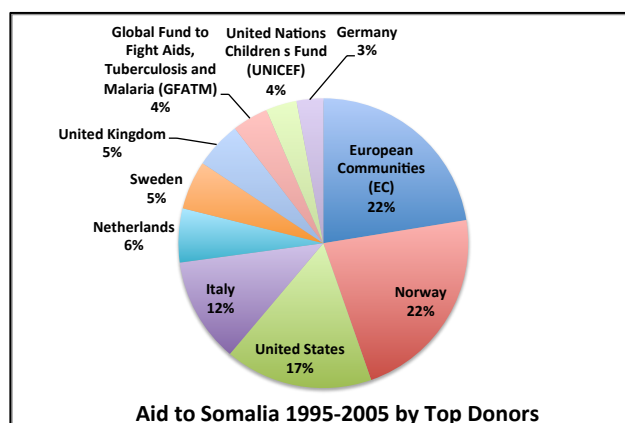


Figure 32 Top Donors Accounting for 90% of Foreign Aid to Somalia, 1995-2005 <sup>178</sup>

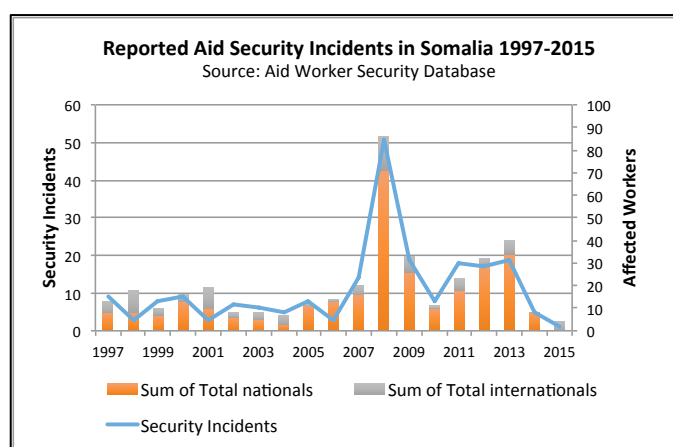


Figure 33 Reported Aid Security Incidents in Somalia, 1997-2015

There were no national armed forces during this time period. Estimated combined size of the main militia forces (outside of Somaliland) are 20,000, distributed amongst six clan and sub-clan groups and coalitions (*The Military Balance Report 2006, 2006*).<sup>179</sup> The militias exerted local control over resources and projected local power as basis for participation in political negotiations as discussed above.

<sup>178</sup> Source: AidData.org. The top donors accounted for 90% of the \$1772 million USD of total aid.

<sup>179</sup> The main six militias of this period are the Somalia Salvation Democratic Front, led by Abdullah Yusuf Ahmed of the Darod clan; the United Somali Congress, formerly led by Aidid of the Hawiye clan; the Ali Mahdi Faction, of the Abgal clan; the Somali National Front, led by General Hersi of the Darod clan; the Somali Democratic Movement led by the Hawiye clan; and the Somali Patriotic Movement, led by Ahmed Omar Jess of the Darod clan.

The relative likelihood of oscillatory behavior predicted by the comparative regression analysis is correlated with lower levels of humanitarian aid to total development aid, military expenditures to aid, absence of peacekeeping troops or other foreign interventions, and lower state reach relative to overshoot and collapse. These conditions are consistent with those in Somalia from 1995-2006, relative to those from 1992-1994 (and to subsequent phases after 2006). In the causal loop model of the dynamics for the period 1995-2006 (Figure 34), the “Balancing Belligerents” loop previously associated with *peacekeeping capacity* is removed, replaced by one that links *human security* needs and local level *moderating groups* to increased *likelihood of success of negotiated attempts for political solutions*.

The structure in Figure 34 compares to the goal-gap structure of Figure 19, Chapter 1 for oscillatory behavior, where a strong balancing loop for *conflict events* is created by corrective actions to achieve the goal of *human security*, with the corrective action being that undertaken by *moderating groups* to increase *likelihood of success* of providing local level *political solutions* to local *conflict drivers* to reduce the perceived discrepancy between actual and desired *human security*. At the same time international *negotiation attempts* for national level *political solutions* continue to reinforce conflict through the variable, *number of belligerents*. The effects of the variable, *aid in*, operate through local level *moderating groups*, rather than *carrying capacity*,<sup>180</sup> and are less susceptible to *aid diversion* towards *resources for conflict*. This is reflected in the causal pathways for *conflict drivers*, *number of belligerents* and *likelihood of success* (Figures 33-35).

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<sup>180</sup> Carrying capacity refers to the maximum resources that the local environment is capable of producing for supporting conflict.

Causal pathway structures for *conflict drivers* and *number of belligerents* are similar in the overshoot and collapse, and the oscillatory causal loop models (Figures 26, 27, 35, and 36). However, the causal pathways for *likelihood of success* (Figures 23 and 37) differ significantly as a result of the connection of *aid* and *human security* with *moderating groups* at the local level in the “Balancing Belligerents” loop in Figure 34. A state of oscillatory behavior in quasi-equilibrium is maintained through endogenous conflict regulating mechanisms as long as *moderating groups* at the local level, responding to reduced *human security*, are effective in damping *conflict drivers* through local level *political solutions* whenever the rate of *conflict events* causes unacceptably low levels of human security.



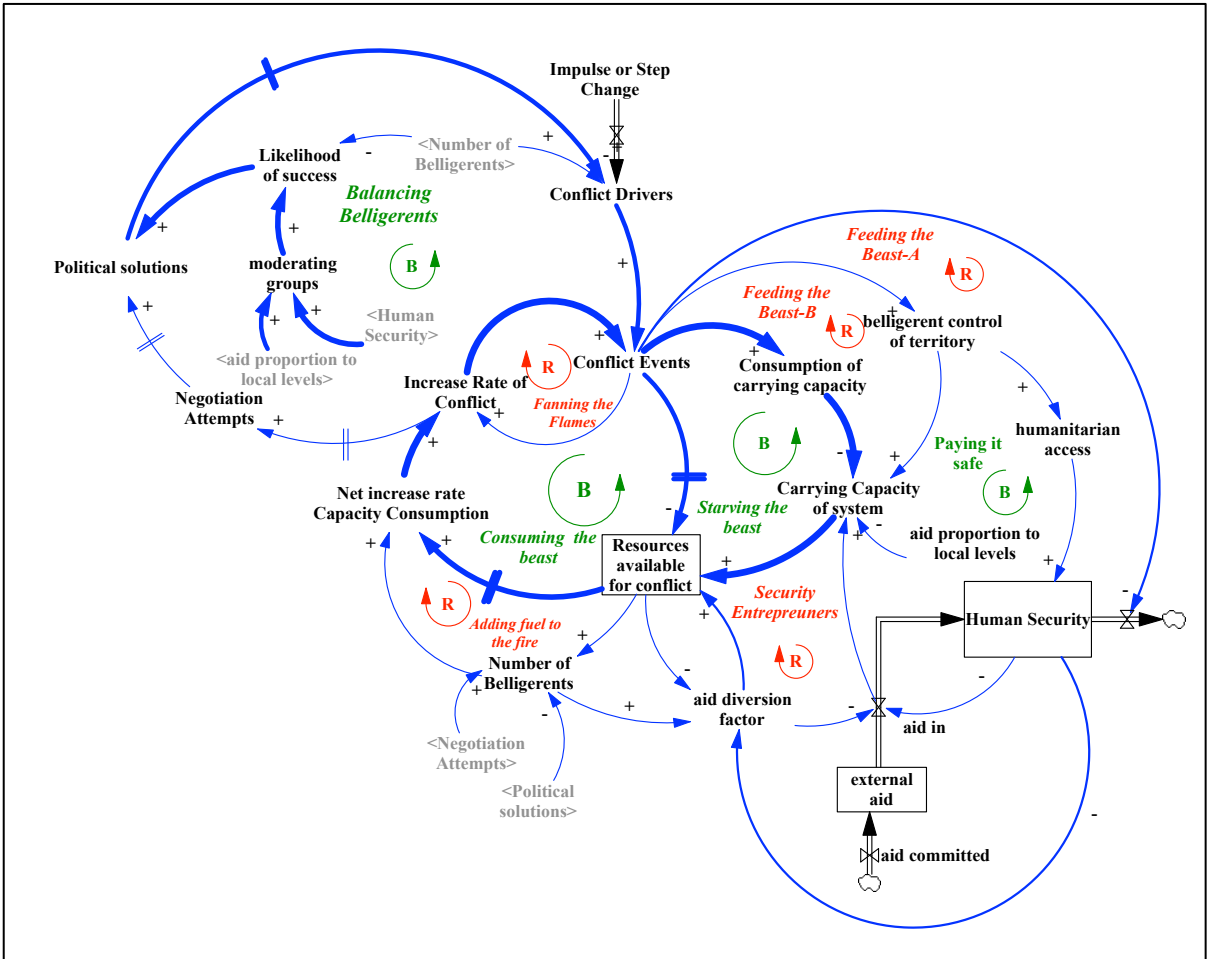


Figure 34 Oscillatory Structure of Somalia Conflict with Balancing Loops Created by Moderating Groups and Capacity Limits, 1995-2006

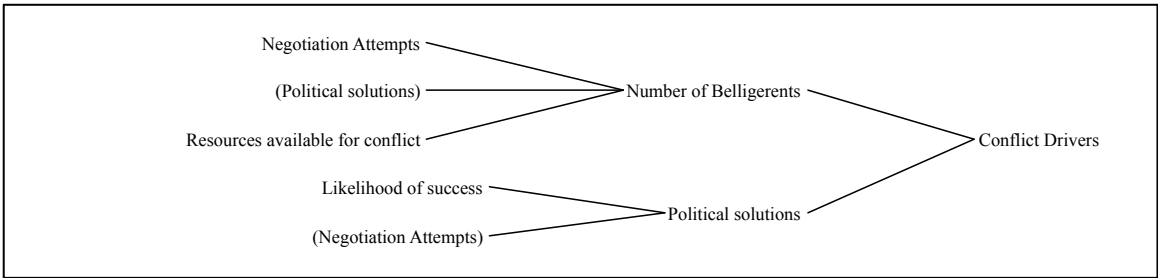
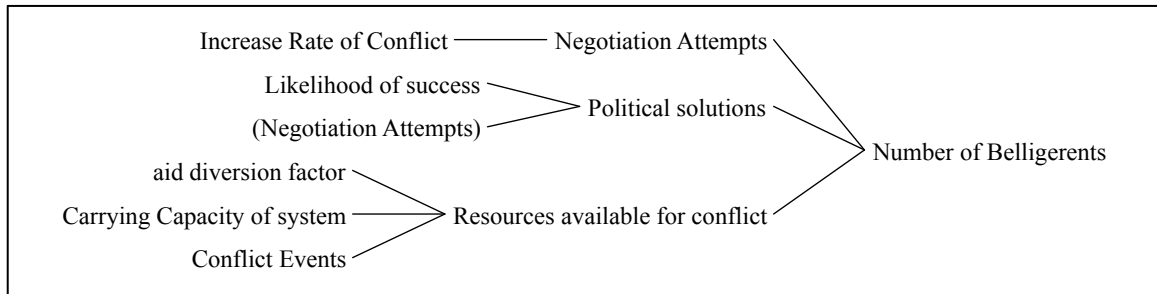
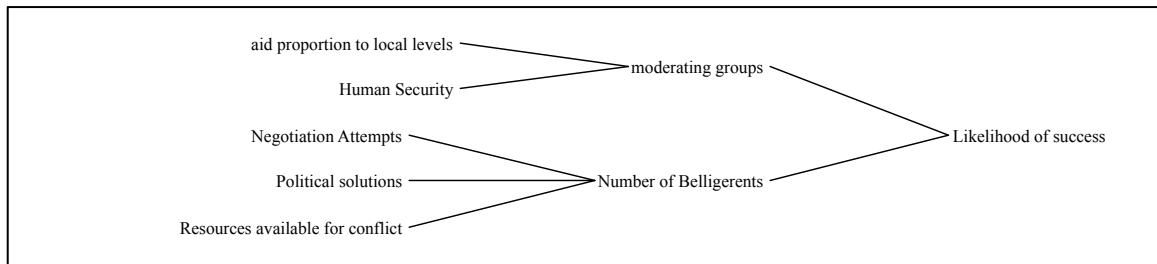


Figure 35 Causal Pathways for Conflict Drivers, Somalia 1995-2006



**Figure 36 Causal Pathway for Number of Belligerents in Somalia 1995-2006**

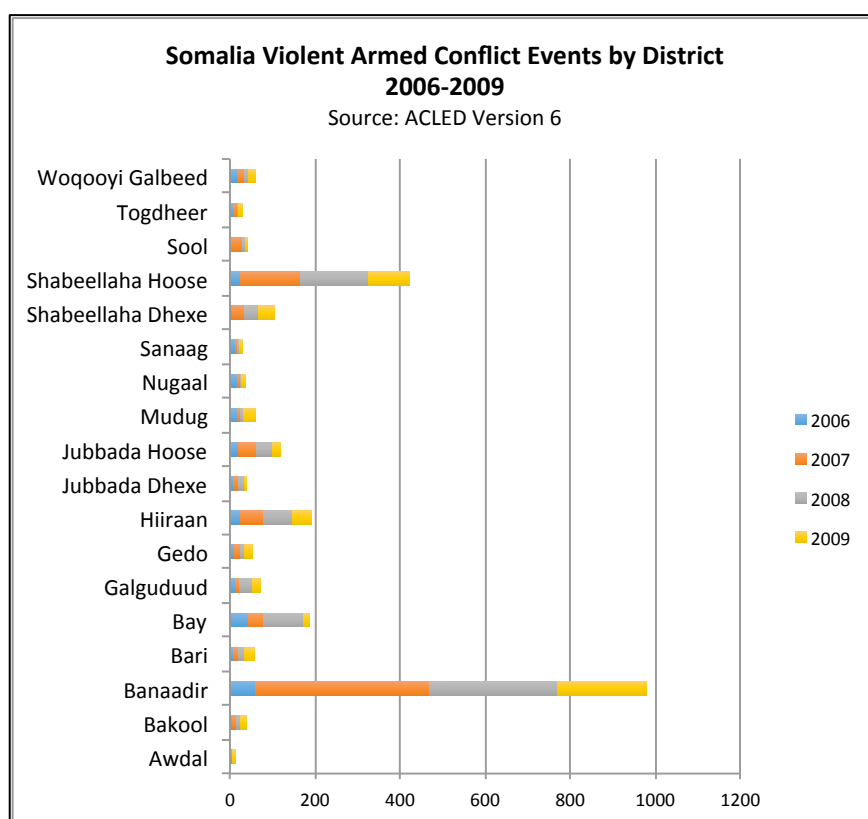


**Figure 37 Causal Pathways for Likelihood of Success, Somalia 1995-2006**

### ***Phase 3 in Somalia Conflict 2006-2009: Exponential Growth***

A third phase of the Somalia conflict began when the Ethiopia National Defense Forces (ENDF), with the support of the US, invaded Baidoa in July 2006 to prop up the TFG. The UIC responded with a military advance across southern and central Somalia, demanding ENDF withdrawal. Rather than withdraw, an estimated 10,000 ENDF troops, backed by the US, ousted the UIC from Mogadishu with little resistance and installed the TFG in its place in early 2007 (Dagne, 2011; *The Military Balance Report 2008*, 2008). In February 2007, the UN Security Council authorized the African Union Mission in Somali (AMISOM) to support a national reconciliation congress, and prepare the way for a possible UN peacekeeping mission. A coalition of former UIC loyalists, Al Shabaab, and various Somali militia, allegedly supported by Eritrea, immediately launched an insurgency campaign against the TFG and the ENDF. Conflict surged across most of the

country, with the heaviest concentration in Mogadishu and surrounding districts (Figures 18, 34).



**Figure 38 Violent Armed Conflicts in Somalia by District 2006-2009**

Over the next two years South Central Somalia was a proxy battlefield for multiple combatants with different agendas and diverse goals: (1) the Islamist insurgents Al Shabaab fought against the US-backed ENDF to regain regional control of South-Central Somalia, (2) Eritrean-backed Somali militias took the opportunity to inflict losses on their chief rival, Ethiopia; (3) Somali warlords fought to regain regional power and control; and (4) US engaged in targeted attacks against suspected Al Qaeda members or affiliates (Dagne, 2011). A majority of the conflicts took place within and around Mogadishu, frequently at the level of neighborhoods controlled by different factions. By December 2008, insurgent forces controlled most of central and southern Somalia, with

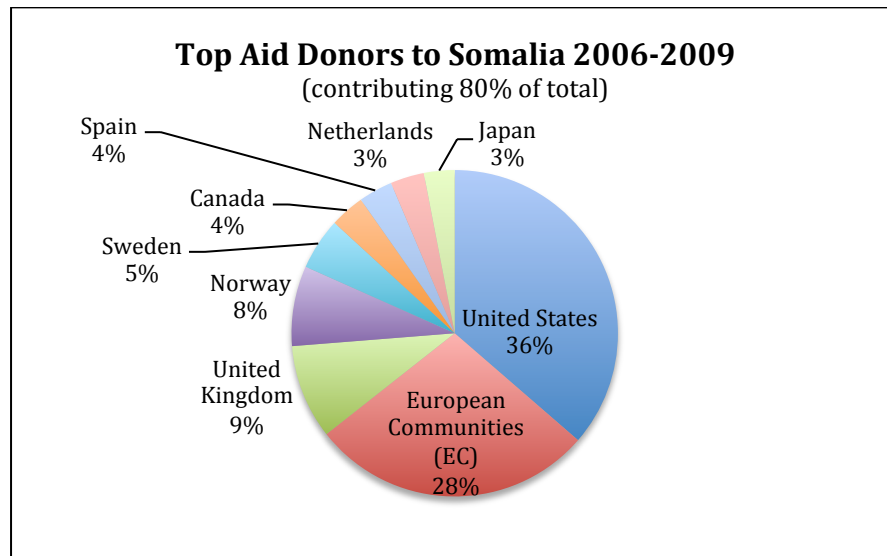
the ENDF and TFG area of influence limited to Baidoa and a handful of districts in Mogadishu. AMISOM troops were relegated to the protection of a few strategic facilities.<sup>181</sup> The ENDF withdrew in January 2009, after a power-sharing deal was brokered between the TFG and an alliance of Islamist splinter groups of the UIC, the Alliance for Re-liberation of Somalia (ARS). The deal was not recognized by al Shabaab, who continued the insurgency against the TFG from strongholds Mogadishu, while controlling large swaths of land and allegedly receiving material support from Eritrea (Dagne, 2011; *Report of the Secretary-General on Somalia pursuant to Security Council resolution 1872(2009)*, 2009).

During this time, Somalia was described as the worst humanitarian crisis the world, as well as the most dangerous place in the world for providing humanitarian relief (Gettleman, 2009). Attacks against aid workers increased significantly, with systematic looting of aid workers' compounds making it risky and difficult for humanitarian operators to fulfill their mandate (*Report of the Secretary-General on Somalia pursuant to Security Council resolution 1872(2009)*, 2009). The lack of security and complex political economy focused on state-building constricted humanitarian space, as reduced international emphasis on protection of and access to civilians created mistrust and frustration among aid workers and between aid workers and recipients, exacerbated the co-option and diversion of aid into the wartime economy, and encouraged the use of aid for political purposes (Hammond & Vaugh-Lee, 2012). In spite of these constraints, over

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<sup>181</sup> These AMISOM troops, from Burundi and Uganda, numbered 3000 in 2007; 4000 in 2008; and 5200 in 2009.

\$800 million USD in aid was disbursed between 2007-2008 (Dagne, 2011), with the US being the largest donor (Figure 35).<sup>182</sup>



**Figure 39 Top Aid Donors to Somalia 2006-2009**

In this environment, aid was not only an exploitable resource for belligerents, but perceived as a partial, biased weapon of external actors with political agendas. The UN Monitoring Group on Somalia and Eritrea reported in 2010 that as much as half of aid was routinely diverted, some directly to support the military, and recommended the dismantlement of the corrupt aid delivery system (Bryden, Laloum, & Roofthoot, 2010; Gettleman & MacFarquhar, 2010). At the same time, the conflict triggered upsurge in illegal arms trafficking<sup>183</sup> and other illicit activities. Conflict and chaos, desperate

<sup>182</sup> Approximately half of this aid was food, a particularly fungible resource susceptible to exploitation during conflict. A total of \$2300 million USD was committed for the entire period 2006-2009.

<sup>183</sup> The demand for the illegal arms trade was created in part by the UN embargo on arms into Somalia. The original embargo was established in January 1992 with Security Council Resolution 733; amended in June 2001 Security Council Resolution 1356 to allow supply of nonlethal military equipment for use in humanitarian operations; clarified in July 2002 Security Council Resolution 1425 prohibiting financing of arms acquisitions or military training; partially lifted in December 2006 by Security Council Resolution 1725 to train and supply a regional intervention force to protect the TFG; amended in February 2007 Security Council Resolution 1744 to limit the embargo to Nonstate actors; amended in November 2008

humanitarian need, poor donor administrations, corruption, lack of viable security forces or governance institutions, and illegal trade networks converged to create a war economy that continues to plague Somalia today (Webersik, 2006(Suri, 2016; "UN Security Council Resolution 2125," 2013; Victor, 2010)). In the midst of the chaos, and in spite of some internal friction, Al Shabaab forged the only semblance of coherent, cross-clan administrative functions able to provide services and some degree of stability for the populace, empowering clan elders in doing so (Barnes & Hassan, 2007; *Somalia: Al-Shabaab - It will be a long war*, 2014).

The causal loop model of these dynamics (Figure 40) reintroduces a stock of peacekeeping capacity contributing to *state reach*, present in the overshoot and collapse model (Figure 19), but absent from the oscillatory model (Figure 34), and contains six major reinforcing loops, each of which is comparable to the simple exponential growth model (Figure 15, Chapter 1), and two balancing loops. There are 4 key structural differences between the causal loop model in Figure 40 and that of the overshoot and collapse model. First, the *carrying capacity* constraint (which creates a balancing loop leading to overshoot and collapse) is replaced by three positive reinforcing loops ("Feeding the Beast) for *conflict resources* created by *resources from illegal activities*, *remittances*, and by direct *diversion of aid*, all of which increase as *human security* decreases. Second, the self-reinforcing variables, *belligerent legitimacy* and *control of territory*, are added. These amplify the reinforcing loops for conflict resources. Third,

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Security Council Resolution 1844 to target entities that had violated the arms embargo or obstructed delivery of humanitarian assistance; amended in March 2013 Security Council Resolution 2093 to loosen restrictions related to supplies to the Somalia government while maintaining the embargo on arms supplies to non state actors. In December 2009 the UN imposed an arms embargo on Eritrea in response to reports that Eritrea had violated the arms embargo on Somalia. "*UN arms embargo on Somalia*," Stockholm International Peace Research Institute, [http://www.sipri.org/databases/embargoes/un\\_arms\\_embargoes/somalia](http://www.sipri.org/databases/embargoes/un_arms_embargoes/somalia). Retrieved March 1, 2016.

the polarity of the influence of *moderate groups* on *likelihood of success* of *negotiation attempts* for *political solutions* is reversed, caused by the intervening variable, *belligerent legitimacy*. The causal mechanism for positive association between *belligerent legitimacy* and *likelihood of success* is assumed to be transference of the relationship that evolved between the UIC and local groups to Al Shabaab (by either coercion or co-optation or both).<sup>184</sup> Fourth, the balancing loop between *peacekeeping capacity*, *state reach* and *aid diversion* that appeared in the overshoot and collapse model is removed, and replaced by a causal linkage between *ENDF and allies of TFG*, *state reach*, and the *number of belligerents*. This represents the significant shift in intervention policy priorities that moved away from creating space for *external aid* to increase *human security*, in favor of reducing the *number of belligerents* by force, ostensibly to create space for national level *political solutions*.

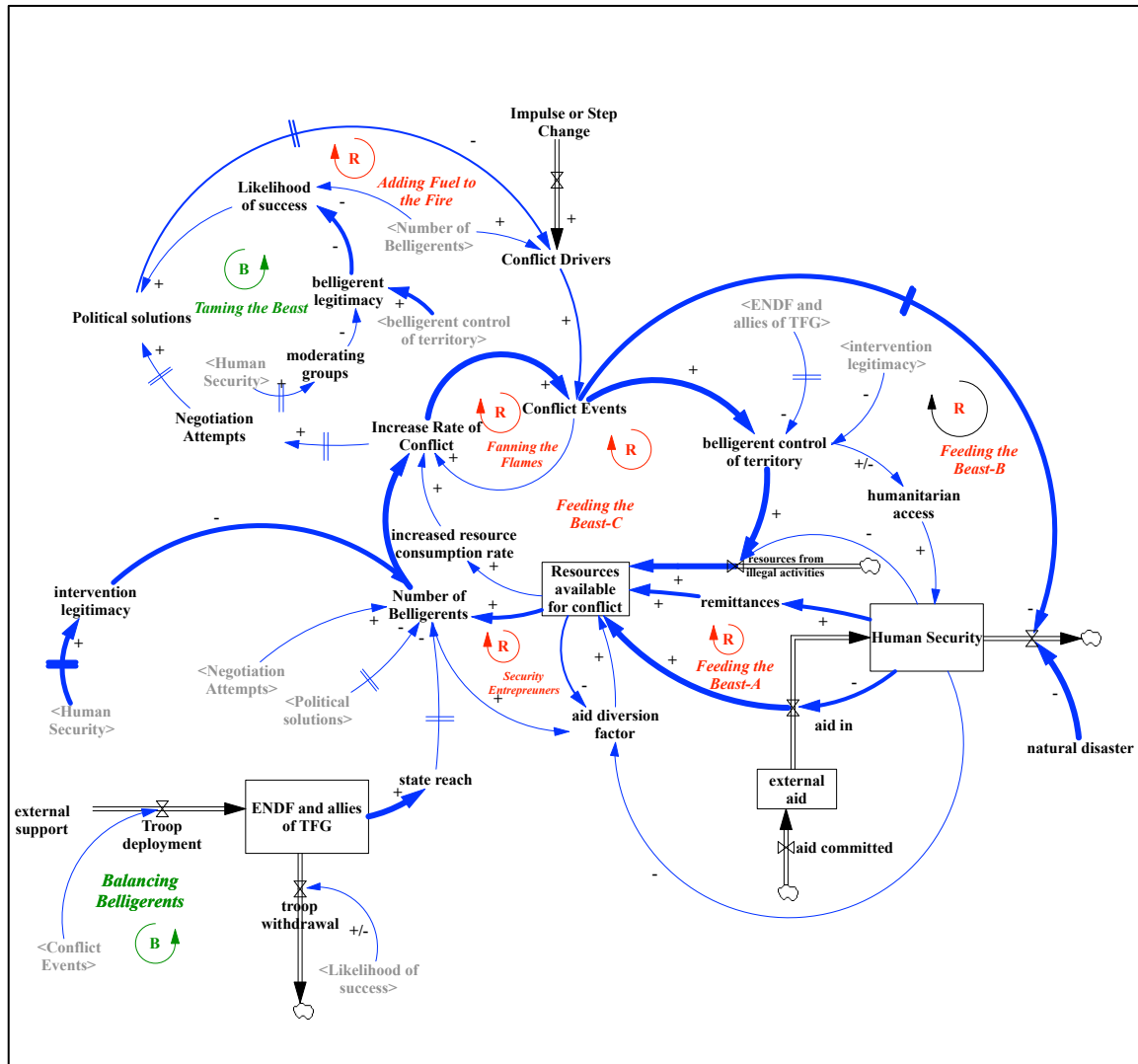
The shift in policy priorities giving preference to use of external military interventions for support of *political solutions* could be argued as a necessary precursor to creating the space for *human security* – a lesson learned from the 1992-1994 interventions. The Ethiopian intervention, however, had the opposite affect, due to widespread mistrust of the “foreign invaders”. The direction of the loop created by the causal linkage between *political solutions* and *number of belligerents* depends on the intervening variable for *intervention legitimacy*. Theoretically, as *intervention legitimacy* increases, *number of belligerents* should decrease. Increase or decrease in the *number of belligerents* is determined by the relationship between the balancing loop, “Balancing

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<sup>184</sup> This assumption is based on the International Crisis Group report on the resiliency and legitimacy of Al Shabaab based on trans-clan relationships, provision of some social services and rule of law compared to profiteering warlords, and promoting a narrative against foreign invaders and political corruption of the elite(Somalia: *Al-Shabaab - It will be a long war*, 2014).

Belligerents”, which operations through coercion (*ENDF and allies, state reach*), compared to the reinforcing loops, “Feeding the Beast”. The loop, “Adding Fuel to the Fire” may be reinforcing or balancing, depending on the relative strength of mechanisms for cooperation or dissension, depending on the relationship between *intervention legitimacy* and *belligerent legitimacy*. It is assumed that throughout this phase, however, *intervention legitimacy* remained consistently low, independent of evolving conditions, being related to deep-seated distrust of Ethiopian intentions.

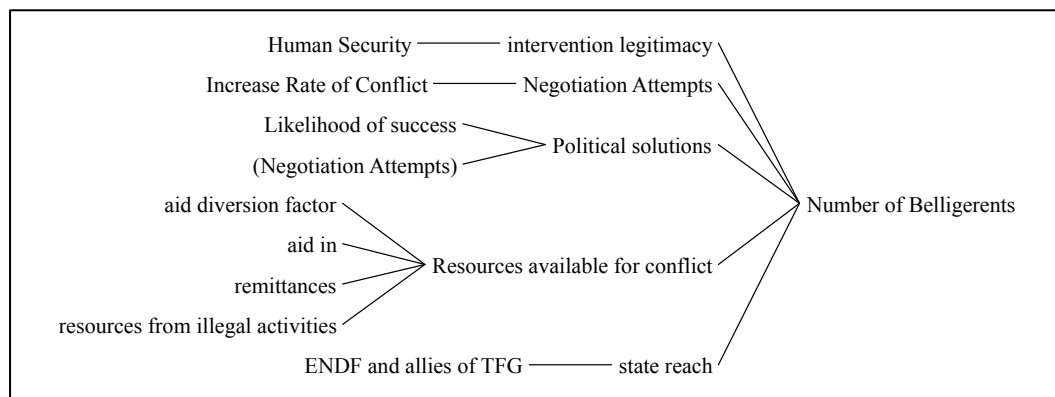




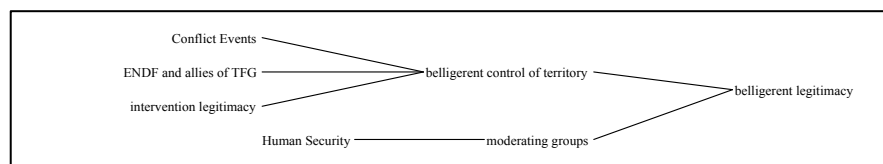
**Figures 40 Exponential Growth Structure of Somalia Conflict with Reinforcing Loops by Aid Capture, Remittances, Illegal Activities and Increased Belligerent Legitimacy, 2006-2009**

Causal pathways for the key variables, *number of belligerents*, *belligerent legitimacy*, *likelihood of success*, and *conflict drivers* illustrate the complex and co-evolutionary relationships (Figures 41 - 44). *Number of belligerents* depends directly on *intervention legitimacy* and indirectly on *belligerent legitimacy* through *likelihood of success* (Figures 41, 43). Exponential growth occurs when *belligerent legitimacy* is high relative to *intervention legitimacy*. Alternatively, exponential decay or a quasi-equilibrium state of sustained conflict may obtain if *intervention legitimacy* is high

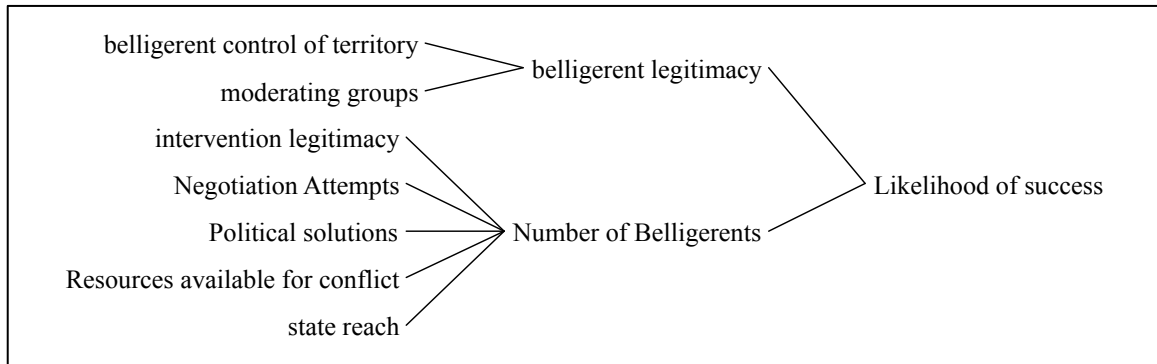
relative to *belligerent legitimacy*, depending on the delays in improving *human security* as conflict is reduced, and whether rates of input to *resources available* become lower than *rate of resource consumption*. The relationship is particularly complex, as *belligerent legitimacy*, in turn co-evolves with the influence of *intervention legitimacy* on *control of territory* and co-opting *moderating groups* (Figure 42). The *moderating groups* comprised of civil society entities that were successful at peacebuilding, providing public goods, and managing security risks prior to the Ethiopian intervention, found it difficult to operate independently after the intervention due to high levels of displacement, social polarization, and targeted assassinations (Menkhaus et al., 2010).



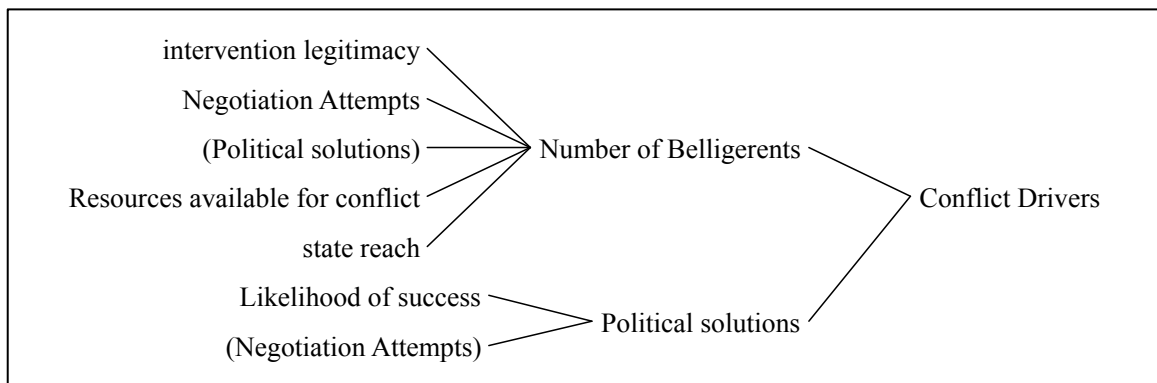
**Figure 41 Causal Pathways for Number of Belligerents in Exponential Growth Model of Somalia Conflict, 2006-2009**



**Figure 42 Causal Pathway for Belligerent Legitimacy**



**Figure 43 Causal Pathway for Likelihood of Success, Somalia 2006-2009**



**Figure 44 Causal Pathway Conflict Drivers, Somalia 2006-2009**

The dynamics around legitimacy of all parties can be construed as representing the “hearts and minds” battle adopted for counterinsurgency strategies, but could just as well represent rational cost/benefit behaviors within various types of local economies that have come to depend on conflict and responses to conflict (e.g., “Security Entrepreneurs”), or cultural preferences for local level empowerment versus association with a national identity. The interests, values, and capabilities of *moderating groups* in local level contexts influence the balance between *belligerent* and *intervention legitimacy* in this model, which eventually determines the power of the “Balancing Belligerents” loop.

The regression analysis results (Table 10) predict that underlying structures and causal mechanisms such as those in the model shown in Figure 40 leading to exponential

growth are more likely (compared to oscillatory behavior) with lower state reach and capacity, higher social fragmentation, higher percentage of humanitarian aid to total, and lower levels of military expenditures relative to aid and polity scores. The conditions of higher social fragmentation and levels of humanitarian aid triggered by the Ethiopian intervention are consistent with the predicted likelihood of exponential growth in 2006-2009, compared to oscillatory conflict behavior from 1995-2006.

Predictions for lower state reach and capacity, and for lower military capacity (proxied by expenditures) relative to aid associated with exponential growth are harder to reconcile with conditions at the national level during this time. However, the predictions are consistent if interpreted relative to belligerent capacity at the subnational level. The backlash of support for the UIC and consolidation of Islamic extremist militias with clan militias triggered by the Ethiopian interventions was a widespread phenomenon across all of the lower and central Somalia that remained under their control, whereas the Ethiopian troops backing the TFG were concentrated primarily in Baidoa in the eastern regions and in particular neighborhoods of Mogadishu (Figure 45). From this micro-level perspective, the security capacity and reach was low within many regions experiencing high levels of conflict (e.g., Shabeellaha Hoose, Hiiraan, and Mogadishu in Figure 38).

Military expenditures (for state security capacity) during from 2006-2009 are proxied by the EU contributions to AMISOM that provided resources for troop allowances, UN logistical support packages to AMISOM, and the annual average level of US military assistance to Ethiopia and Somalia.<sup>185</sup> These combined to an annual average

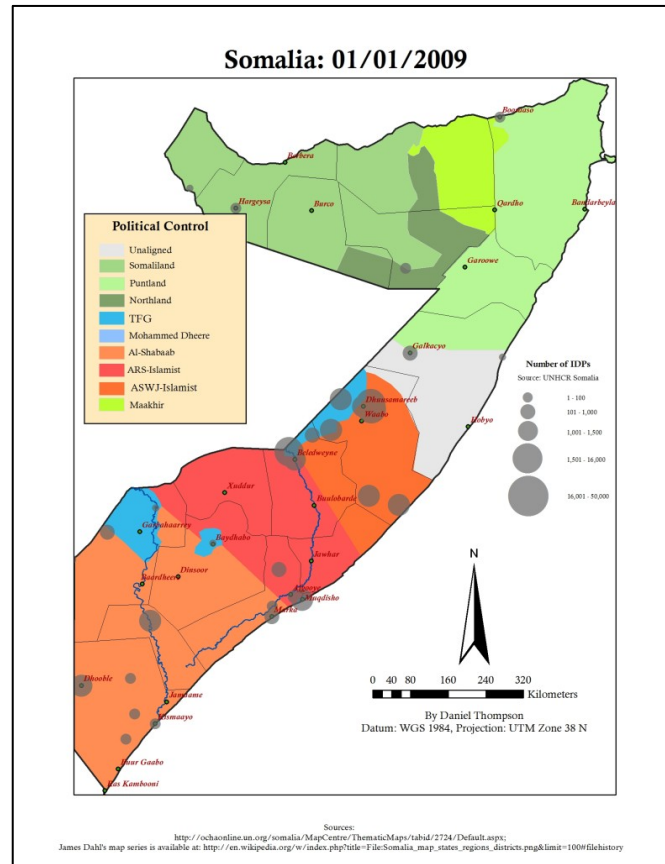
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<sup>185</sup> The UN logistical support package to AMISOM totaled \$81 million USD 2007-2009 (United Nations Advisory Committee on Administrative and Budgetary Questions, "Subject: AMISOM African Union Mission in Somalia", <http://www.un.org/ga/acabq/documents/all/666?order=title&sort=asc&language=en>).

of \$ 115 million USD - creating a surge compared to the previous decade, when there was essentially no security assistance provided by the West in Somalia. Annual average aid from 2006-2009 surged as well – doubling from averages of the preceding ten years. The rate of increase in military expenditures in support of state is much greater than the rate of increase for aid. However, it is not clear how much of the military expenditures were actually spent on the ground in Somalia, as opposed to Nairobi (where the UN logistical support offices were headquartered) or in troop contributing countries. The increase in military expenditures in support of state reach was also offset by two external sources of support - the alleged military support of Eritrea, and increased remittances from abroad, which are estimated to have be in the range of \$1 billion USD or more (*Somalia Human Development Report 2012: Empowering youth for peace and development*, 2012). These factors are assumed to reduce the effective ratio of annual state military expenditures to aid, consistent with predictions for the likelihood of exponential conflict growth.

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Retrieved March 16, 2016). The EU contributions during this period totaled \$220 million USD (European Union Delegation to the United Nations – New York, “EU allocates 65.9 million euros to support peacekeeping in Somalia”, 28 March 2011 [http://eu-un.europa.eu/articles/en/article\\_10876\\_en.htm](http://eu-un.europa.eu/articles/en/article_10876_en.htm). Retrieved March 16, 2016). US military assistance to Ethiopia rose from \$3.4 million USD in 2006 to \$13 million USD in 2007, \$17.5 million USD in 2008, \$12.6 million USD in 2009, and dropped back \$2.9 million USD in 2010. US military assistance to Somalia was \$7.5 million USD in 2007, \$5.6 million USD in 2008, and \$24 million USD in 2009. Together, these averaged \$26 million USD annually. Source: “Security Assistance Monitor” <http://securityassistance.org/> Retrieved August 2015.



**Figure 45 Territorial Control and Contested Areas Prior to Ethiopian Withdrawal from Somalia in 2009. Ethiopian Troops Support TFG Contestation for Control.<sup>186</sup>**

#### ***Phase 4 in Somalia Conflict 2009-2013: Continued Exponential Growth***

With the withdrawal of Ethiopian troops at the end of 2009, a fourth phase of the Somali conflict began. The TFG, supported by the AMISOM, struggled to consolidate power and build capacity with a stabilization strategy focused on reconciliation and outreach, improving security, and engaging the international community on recovery and reconstruction efforts (*Report of the Secretary General on the situation in Somalia*, 2010). Insecurity remained widespread with Al-Shabaab controlling most of south central Somalia and, until August 2011, parts of Mogadishu (Figures 46- 47). Drought in 2011

<sup>186</sup> D.K. Thompson (2014) Map East Africa, “Maps of Territorial Control in Somalia 2007-2010”, <http://mapeastafrica.com/2014/03/maps-territorial-control-somalia-2007-2010/> Retrieved March 21, 2016.

caused famine felt most severely in areas under Al Shabaab control,<sup>187</sup> while piracy soared off the Puntland coast ("Bargain like a Somali - Pirate economics," 2012; Hesse, 2010(Lehr, 2013)).

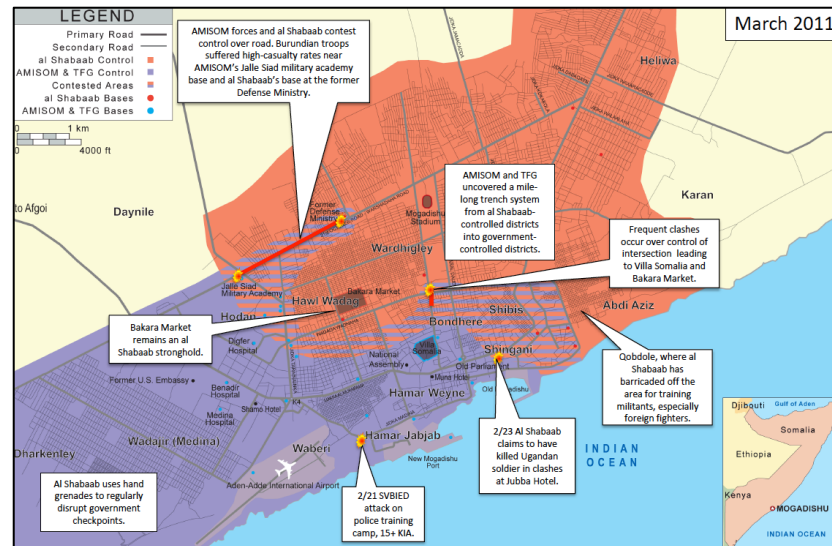


Figure 46 Areas of Control in Mogadishu, March 2011<sup>188</sup>

<sup>187</sup> Oxfam International, "Famine in Somalia: Causes and Solutions", July 2011 <https://www.oxfam.org/en/somalia/famine-somalia-causes-and-solutions>. Retrieved March 21, 2016.

<sup>188</sup> Credit: Katherine Zimmerman, American Enterprise Institute, Critical Threats Project, "Mogadishu Map: Areas of Control" <http://www.criticalthreats.org/somalia/mogadishu-map-areas-control>. Retrieved March 16, 2016. Used with permission.

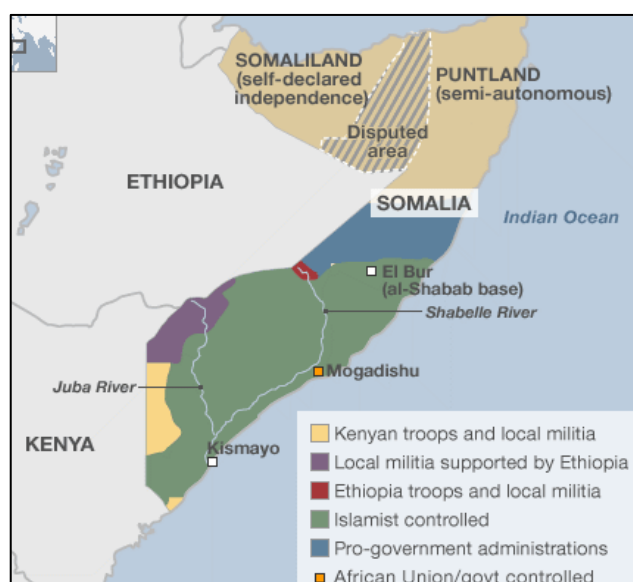


Figure 47 Areas of Control, Somalia, 2012<sup>189</sup>

The international community's security presence in Somalia increased incrementally with expanded capacities<sup>190</sup> and mandate for AMISOM from a primarily peacekeeping mission to a peace enforcement mission (Williams, 2013), with continued financial and material support from the UN, EU and the US,<sup>191</sup> alongside efforts to train and equip an integrated Somalia National Army (SNA). AMISOM efforts were initially focused on securing Mogadishu, which succeeded in August 2011 when Al Shabaab withdrew from the capital. The TFG had limited success in local outreach, when its military capabilities were temporarily augmented by an agreement executed with the

<sup>189</sup> Source: BBC News, "Somalia's al-Shabaab attack Ethiopian base in Beledweyne," January 24, 2012, <http://www.bbc.com/news/world-africa-16697879>. Retrieved January 2014.

<sup>190</sup> AMISOM troops increased to 7,000 in 2010, 9,000 in 2011, 12,000 in 2012, and 17,730 in 2013. Kenya, who also carried out a unilateral intervention from October 2011-June 2012 with 2400 troops on the border, formally joined its troops with AMISOM in 2011, with operational jurisdiction along the Kenyan border and southern Somalia, including the port of Kismayo.

<sup>191</sup> The US has provided material support to AMISOM since its inception through more than 16 training courses through the ACOTA training program at the International Peace Support Training Center in Nairobi, and additional training courses in Burundi and Uganda; as well as conducting counter-terrorism efforts. Sgt. Nathan Maysonet, Combined Joint Task Force Horn of Africa, "ACOTA Force HQ course prepares personnel for AMISOM operations", August 29, 2015, <http://www.hoa.aficom.mil/story/17034/acota-force-hq-course-prepares-personnel-for-amisom-operations>, Retrieved March 16, 2016; and Angela Dickey, USIP, "Training Peacekeepers in Burundi", November 15, 2013, <http://www.usip.org/publications/training-peacekeepers-in-burundi>. Retrieved March 2014.



moderate Islamic paramilitary group, Ahlu Sunna Wal Jama'a, in early 2010 to bring capabilities under a single command and to form an advisory council of religions leaders to counter Al-Shabaab's radical doctrine. However, this agreement collapsed in less than a year (*Report of the Chairperson of the Commission on the Situation in Somalia*, 2010).

By mid-2013, AMISOM and the SNA had cleared an area connecting Mogadishu to Baidoa in a second phase of operations (Figure 49). While considered a strategic success, the expanded operations into the rural areas were criticized for not providing sufficient policing and governance capacities for meeting needs for civilian security, humanitarian relief delivery, or other stabilization requirements, leaving citizens more vulnerable in a highly volatile and dangerous situation (Buston & Smith, 2013; Hammond & Vaughn-Lee, 2012; Suri, 2016). Civilian resiliency and human security suffered as humanitarian space was reduced. Recognizing these needs, the AMISOM civilian component moved from Nairobi to Mogadishu in 2011, but remained under resourced.<sup>192</sup> In some cases, AMISOM troops would voluntarily share resources to provide humanitarian assistance to needy civilian populations within its area of operations by, including those of the Mission's field hospitals designed to cater to troops to local communities (*Report of the Chairperson of the Commission on the Situation in Somalia*, 2010). Foreign fighters and weapons continued flowing in from external sources, while Al-Shabaab expanded its attacks into troop contributing countries, with terrorist bombings in Kampala in 2010 and the Westgate Mall attack in Nairobi in

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<sup>192</sup> The Special Representative of the Chairperson of the African Union oversees efforts of political, humanitarian, gender, civil affairs, security and safety, and public information and administration units of the AMISOM civilian component, responsible for coordinating military and police, disarmament, demobilization and reintegration in the security sector reform process, and coordinating with donors and other international actors to deliver humanitarian aid. AMISOM, "Civilian Component", <http://amisom-au.org/mission-profile/amisom-civilian-component/>. Retrieved March 21, 2016.

2013(Malet, Priest, & Staggs, 2013; *Report of the Monitoring Group on Somalia and Eritrea pursuant to Security Council resolution 2111(2013)*, 2014).

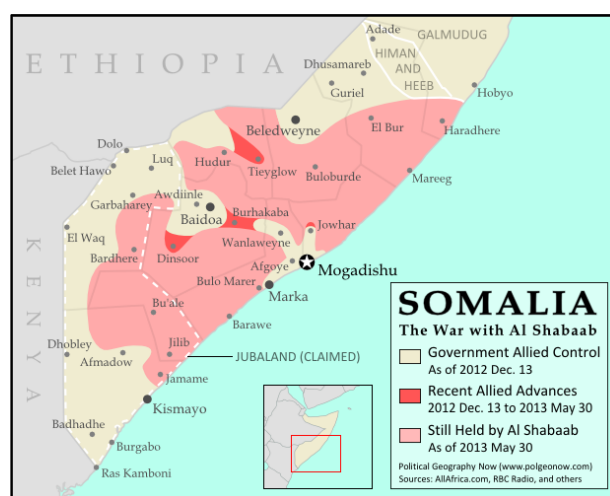


Figure 48 Area of AMISOM Control, Somalia, 2013<sup>193</sup>

The UN Assistance Mission to Somalia (UNSOM) was established June 2013 to meet stabilization needs, with a mandate that included

- “(a) To provide United Nations “good offices” functions, supporting the Federal Government of Somalia’s peace and reconciliation process;
- (b) To support the Federal Government of Somalia, and AMISOM as appropriate, by providing strategic policy advice on peacebuilding and state building,
- (c) To assist the Federal Government of Somalia in coordinating international donor support, in particular on security sector assistance and maritime security...
- (d) To help build the capacity of the Federal Government of Somalia to:
  - (i) promote respect for human rights and women’s empowerment...”<sup>194</sup>

However, the capacity for military-civilian coordination within UNSOM, AMISOM, the SNA, and the TFG remained low for most of this time with no effective police capacity outside of Mogadishu to follow in the wake of the expeditionary AMISOM forces (Pelton, Nuxurkey, & Osman, 2012; Roitsch, 2014(Suri, 2016)).

<sup>193</sup> Political Geography updates on the changing world map, *War in Somalia: Map of Al Shabaab Control (June 2013)*, May 2013. <http://www.polgeonow.com/2013/05/somalia-war-map-al-shabaab-2013.html> Retrieved January 2014.

<sup>194</sup> ("UNSC Resolution 2102 (2013)," 2013)

The causal loop model of this fourth phase differs from that of the previous phase (i.e., during the Ethiopian intervention) by five structural changes and three exogenous input variables that reflect the policy shifts and evolving conditions described above. Three of the structural changes introduce causal mechanisms between *human security* and existing variables. While the changes introduce more balancing loops, the structure continues to support - and potentially accelerate - exponential growth due to delays in causal mechanisms through which they act (e.g., of *human security* on *intervention legitimacy* and *moderating groups*, *state reach* on *aid diversion*, *political solutions* on *conflict drivers*, and *security capacity* on *belligerent control of territory*) and the incremental rate of supplying *security capacity* stock (Figure 49).

The first change in exogenous factors is the replacement of *ENDF troops* with *AMISOM and TFG security capacity* as the feedstock for *state reach* in the balancing loop, “Balancing Belligerents”. A second change influencing the stock of *resources for conflict* is the introduction of *foreign fighters*, whose presence increased with intensified US counterterrorism efforts in the region and the affiliation between Al-Shabaab and Al Qaeda (Bryden, 2015; Marchal, 2009; Menkhaus, 2009a; Roland, 2007; *U.S. Military Operations in Libya and Somalia*, 2013). The third exogenous factor is the shock to *human security* created by natural disaster (i.e., the drought in 2011) that stimulated a huge increase in *external aid*.

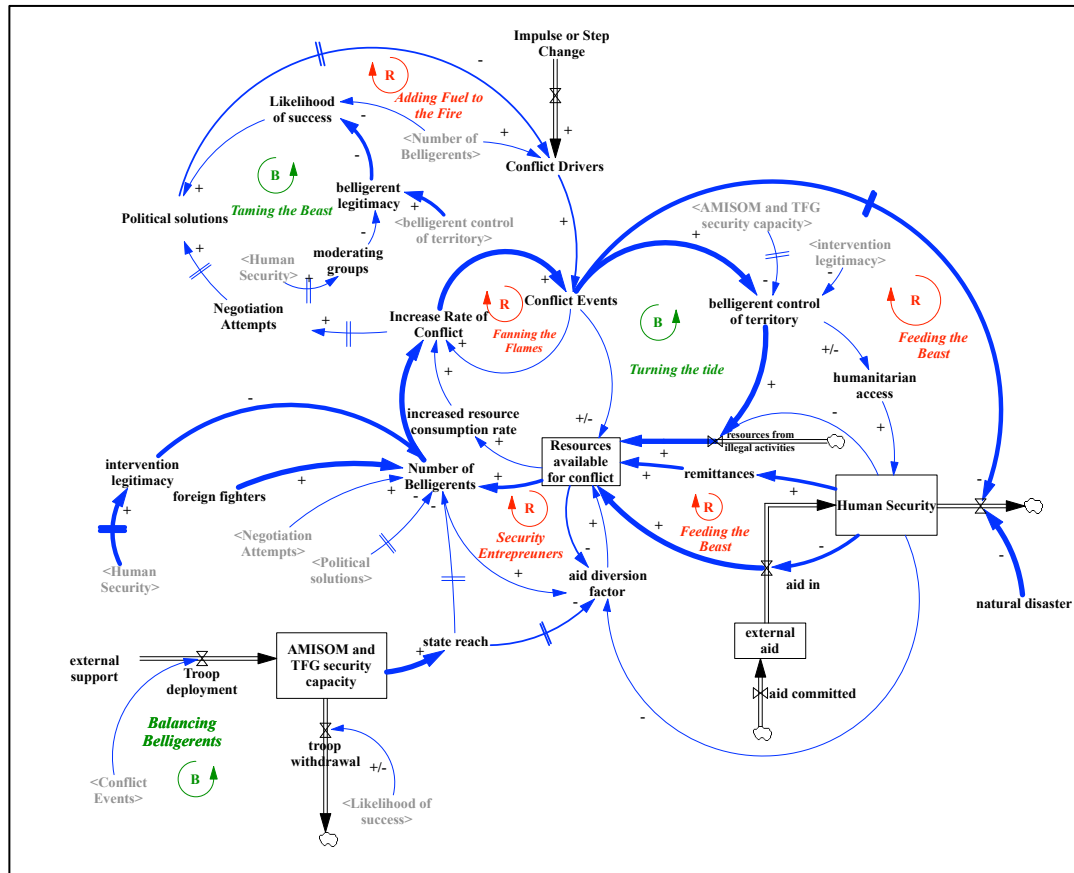
The first structural change directly influences *resources available for conflict* with the introduction of a causal link between *AMISOM and TFG security capacity* as a balance on *belligerent control of territory*, creating the balancing loop “Turning the Tide”

in place of the previous reinforcing loop. The causal pathways for *resources available for conflict* and *belligerent control of territory* are shown in Figures 50-51.

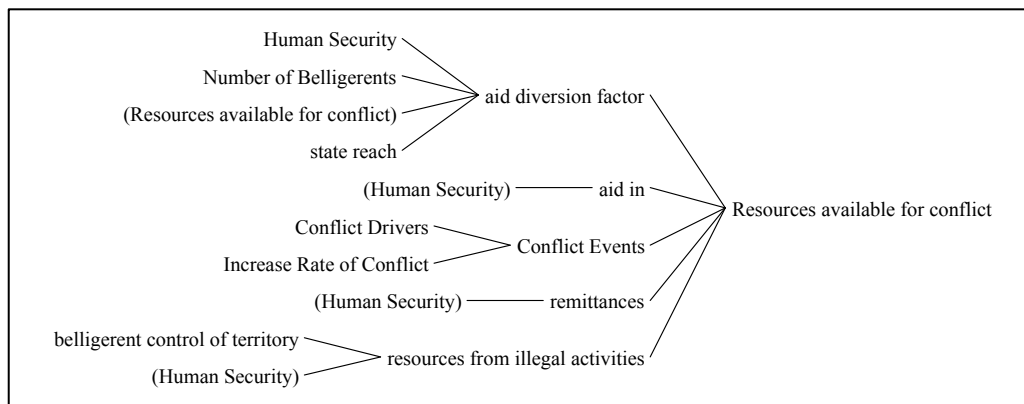
The link between *security capacity* and *belligerent control of territory* reflects the expanded AMISOM mandate from a peacekeeping force to a peace enforcement mission in the wake of the Uganda attacks, to “take all necessary measures, as appropriate, ... to reduce the threat posed by Al Shabaab and other armed opposition groups,” and “assist in consolidating and expanding the control of the Federal Government of Somalia (FGS) over its national territory.”<sup>195</sup> The strength of this balancing loop relative to the two reinforcing loops, “Feeding the Beast” depends on the rate and amount of increased *security capacity*, and *intervention legitimacy*.

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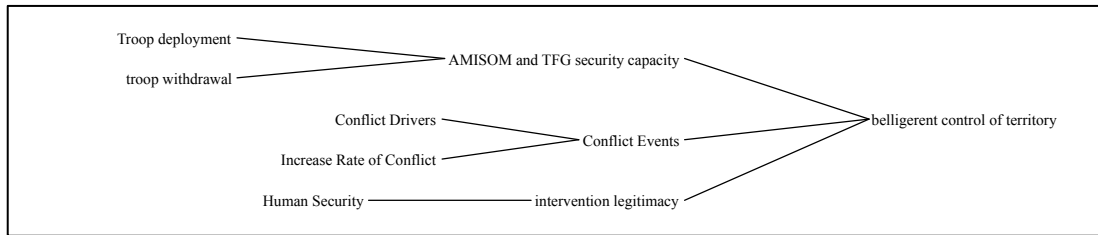
<sup>195</sup> (Security Council Extends Mandate of African Union Mission in Somalia until 31 October 2012, Adopting Resolution 2010(2011), 2011). The original mandate of AMISOM was limited to the protection of the TFG institutions and infrastructures to enable them to carry out their functions, and to disarmament and stabilization efforts; it did not include taking control of territory.



**Figure 49 Exponential Growth Structure of Somalia Conflict with Reinforcing Loops by Aid Capture, Remittances, Illegal Activities; and Weak Balancing Loops by Peacekeeping Forces, Moderating Groups, and Political Solutions 2009-2013**



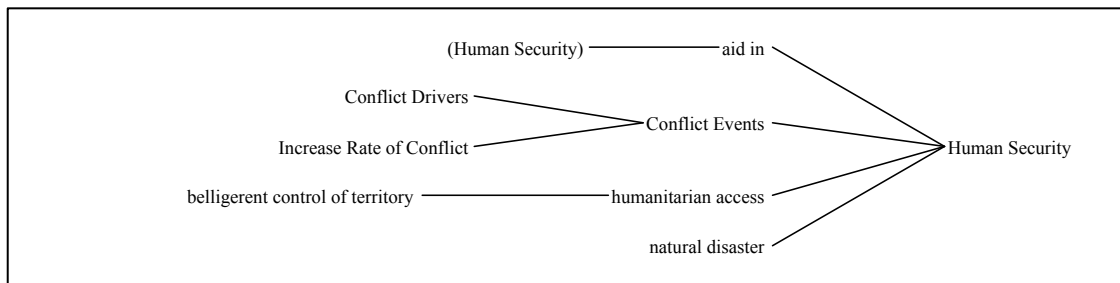
**Figure 50 Causal Pathway for Resources Available for Conflict, Somalia 2009-2013**



**Figure 51 Causal Pathway for Belligerent Control of Territory**

A second structural change, also influencing *resources available for conflict*, is the restoration of the causal link between *state reach* and *aid diversion factor* through the variable *AMISOM and TFG security capacity* (Figures 49, 50). This link is present in the overshoot and collapse model in Figure 19, but absent in the oscillatory and Ethiopian exponential growth models (Figures 34 and 40) and reflects the inclusion of support for humanitarian assistance in the AMISOM mandate.<sup>196</sup>

A third structural change is the introduction of *humanitarian access*, dependent on *belligerent control of territory*, as an intervening causal mechanism for the stock of *human security* in the “Feeding the Beast” loops (Figures 49, 52).



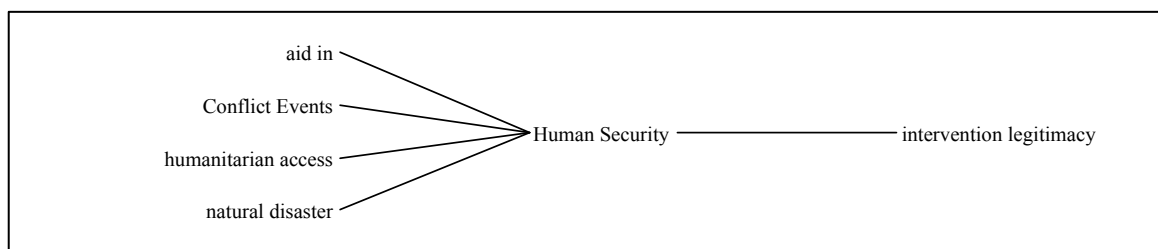
**Figure 52 Causal Pathway for Human Security, Somalia 2009-2013**

Two final structural changes introduce a causal mechanism between *human security* and *intervention legitimacy* (Figures 49, 53), and between *human security* and *moderating*

<sup>196</sup> AMISOM, “Mandate 2006-2007”, <http://amisom-au.org/mandate-2006-2007/>. Retrieved March 21, 2016.

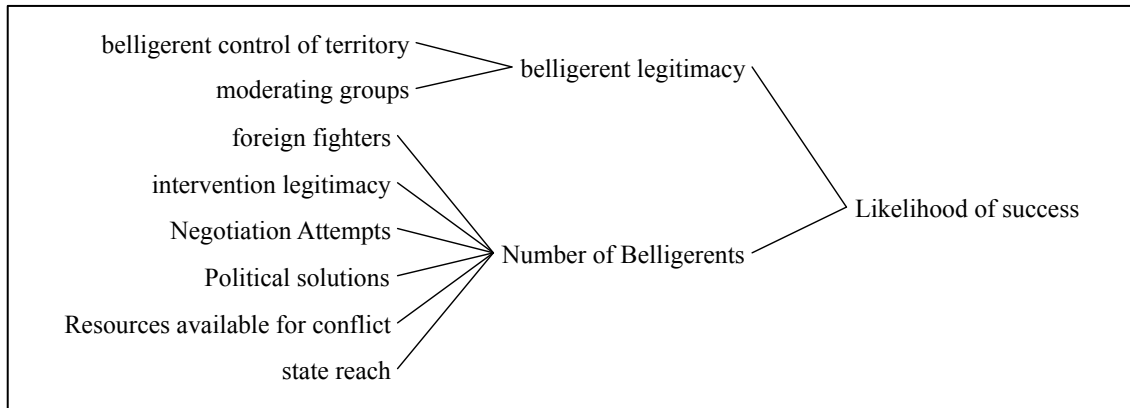
*groups*. The former reflects the co-evolutionary dependency between *security capacity*, *intervention legitimacy* and *resources available for conflict* that create a potential tipping point between “Balancing Belligerents” and “Feeding the Beast” loops; the latter creates a tipping point between “Taming the Beast” and “Feeding the Beast” loops via the chain of causal mechanisms relating *human security* to *moderating groups*, *belligerent legitimacy* and *likelihood of success for political solution*, and to *number of belligerents* (Figures 49, 54, 55).

The co-evolution of *human security* and *intervention legitimacy* create a security dilemma for local level moderating groups, who are suspicious of the AMISOM troops<sup>197</sup> and any disarmament process led by the international community, and who face difficult choices between alliances most likely to ensure present and future security for their communities (Bryden & Brickhill, 2010). Both causal mechanisms involving *human security* in balancing loops contain delays representing uncertainty and fear inherent in these dilemmas.

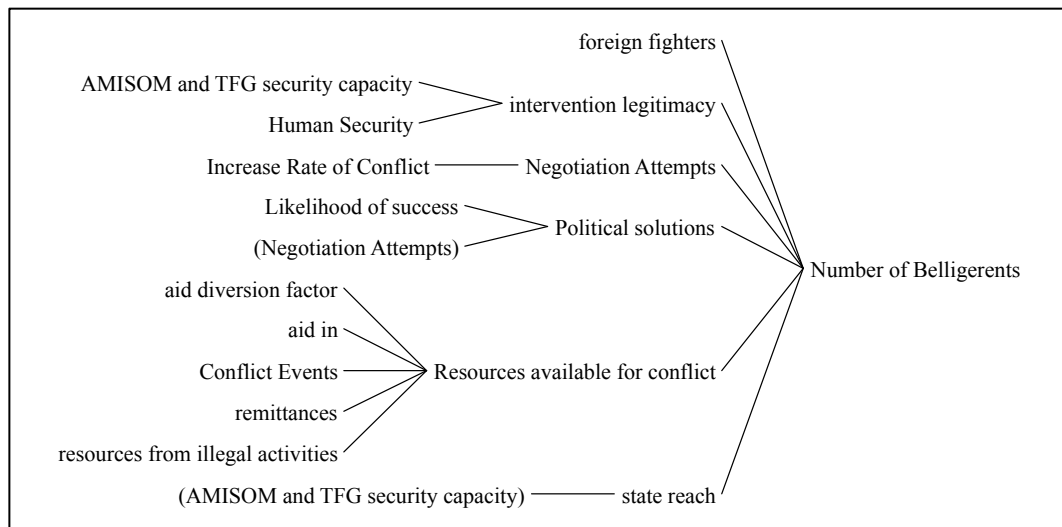


**Figure 53 Causal Pathway for Intervention Legitimacy, Somalia 2009-2013**

<sup>197</sup> The suspicions of AMISOM troops are in part to the substantial numbers of military personnel from neighboring nations which Somalis have historical grievances, and are exacerbated by large disparities in monthly salaries between AMISOM troops and members of the SNA and allegations of human rights abuses (Carl Levin National Defense Authorization Act for Fiscal Year 2015, 2014a) p 202.



**Figure 54 Causal Pathways Likelihood of Success, Somalia 2009-2013**

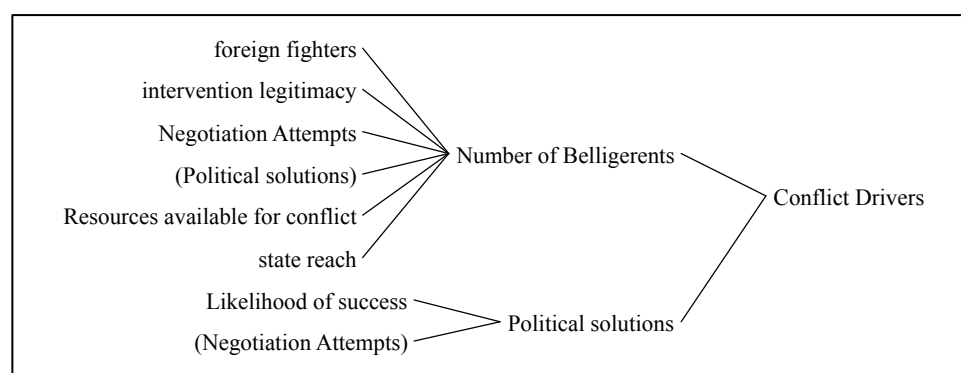


**Figure 55 Causal Pathway for Number of Belligerents, Somalia 2009-2103**

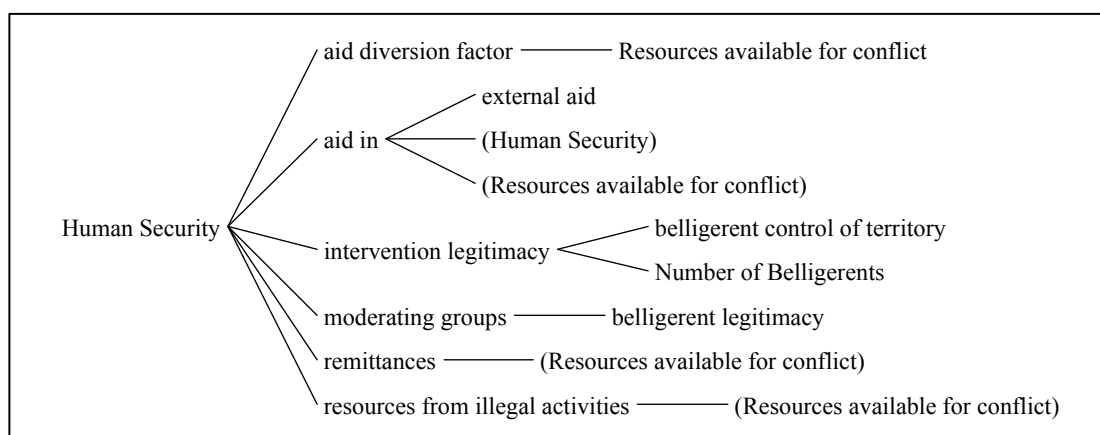
The influence of *human security* in these dynamics is greater than in the two previous conflict phases, co-evolving with *conflict drivers* through four different mechanisms involving *resources available*: *aid in*, *aid diversion*, *remittances*, and *illegal activities* (Figures 56 – 57). This complexity creates tension in policies to increase human security and resiliency: increasing aid makes bigger targets for aid diversion whereas decreasing aid encourages remittances and illegal activities that may fund further conflict; increased reliance on peacekeepers for humanitarian access in conflict zones



violates some humanitarian organizations' principles of neutrality whereas strict neutrality may increase resources for conflict and expose aid workers and recipients. Indeed, reported violent, life-threatening attacks on aid workers remained high during this period, averaging 20 per year.<sup>198</sup> However, human security as a result of violent conflict improved significantly from previous periods, with the percent of conflict fatalities that were civilian being 17% from 2010-2013, compared to 90% from 2006-2009, and 33% from 1997 - 2005.<sup>199</sup>



**Figure 56 Causal Pathway for Conflict Drivers, Somalia 2009-2013**



**Figure 57 Co-evolution of Human Security and Other Variables**

<sup>198</sup> The Aid Worker Security Database, USAID, <https://aidworkersecurity.org/>. Retrieved March 16, 2016.

<sup>199</sup> Data Source: ACLED Version 6. Data for 1995-1997 not available in ACLED.

On the other hand, human security condition due to natural disasters in Somalia worsened for most of 2009-2013, although it began to show signs of improvement in late 2012. Food insecurity across much of Somalia was assessed as highly or extremely insecure, emergency, or in catastrophic famine situations for most of that period, as a result of the previous high rates of conflict targeting civilians.<sup>200</sup> After the departure of the ENDF in 2009, aid to Somalia fell to \$350 million USD in 2010, 2/3 of which was humanitarian aid. This soared to \$1200 million USD in response to the drought in 2011 and 2012. Emergency humanitarian relief accounted for 2/3 of aid in 2011, but only 1/3 in 2012. Foreign aid to Somalia in 2013 was \$900 million USD, of which 1/3 was humanitarian aid. The situation began to improve in late 2012 and 2013, as the percentage of population in acute crisis fell from 53% of the population in 2011 to 28% at the end of 2012 and less than 10% in 2013. The improved situation was attributed to sustained humanitarian interventions following good harvest years.<sup>201</sup>

As in the previous period during the Ethiopian intervention, human insecurity and low state reach are consistent the likelihood of exponential growth predicted by the regression analysis at the macro level (Table 10). Prior to 2012, AMISOM troop numbers were low with 7,000 in 2010 and 9,000 in 2011, and were confined to peacekeeping activities in Mogadishu. With an expanded peace enforcement mandate, these increased to 12,000 in 2012, and 17,730 in 2013, but remained stationed primarily

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<sup>200</sup> Famine Early Warning Systems Network, "Somalia food security outlook through September 2010" <http://www.fews.net/sites/default/files/documents/reports/Somalia%20Outlook%2004%202010%20Final.pdf>; "Somalia Food Security Outlook October 2011-March 2012" <http://www.fews.net/east-africa/somalia/food-security-outlook/october-2011>. Retrieved February 2016.

<sup>201</sup> Famine Early Warning Systems Network, "Somalia: 28 percent of the population is food insecure", <http://www.fews.net/east-africa/somalia/special-report/october-2012>; "Somalia: Despite improvements, 870,000 likely in Crisis and Emergency", <http://www.fews.net/east-africa/somalia/food-security-outlook-update/august-2013>. Retrieved February 2016.

in areas surrounding the major urban centers of Mogadishu or Baidoa<sup>202</sup>. With security assistance from Turkey other Western partners,<sup>203</sup> the TFG began the job of reconstituting an integrated Somali National Army (SNA) composed of officers from various Hawiye and Darod sub-clans in 2011, with an estimated 12,000 trained forces deployed in and around Mogadishu in 2012.<sup>204</sup> However, the SNA forces are ill equipped, remain dependent on clan militias for armament and equipment, and lack any centralized barracks for communal living as a professional organization.<sup>205</sup> Loyalty within these forces was fragile and vulnerable to political negotiating between the TFG and the militia leaders (Menkhaus, 2009b). These combined SNA and AMISOM troop sizes compare to an estimated 20,000 militia forces remaining distributed across south and central Somalia, and an estimated 7000-9000 Al Shabaab forces (*Somalia: Al-Shabaab - It will be a long war*, 2014).<sup>206</sup>

Military expenditures to support these forces, proxied as before through UN, EU, and US security assistance, rose to \$543 million USD in 2009, \$359 million USD in 2010, \$332 million USD in 2011, \$558 million USD in 2012, and \$766 million USD in

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<sup>202</sup> AMISOM, “First AMISOM troops deployed outside Mogadishu”, <http://amisom-au.org/2012/04/first-amisom-troops-deployed-outside-mogadishu/>; “AMISOM beefs up Baidoa town Security with foot patrols” <http://amisom-au.org/2013/10/amisom-beefs-up-baidoa-town-security-with-foot-patrols/>; Retrieved March 21, 2016

<sup>203</sup> As of 2015, UNSOM coordinates international security sector assistance for the SNA. “Report S/2015/331 of the Secretary - General on Somalia”. United Nations Security Council. [http://www.un.org/ga/search/view\\_doc.asp?symbol=S/2015/331](http://www.un.org/ga/search/view_doc.asp?symbol=S/2015/331). Retrieved 18 May 2015.

<sup>204</sup> “Report S/2013/440 of the Monitoring Group on Somalia and Eritrea pursuant to Security Council resolution 2060 (2012): Eritrea” *UN Monitoring Group on Somalia and Eritrea*. [http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s\\_2013\\_440.pdf](http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s_2013_440.pdf). Retrieved 26 June 2014.

<sup>205</sup> IRIN News, “Shortages, clan rivalries weaken Somalia’s new army”, 28 May 2014, Baidoa, <http://www.irinnews.org/report/100141/shortages-clan-rivalries-weaken-somalias-new-army>. Retrieved March 21, 2016.

<sup>206</sup> The United Nations estimates are lower at 5000 in 2013. (United Nations Security Council. “Letter dated 12 July 2013 from the Chair of the Security Council Committee pursuant to resolutions 751 (1992) and 1907 (2009) concerning Somalia and Eritrea addressed to the President of the Security Council,” 12 July 2).

2013.<sup>207</sup> The ratios of military expenditures to aid during this period were 1.03 in 2010, 0.3 in 2011, 0.47 in 2012, and 0.85 in 2013. These values fall within the median range of observations for the macro level regression analysis, suggesting that overshoot and collapse or damped impulse (both of which are correlated to higher expenditures) are less likely, whereas oscillatory or exponential growth are about equally likely. However, as previously argued, it is likely that a significant portion of these expenditures occurred outside of Somalia, going to the troop contributing countries or to support operational headquarters in Nairobi, making the actual ratios lower, and exponential growth a more statistically likely outcome.

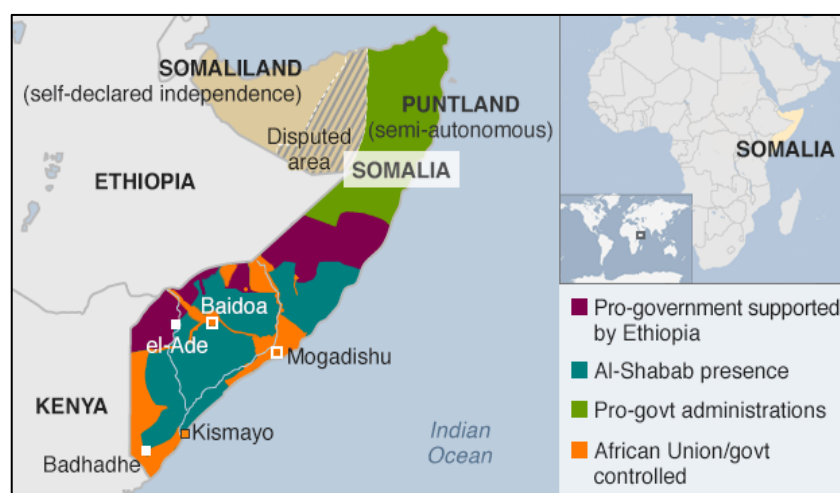
Governance improved with the establishment of the Federal Government of Somalia (FSG) in August 2012, following the end of the interim mandate of the TFG, was followed by a pledge of additional \$300 million in donor support. However, like the TFG, the FSG was relegated to Mogadishu, and challenged by exclusionary politics, the inheritance of the political economy based on war profiteering, the highest ranking for corruption in the world, and over-reliance on military rather than political solutions to defeat Al Shabaab (Bryden, 2013). The low level of governance is consistent with the predictors for exponential conflict in Table 10.

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<sup>207</sup> UN logistical support in was \$224 million USD in 2009-2010, \$182 million USD in 2010-2011, \$287 million USD in 2011-2012, and \$440 million USD in 2013-2014 (United Nations Advisory Committee on Administrative and Budgetary Questions, “Subject: AMISOM African Union Mission in Somalia”, <http://www.un.org/ga/acabq/documents/all/666?order=title&sort=asc&language=en>. Retrieved March 16, 2016). EU support averaged 65 million euros per year 2009-2012, and increased to 124 million euros in 2013 (European Commission Press Release Database, “The European Union announces more than 124 million euros to increase security in Somalia” 9September 2013, Brussels, [http://europa.eu/rapid/press-release\\_IP-13-816\\_en.htm](http://europa.eu/rapid/press-release_IP-13-816_en.htm). Retrieved March 16, 2016). US military assistance was \$246 million USD in 2009, \$104 million USD in 2010, \$77 million USD in 2011, \$198 million USD in 2012, and \$192 million USD in 2013.

***Phase V of Somalia Conflict 2014-: Transformation or More of the Same?***

The most recent phase of the Somalia conflict began in 2014, as the AMISOM expanded mission made headway in regaining control of territory outside of Mogadishu, and increased diplomatic efforts and international development aid structures introduced through the Somalia Compact between the FSG for international assistance in peace and state building created new space for civil society actors in political dialogue, and increased support for domestic security mechanisms. While Al Shabaab still controls large areas in south and central Somalia, the government or pro-government entities control considerably more territory than in previous years (Figure 58). AMISOM troop forces have reached a maximum authorized deployment of 22,000 stationed across five sectors: Lower and Middle Jubba along the Kenya border, which includes the port of Kismayo (Kenya command), Baidoa in Bay and Bakool along the Ethiopian border (Ethiopian command), Banaadir and Middle Shabelle along the Indian Ocean, including Mogadishu (Uganda command), the Hiiraan and Galguduud regions in central regions north of Mogadishu (Djibouti command) and Lower Shabelle along the Indian Ocean south of Mogadishu (Burundi command).



**Figure 58 Territorial Control in Somalia September 2015<sup>208</sup>**

The AMISOM campaigns to regain these territories have been successful in reclaiming control of important port access and other business infrastructures. However, they have also been criticized for lack of operational capacity to provide stabilization for human security in their wake, leaving populations vulnerable to raids and reprisals by Al Shabaab, who still controls most of the rural areas and wields considerable influence across clans (Ahmad, 2014; Bryden, 2015; Suri, 2016). These criticisms have been met with increased emphasis on the civilian component of the AMISOM mandate for assisting the FSG with the protection of civilians and provision of humanitarian access. However, the AMISOM's civilian protection capacities are extremely limited; provide only marginal opportunities for community engagement; rely on police, perceived as the most corrupt institution in Africa (Pring, 2015);<sup>209</sup> and are met with suspicion as

<sup>208</sup> BBC News, "Who are Somalia's al-Shabaab?" [www.bbc.co.uk/news/world-africa-15336689](http://www.bbc.co.uk/news/world-africa-15336689). April 2015, updated September 2015. Retrieved March 21, 2016.

<sup>209</sup> To make the situation worse for trust in the civilian protection capacity of AMISOM, the Global Corruption 2015 survey reports that citizens in three of the five countries contributing police to AMISOM

representatives of the FSG. These suspicions are exacerbated when the troops are from a country perceived to have a biased agenda or clan alliances (e.g., Kenya),<sup>210</sup> and/or poor record on human rights.

The political process has become an attractor and amplifier for new divisions and power struggles between the interests of local, regional, and national actors as stakes are raised in anticipation of elections in late 2016 to form a new government. The current political process is supported by significant investments from the international community through the Somalia New Deal Compact,<sup>211</sup> and has come under criticism for paying inadequate attention to conflict and fragility assessments or to addressing root causes of conflict.<sup>212</sup> These concerns were echoed through field interviews, as discussed in the next section. Many of the unaddressed root causes of conflict derive from multiple clan divisions at the local and regional level in areas where Al Shabaab still has a strong presence (Figure 58).

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(Ghana, Sierra Leone, and Nigeria), are the most negative about the scale of corruption in their country (Print, 2015).

<sup>210</sup> The civilian component of AMISOM currently draws on troops from Sierra Leone (47 police officers), Uganda (340 police officers), Ghana (56 officers), Kenya (21 officers), and Nigeria (140 officers). Their rotation typically lasts no more than 12 months. (AMISOM Civilian Component, <http://amisom-au.org/mission-profile/amisom-civilian-component/>. Retrieved March 21, 2016.) The majority of the police are stationed near infrastructure assets.

<sup>211</sup> The elections scheduled for August 2016 are the culmination of a process adopted by the FSG in 2012 to reach an agreement on a final constitution and transition to democracy by the end of its term of office in 2016. The strategy, outlined in “Vision 2016: Framework for Action”, has three pillars – review and implementation of the provisional constitution, establishing a voluntary federal system of member states, and the establishment of a functional democracy. (Abdirashid Hashi, “Somalia’s Vision 2016: Reality Check and the Road Ahead”, The Heritage Institute for Policy Studies, May 2015, <http://www.heritageinstitute.org/somalias-vision-2016-reality-check-and-the-road-ahead/>. Retrieved March 21, 2016.) The international community developed the new deal framework as a mechanism to provide \$1.8 billion in international assistance to support the four-year state-building process, recognizing that Somalia did not meet the IDA criteria for development aid. A New Deal for Somalia, Brussels Conference 16 September 2013, “The Somali Compact” <http://somalia-newdeal-conference.eu/files/sites/default/files/The%20Somali%20Compact.pdf>. Retrieved March 21, 2015.

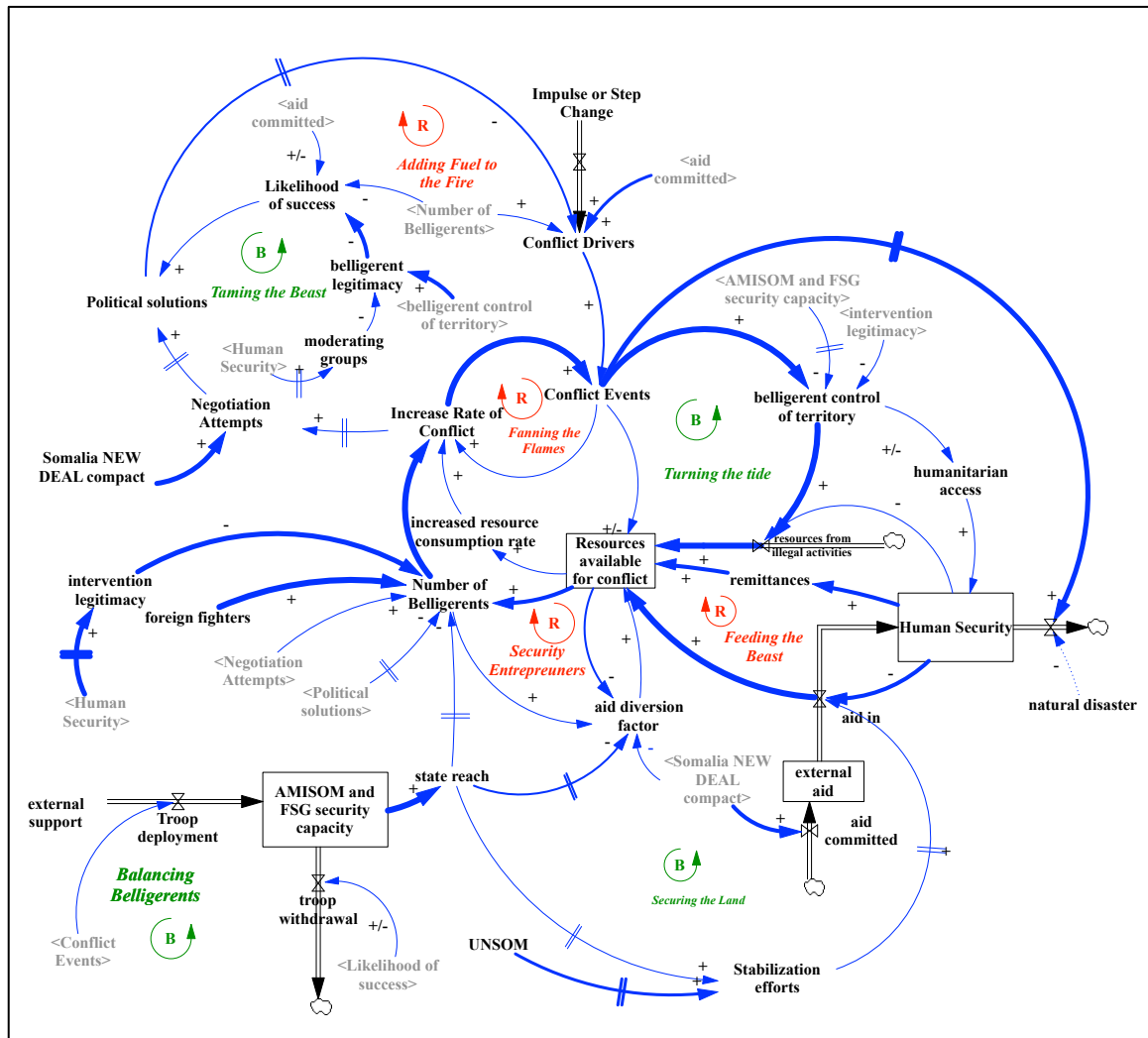
<sup>212</sup> Saferworld, “Getting the New Deal right in Somalia,” 18 November 2014 <http://www.saferworld.org.uk/news-and-views/comment/152-getting-the-new-deal-right-in-somalia>. Retrieved March 21, 2016. These concerns echoed during

The structure of the causal loop model for conflict in this phase closely resembles the previous, but contains four major balancing loops compared to three in the previous. The addition of the *Somalia New Deal Compact* (representing both the Vision 2016 political process and development initiatives of the Somali New Deal Compact, which go hand-in-hand), has multiple effects that amplify the previously existing balancing and reinforcing loops with the potential to significantly change the system behavior, while the addition of *UNSOM* and *Stabilization efforts* creates a new balancing loop, “Securing the Land” (Figure 59). The addition of the *Somalia NEW DEAL Compact* strengthens the balancing loop, “Taming the Beast” through *negotiation attempts*, and creates a delayed balancing influence on *aid diversion*. At the same time, the additional *aid committed* as a result of the *Somalia NEW DEAL compact* potentially strengthens the reinforcing loop, “Adding Fuel to the Fire” as is the reinforcing loop, “Feeding the Beast” loop (Figure 60). Additionally, the causal mechanism introduced between *aid committed* and *conflict drivers*, and between *aid committed* and *likelihood of success*, potentially amplifies the self-reinforcing loops for conflict through *political solutions* and *negotiation attempts* in the causal pathway for conflict drivers (Figures 61 and 62). The introduction of *stabilization efforts* to improve *human security* through policing and local level engagement with moderating groups (Figure 63), introducing the additional balancing loop, “Securing the Land”, influences key variables in other balancing loops (Figure 64).

With no natural disasters in this period, humanitarian aid has remained at 30% of overall aid, which has been close to \$1000 million USD annually. This amount of non-humanitarian aid relative to GDP (approximately 60%) is atypical for an active conflict setting, creating additional incentives for conflict over positions of power to control these

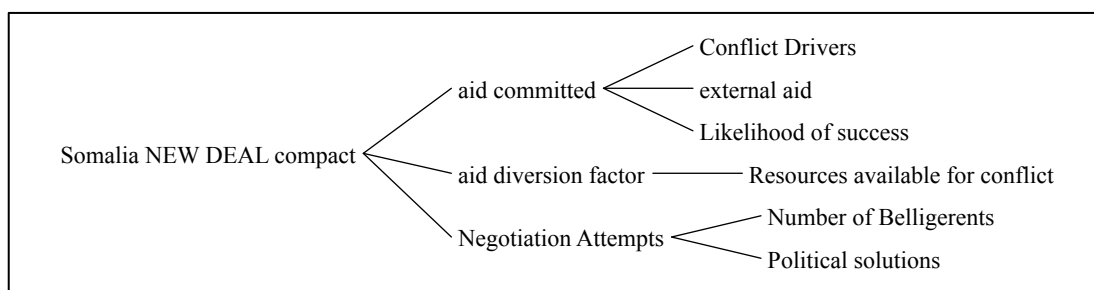


resources, and is a large target for diversion. It is not clear how much of this aid is directed through the Somali Development and Reconstruction Facility (SDRF) established as a vehicle for international funds from the World Bank, UN Multi-Partner Trust Fund, African Development Bank and IMF to support the New Deal Compact, and whether this vehicle is likely to increase or decrease long term conflict potential.<sup>213</sup>

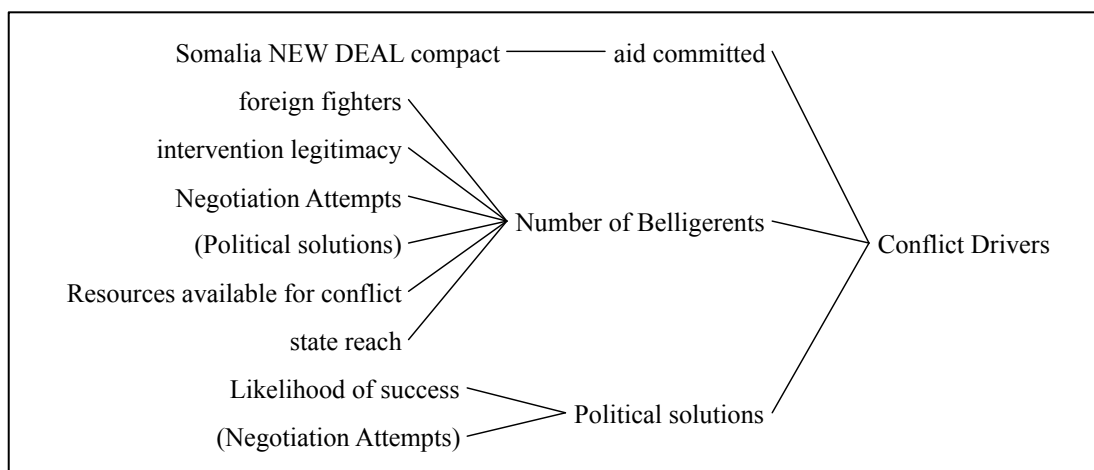


**Figure 59 Exponential Growth with Potential Overshoot Structure of Somalia Conflict with Reinforcing and Balancing Influence of Somalia New Deal Compact**

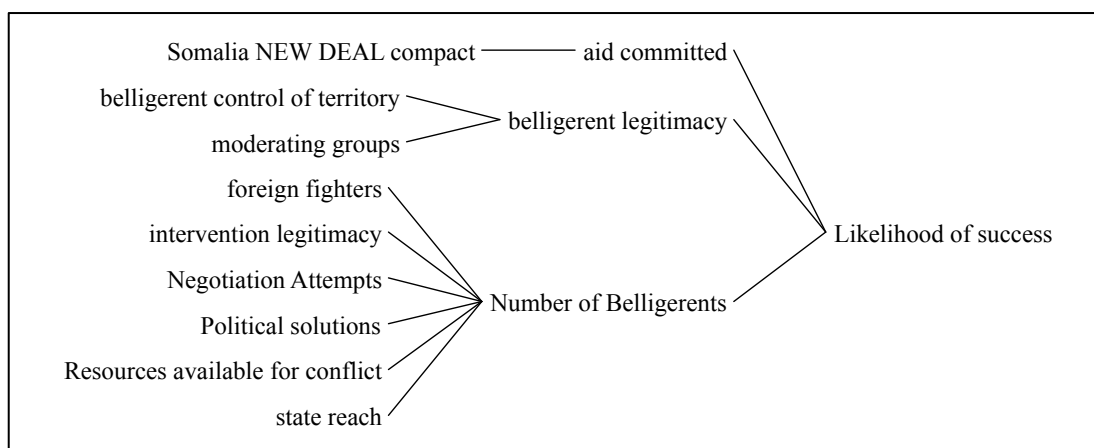
<sup>213</sup> United Nations in Somalia, “A New Deal for Somalia”, <http://www.undp.org/content/unct/somalia/en/home/what-we-do/new-deal-for-somalia.html>. Retrieved March 21, 2016.



**Figure 60 Forward influences of Somalia NEW DEAL Compact as a Causal Mechanism**



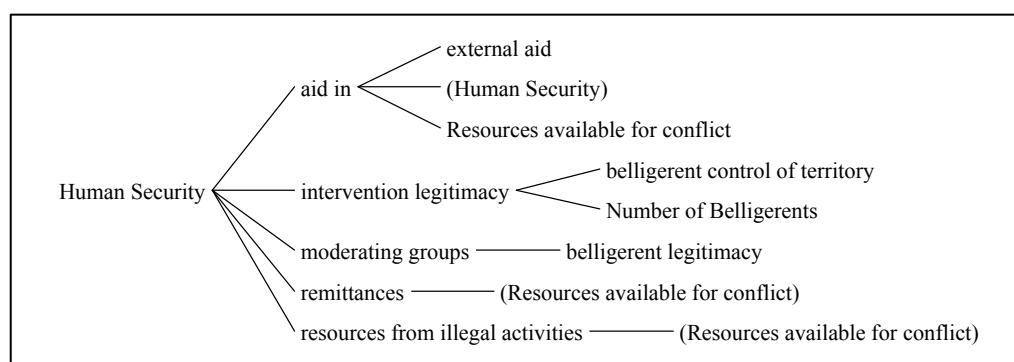
**Figure 61 Causal Pathway of Conflict Drivers, Somalia 2014**



**Figure 62 Causal Pathway for Likelihood of Success, Somalia 2014**



**Figure 63 Causal Pathway for Human Security, Somalia 2014**



**Figure 64 Forward Influence of Human Security, Somalia 2014**

Estimated military expenditures rose in 2014, with the EU contribution to AMISOM almost doubling to \$250 million USD; the UN contributing \$440 million; and the US military assistance to Somalia rising slightly to \$202 million USD,<sup>214</sup> for a combined total of \$892 million USD. The ratio of these proxies for military expenditures to aid in 2014 was 0.89, compared to 0.85 in 2013. Effective military expenditures are likely higher, however being supplemented by increased partnership efforts between AMISOM, the SNA, and the US Combined Joint Task Force in the Horn of Africa (CJTF-HOA) on counter-terrorism, intelligence, and leadership training in

<sup>214</sup> US military assistance to Somalia subsequently increased to \$320 million USD in 2015 and \$745 million USD in 2016.

civil–military affairs to counter the rising threat of the Islamic State in the Levant

(ISIL).<sup>215</sup> The additional security assistance was caveated by US Congressional concerns that

“The open-ended AMISOM mission without a clearly articulated transition strategy could crystallize the current status quo that while presenting progress from past conditions, is not an acceptable end-state. Accepting the status quo as an end state would mean a long-term dependence by the Somali Federal Government (SFG) on AMISOM to fulfill its security needs; a SFG that is unable or unmotivated to extend its reach beyond Mogadishu; an overwhelming dependence by the SFG on foreign assistance; the strengthening or institutionalization of clan-based militias outside of Mogadishu; and lack of progress toward necessary constitutional and government reform...”(*Carl Levin National Defense Authorization Act for Fiscal Year 2015*, 2014b) p. 201

The combined affects of increased *security capacity*, delayed responses from previous improvements to *human security*, and international resources and pressure for increased *negotiation attempts* strengthen balancing loops that explain reduced conflict and apparent change in system behavior away from exponential growth in 2014 and 2015 (Figure 18). The increased *state reach* and *security capacity* since 2014 relative to the previous periods, greater inclusiveness through *moderating groups*, improved *human security*, and involvement of UN are correlated with higher likelihood of overshoot and collapse behavior from the regression analysis in Table 10.<sup>216</sup> However, as evidenced by the US Congressional concerns, many of the causal mechanisms are embedded within balancing loops with delays (e.g., “Turning the Tide”) that could produce tipping points in the future to reverse the downward trend or steer the system towards oscillatory

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<sup>215</sup> “Security and Governance in Somalia: Consolidating gains, confronting challenges, and charting the path forward,” Hearing before the Subcommittee on African Affairs of the Committee on Foreign Relations United States Senate, 113<sup>th</sup> Congress, October 8, 2013. <https://www.govinfo.gov/content/pkg/CHRG-113shrg86352/pdf/CHRG-113shrg86352.pdf>, Retrieved May 2015; CJTF-HOA Combined Joint Task Force Horn of Africa, “Stories of 2014”, <http://www.hoa.africom.mil/stories/2014>, Retrieved March 16, 2016.

<sup>216</sup> Recall that human security related to aid effectiveness is proxied by the inverse of infant mortality in the regression analysis; inclusiveness is proxied by higher gender equality.

behavior, which would sustain persistent conflict. The elections in late 2016 may reinforce the current path towards reconciliation and collapse of violent armed conflict *if* the process is broadly perceived as legitimate *and* there are sufficient security and stabilization mechanisms in place to deter spoilers, but are otherwise likely to induce a transition to sustained oscillations or renewal of exponential growth.

### *Insights from Conflict Dynamic Models*

The case study of Somalia conflict dynamics since 1989 provides three important insights. First, while Somalia manifests an overall pattern of exponential growth over its 25-year history, the four different types of reference behaviors that distinguish conflicts from each other at the macro level are also present at the mesa-level during distinct phases within this single conflict. These outcomes correspond to different levels of aid, security capacity, conflict-supporting and peacebuilding resources that emerge as a result of interactions and feed back between exogenous and endogenous factors at different levels to affect human security. Second, with one exception, the relative values for aid, state reach and capacity (proxied through peacekeeping operations and external military interventions), military expenditures (proxied through external military assistance), and governance factors (proxied as the influence of moderating groups on likelihood of success of political solutions) during each of these phases are consistent with predicted macro-level values of these variables for the different outcomes. Third, each of these variables operate through causal mechanisms involved in both reinforcing and balancing loops for conflict that co-evolve with endogenous micro-level factors through complex causal pathways that can determine whether a structural condition becomes reinforcing or balancing. Examples include the complex relationships between likelihood of success of

negotiated attempts for political solutions, and belligerent legitimacy, numbers of belligerents, peacekeeping capacity, intervention legitimacy, aid, resources for conflict, and human security.

One apparent exception to consistency between the macro-level regression results and the mesa-level Somalia case study is regarding the predicted correlation between increased likelihood of overshoot and collapse behavior with higher levels of endogenous conflict management mechanisms proxied through gender equality in the regression analysis. The period during which cooperative conflict management mechanisms appear highest in Somalia (1995-2006) is associated with oscillatory conflict behavior, rather than overshoot and collapse. However, the mechanisms for cooperative behavior during this period involved Islamic institutions that excluded women's participation, and involved use of force, co-optation, and intimidation rather than conflict resolution. Evidence from situations in which women are allocated roles in alternative approaches for responding to conflict in Somalia supports the conclusions of the regression analysis. For example, in case studies of negotiations among community-based peace processes during this period, women's pressure groups are credited as a contributing factor whenever there was success (Bradbury, 2009; I. A. A. Oker & Habibullah, 2008).<sup>217</sup> This evidence, together with the regression analysis, suggests the counterfactual that

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<sup>217</sup> The assumption that gender equality is positively correlated with cooperative conflict management in Somalia is reinforced by additional evidence from studies of the impact of the Somali conflict on women and their response. These have found that while women have taken on increased roles of responsibility at the household level as a result of conflict and are the most likely to affect sustainable change as recipients of micro-level aid. They have also mobilized successfully to affect peace-making in Somaliland and their political empowerment is regarded as essential to the political reconciliation efforts associated with the New Deal compact (Barakat et al., 2014; Bradbury, Menkhaus, & Marchal, 2001; Gardner & Bushra, 2004; Menkhaus, Sheikh, Quinn, & Farah, 2010; *Security and Governance in Somalia: Lindborg Testimony*, 2013; Shortland, Christopoulou, & Makatsoris, 2013; Simmon, 2013; *Somalia Human Development Report 2012: Empowering youth for peace and development*, 2012; *Somalia: Current Conflicts and New Chances for State Building*, 2008; UNOCHA, 2013).

participation of women in the moderating structures present during the oscillatory phase (e.g., 1995-2006) might have reduced conflict levels further.

The complexity of mechanisms through which variables interact to reinforce or balance conflict result in a multitude of causal pathways that require additional methods of analysis for causal understanding of interaction mechanisms at the micro-level. For example, the relatively simple causal loop model of relationships between the four “stock” variables (e.g., security capacity, aid, human security and conflict resources) in Figure 59 generates a total of 327 different causal pathways between endogenous and exogenous variables, involving as many as 17 co-evolving variables at a time. Understanding how these causal pathways evolve requires even more fine-grained analysis, incorporating geographic, as well as economic, political, and security approaches to conflict analysis.

A key question for this study is whether the observed reference behaviors and their relationship to risk factors scale to lower levels. Conflict patterns at the first administrative level in Somalia suggest that they do, although with smaller data sets they contain more “noise”. Conflict events in Galguduud (Figure 65) and Gedo (Figure 66) districts -- both relatively remote from resource bases and on the border with Ethiopia where balancing troop presence is strong -- exhibit Overshoot and Collapse behavior. In contrast, conflict events in Hiraan (Figure 67) and those of Banaadir (Figure 68), which contains Mogadishu, exhibit oscillatory behavior about an exponentially increasing mean. Both areas received the primary concentration of peacekeeping forces, aid, and diaspora income, and are at the economic epicenter of Somalia (both legitimate and illegitimate markets). Conflict patterns in Jubbada Hoose (Figure 69), which contains the port of

Kismayo, and Shabeellaha Dhexe (Figure 70), which contains smaller ports between Mogadishu and Kismayo, also exhibit primarily exponential growth. Kenya peacekeeping troops, present in Jubbada Hoose, are suspected of pursuing their own entrepreneurial interests in the port of Kismayo, while peacekeeping troops have only recently reached the Shabeellaha Dhexe area, although humanitarian aid has reached there. Conflict dynamics closer to the political and security exhibit exponential growth, which may be explained by relatively easy access to resources and strong conflict drivers that reinforcing conflict that is balanced by delayed feedback from stronger presence of security forces and mediation efforts. Areas further from the political center with less access to resources exhibit overshoot and collapse or oscillatory behavior. There also appears to be a differentiation in patterns among different types of conflict events (Figure 71).<sup>218</sup>

Currently, longitudinal data on conflict risk factors at the administrative and village level does not exist at the micro-level to systematically test these hypothetical mechanisms through comparative regression analysis or comparative local level causal modeling. As more data at the micro-level becomes available in the future for conflict events, intervention factors, and socio-political-economic factors for the country, such comparative studies could be conducted.

An alternative approach is to qualitatively assess whether these dynamic behaviors exist at the individual level, and if so, whether they are associated with similar causal mechanisms and risk factors as found at the higher scales. Field research

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<sup>218</sup> In Figures 65-71, CE1=battles with no transfer of territory; CE2=battle with change in control of territory; CE3=headquarters or base established; CE4=nonviolent transfer of territory; CE5=remote violence; CE6=violent protests; CE7=violence against citizens



conducted in Africa during the summer of 2014 confirm that the hypothesized causal mechanisms from the previous sections are valid, and provide important and interesting insights on how interventions and political solutions designed and implemented relatively independently at regional and national levels interact at local levels to affect conflict.

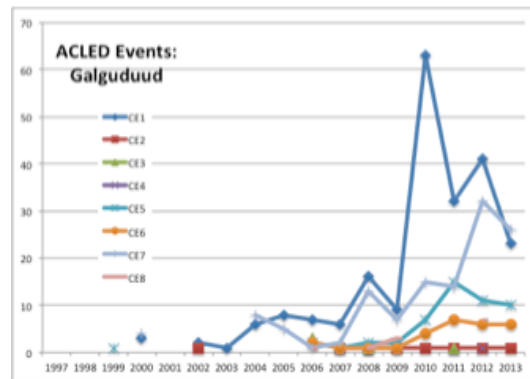


Figure 65 Overshoot and Collapse: Galguduud

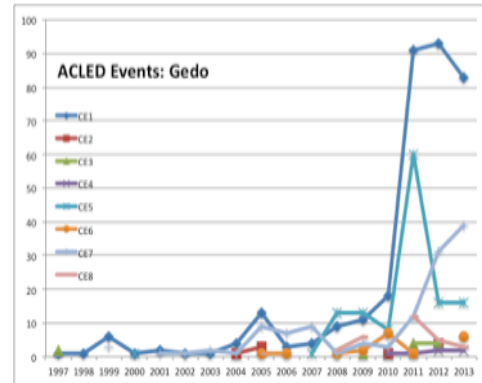


Figure 66 Overshoot and Collapse: Gedo

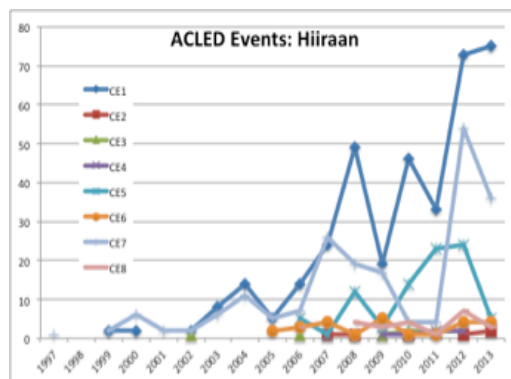


Figure 67 Exp/Oscillations: Hiraan

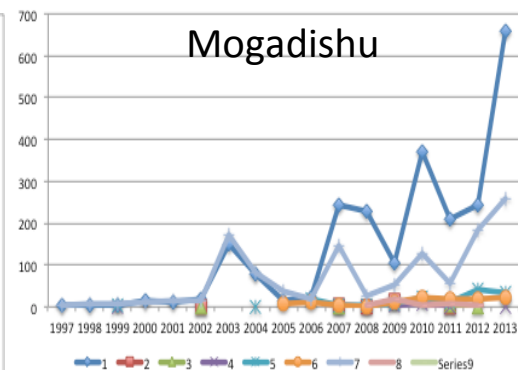


Figure 68 Exp/Oscillations Banadadir

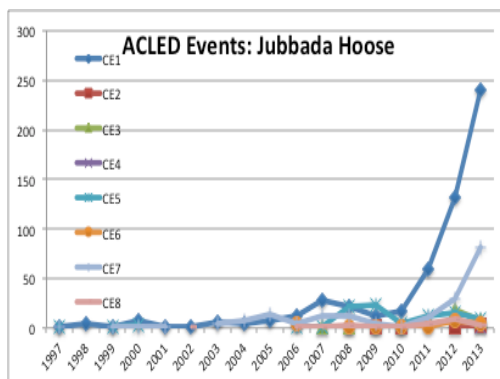


Figure 69 Exponential: Jubbada Hoose

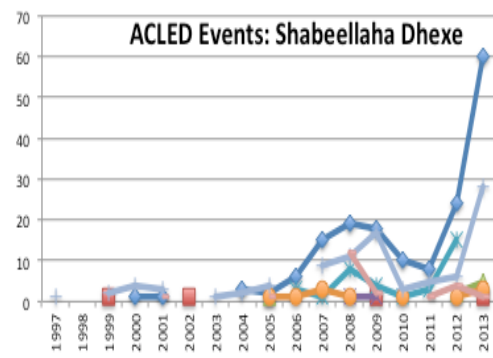
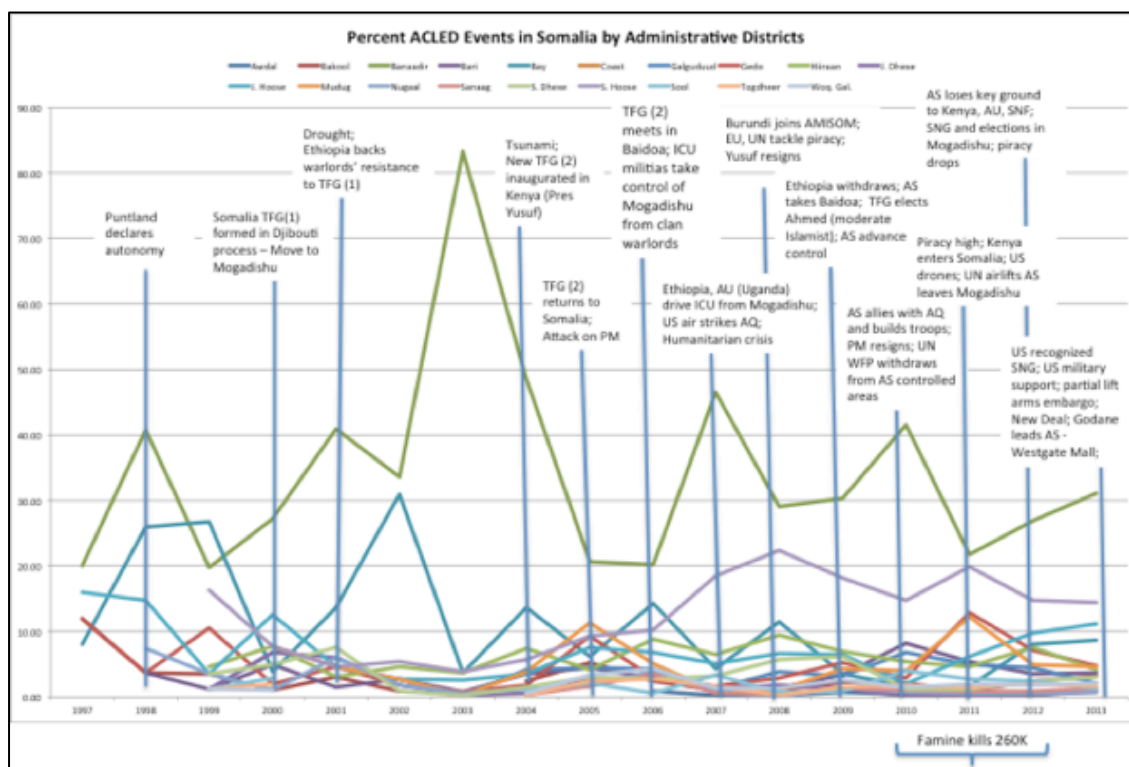


Figure 70: O/C/Exp: Shabeellaha Dhexe



**Figure 71 Percentage of Violent Events within Administrative Levels Changes Over Time in Response to Different Local Responses to Political and Security Interventions**

### **Field Research and Results: Micro-level Perspectives on Interventions in the Somalia Conflict**

Field research with over 75 individuals and focus groups conducted in East Africa (Kenya, Ethiopia, Burundi, and Uganda) and European capitals (Geneva, Amsterdam) from July to September 2014 to develop micro-level perspectives of Somalia conflict dynamics and the effects of external interventions, with a primary focus on the ongoing conflict in South Central Somalia. Questions pertained to (1) the interview subjects' understandings of local conflict dynamics, root causes, contributing factors, resources, and key stakeholders; (2) the interview subjects' understandings of their roles (if any) for intervening the conflict, goals and metrics for that intervention, challenges and barriers,

and local responses to those interventions; and (3) integrated impacts of aid and peacekeeping interventions on local level conflict dynamics in the short and long terms (Appendix C). Sources included current and former government officials and representatives from US, Ethiopia, Somalia, and the EU; local and international NGO and donor agency specialists and staff; AMISOM peacekeeping officers and troops and authorizing organizations (e.g., AU, UN); US and EU military support personnel to AMISOM; local think tanks and policy research institutions in Ethiopia and Kenya; and individual members of the Somali refugee and diaspora communities. Respondents expressed generally consistent views of conflict dynamics and portrayed several common crosscutting themes, but diverged in several important ways regarding root causes, policy priorities, and the likelihood of success of external interventions for promoting human security and sustainable conflict transformation.

### ***Conflict Dynamics***

Respondents general concur with the historic arc of Somalia conflict as presented in previous chapters and expressed consensus perceptions on key factors in the conflict dynamics. These include (1) inter-clan squabbles over control of land, resources, and power as primary conflict drivers; (2) roles of regional actors pursuing their own self-interests, and of aid design and delivery practices as conflict escalators; (3) inter-clan power asymmetries and vulnerability as producers of a security dilemma for IDPs, refugees and marginalized communities that Al Shabaab exploits (and that complicate disarmament and stabilization efforts); (4) tensions between peacemaking and state building initiatives for conflict management; and (5) the battle between Al Shabaab,

government institutions, traditional clans and external actors for legitimacy in conflict resolution.

### *Local Level Conflict Dynamics, Peacebuilding, and State Building*

Conflict dynamics are much more complex with intertwined factors in the South Central regions of Somalia than in Somaliland or Puntland due to more diversity in clan groups, and with minority clans interspersed in pockets amidst majority clans (Figure 29). In the view of many local and INGO workers, the root causes of conflict at the local level are resource based, involving disputes between these clans over control of grazing lands and water, and are the primary reason that Al Shabaab has been able to remain entrenched in the region. They believe that the international community is currently taking a great risk by focusing almost exclusively on state building and the political processes within the FGS and between the FSG and newly created member states to hold elections in August 2016 as the “long pole in the tent” for conflict resolution, largely ignoring peacebuilding initiatives to resolve these underlying root causes of conflict.<sup>219</sup> After more than two decades of conflict, they are concerned that negotiating power-sharing arrangements between regional and central authorities without a clear path for how local voices from outside Mogadishu will be heard in the future to resolve root causes provides space for new “war lords” to emerge, and will undermine future reconciliation efforts necessary for sustainability and legitimacy of the new governing institutions.

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<sup>219</sup> The current process for *political solutions* is represented in the “taming the beast” balancing feedback loop in Figure 49 of the previous section. This loop is weakened when *human security*, which is degraded by the “feeding the beast” reinforcing loop as a result of *conflict events* that obtain from unresolved *conflict drivers*, reduces the support of *moderating groups* for the *likelihood of success* and increasing *belligerent legitimacy*.

Leaving root causes of local level conflicts unresolved has both immediate and long-term consequences. In the short term, there are only two readily available solutions for assuring control of resources – through militarization of society, or cooperation with Al Shabaab. Several respondents described areas where every household has an AK-47 worth more than \$1000, even if they have no food. In this setting, potential numbers of belligerents increase, as Al Shabaab may continue to derive legitimacy from among minority clans with grievances, and from minority groups and youth over perceptions of unaddressed injustice and corruption in traditional systems and the FSG, where elite actors are viewed with suspicion and distrust. This is not good news for efforts to counter violent extremism.

In the longer term, without resolution of land and resource ownership issues at the local level, communities are unable to build sustainable market structures necessary for self-reliance and resiliency necessary to withstand future shocks from *natural disasters*, resulting in decreased *human security* and increased risk of renewed conflict (Figure 49). They will remain dependent on government structures, and vulnerable to corruption and renewed conflict. In addition, the state building process itself will institutionalize power relationships based on negotiated formulas of equitable representation in a new democratic system. These will require newly formed polities to find processes by which to choose representatives, which will be particularly challenging if the underlying root causes of conflict within those polities have not been addressed.<sup>220</sup>

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<sup>220</sup> The potential future conflict as a result of political solutions would follow the same structure as in Figure 59, but reverse the polarity of influence of political solutions on conflict drivers from negative to positive.

On the other hand, others are concerned that efforts to resolve root causes at the local level now, prior to institutionalizing consensus power sharing and governance arrangements at the regional and national level, risks airing long-held grievances before there is a political will to resolve them,<sup>221</sup> losing the current momentum to build that political will, and undermining the future credibility of any peacebuilding agreements that could be reached.

### *Conflict Dynamics and Aid*

Most respondents concur that a critical test for the FSG to build credibility will be whether it demonstrates that it can be a constructive partner in aid projects through the mechanisms set up by the New Deal Compact, or it continues past practices of corruption, gatekeeping and massive exploitation of aid resources.<sup>222</sup> There is across-the-board consensus that while early interventions of the IC were successful in achieving humanitarian goals in the early phases of the Somalia conflict (e.g., 1992-1994), the practice of contracting with warlords, motivated by a sense of urgency for aid delivery, escalated conflict significantly and created repercussions still felt today.<sup>223</sup> While UNOSOM maintained an apparent stance of neutrality by involving different militia leaders from the major clans, they made them gatekeepers and power brokers, undermining early opportunities for conflict resolution through traditional conflict

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<sup>221</sup> This risk is represented in Figure 59 by the linkage between *negotiation attempts* and *political solutions* on *number of belligerents*. If current *negotiation attempts* for *political solutions* fail as a result of trying to resolve root causes, *numbers of belligerents* could increase, and reverse the current downward trend in *conflict events*, potentially creating a tipping point to exponential growth.

<sup>222</sup> The dynamic relationship between aid diversion and the New Deal compact is represented in the “securing the land” balancing feedback loop in Figure 59.

<sup>223</sup> The practice of paying gatekeepers for to provide aid access is represented as the “security entrepreneurs” conflict reinforcing feedback loop in all the causal loop models of Figures 19, 34, 40, 49, and 59.

mechanisms in Somali society involving elders and informally understood arrangements between minority and majority clans.

During the period of control by the ICU (1995-2006), Islamists are credited with allowing the UN and most humanitarian organizations access for aid distribution that was fair to the interests of minority clans. The ICU was relatively straightforward interlocutor for those organizations that were willing to work with them, using taxes to build and provide services to the communities as a whole, precluding inter-clan conflict over aid resources. Without the intervention of the ICU, for example, if a minority clan received a food distribution, they would become a target for a majority clan.<sup>224</sup> At the same time, Islamists created vulnerability and fragility by controlling the type of aid delivered, and from whom. For example, the Islamists were known to allow other faith based organizations (including Christian) to deliver seeds and agricultural production into villages experiencing severe food insecurity and starvation, but not food drops from the World Food Program (WFP), ostensibly on the premise that receiving bags of rice and maize would make them weak dependents of the TFG and Western governments. However, few INGOs were active in South Central Somalia during this time.

After the Ethiopian intervention in 2007 and the retreat of the ICU from Mogadishu, many more INGOs became involved in attempting aid delivery into Mogadishu, reinstituting the practice of using gatekeepers for security and access. The practice of creating and using gatekeepers to assure access for aid and development is flourishing today, although the key actors may no longer be the warlords of the major clan militias (although they can be), and sometimes appears in the guise of legitimacy. Today there

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<sup>224</sup> This corresponds to the “paying it safe” conflict balancing feedback loop in Figure 34.

are many gatekeepers - Al Shabaab, local Somali businessmen in Mogadishu, returning diaspora, and NGO and civil society organizations. Most operate out of Mogadishu or Nairobi, and few of these organizations made excursions outside of these major urban areas until the past year. Many of these are perceived as not having legitimate concerns for the interests of local Somali people and only out for their own agendas.

The most often cited offender on a large scale is the WFP,<sup>225</sup> but the practice is ubiquitous from micro to macro scales. A veteran program manager at OXFAM described a cycle that he has observed to contribute to persistent conflict at the village level over decades in conflict settings including, but not restricted to, Somalia. Humanitarian aid workers going in to active conflict settings negotiate with local community leaders to provide physical security for aid delivery and distribution. The specifics of these contracts are often “off the books” and/or kept confidential to protect the identities of those providing services. The NGO field manager, however, requires that all parties to the conflict have equitable opportunity to participate in the pool of security providers organized by the local leaders to ensure that the delivery of aid does not exacerbate tensions. All parties benefit in this “cooperative” security arrangement as long as it is perceived to be fair.

Security incidents go down and food is delivered. Eventually, however, the international organization’s home office reduces the security budget as a result of decreased security incidents. The field manager bears the news to the local leader that funds have been cut and some people providing security may have to be let go. The result

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<sup>225</sup> The practices of the WFP for placing large contracts with warlords and subsequent contributions to conflict were documented by the UN Monitoring Group for Somalia and Eritrea (Bryden, Laloum, & Roofthoot, 2010).



is either that local leaders (and community) instigate a few “security incidents” to create more of a demand for services, or that old tensions are rekindled in competition for the reduced resources, creating new security incidents. The home office becomes alarmed; concerned that conflict will soon escalate, they bring field personnel home and put the aid program on hold until further notice. In most cases, they are back within a year or so, with new field personnel and program managers at the home office who start the cycle all over again. In doing so, a local culture of entrepreneurship around the market for security drives predictable, episodic oscillations of low-level conflict. This cycle can last under the radar screen of the home office for decades, becoming an invisible local level driver in some persistent conflicts.

Most of the IGNOs and local NGOs, voiced concerns that these and other practices that fuel the “security entrepreneur” dynamic are quite widespread; with many feeling that in the current security environment there are no acceptable alternatives short of abandoning their humanitarian missions to those most in need. Some described managing the risk by developing trusted relationships in the communities they serve, relying on these relationships to screen out potential security providers that are “extremists”, and using only “moderates” who are not affiliated with Al Shabaab or local militias. However, this assumes that there is distinction between moderates and extremists, and that Al Shabaab and militia members can be differentiated clearly from other community members – two dichotomies that others described as patently false and reflects unfamiliarity with Somalia community dynamics, where “Al Shabaab and militia members may be terrorists by night and sons and daughters by day”. Some seek to minimize impact and manage risk by hiring local, trusted private security companies rather

than relying on community members or doing business with Al Shabaab. However, these private security companies often negotiate “off the books” as described by OXFAM, while the hiring organization turns a blind eye to maintain plausible deniability. Some felt that AMISOM or the FSG would be a preferred option if there were mechanisms in place by which to call on them for help, but no such mechanisms currently exist.

The Life and Peace Institute (LPI) and the US AID described two alternative models that have met with success for aid, development and peace building projects. Both models rely on transparent, inclusive, grass roots, community-led processes that empower communities to own the success or failure of projects. During the chaos in 2007, the LPI instigated the formation of a council of 100 political actors at the neighborhood level in Mogadishu that included traditional elders, AMISOM, and Al Shabaab, who agreed to minimize civilian casualties in the midst of bombardments, maximize accessibility to humanitarian relief, and try to maintain access to markets for humanitarian purposes. Using a variation on traditional Somali conflict resolution mechanisms, and appealing to the desire that all three sides had for legitimacy, the council met with some success without LPI having to resort to bribes. However, referring to the large external presence in Somalia today, the program manager that had overseen the LPI council in 2007 cautioned that currently, “the biggest problem in Somalia is the very rapidly changing context with different actors and alliances”. Local actors now do “forum shopping” among NGOs and potential donors to find those most likely to be sympathetic to their grievances and needs. Others describe the current battle for legitimacy in the eyes of local Somalis as being between Al Shabaab and the

international donor community, making the council model hard to replicate where Al Shabaab maintains control.

Since 2011, the USAID has developed a micro-level approach to this problem in south central Somalia through a grass-roots process supported by strong transparency measures. The US AID publically announces what financial resources will be made available to the community if they can come together (civil society, women's groups, elders, etc.) and build consensus around what will be done, how it will be done, and who will manage it. Networks of accountability are set up within existing local communications systems (e.g., radio stations and talk shows, meeting forum) and monitored by the community. These projects, which range in size from \$20,000 to \$200,000 have been conducted successfully without resorting to bribes in areas free from the control of Al Shabaab. As of fall 2014, access to more communities had been expanding as AMISOM gained more control of territory for the FSG, but had been inconsistent due to the status of some "liberated villages" as essentially garrison towns surrounded by territories still under the control of Al Shabaab. The lack of access to these villages by civilian development and humanitarian teams in the wake of peacekeeping operations was an oft-repeated concern and criticism.

Both of these models for designing and implementing aid programs rely on empowering local stakeholders beyond the security entrepreneurs, and address the issue of legitimacy and local level needs and interests, while being sensitive to the need for conflict management and security measures.<sup>226</sup> The USAID goes the furthest with

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<sup>226</sup> The potential for empowering local moderating groups to reduce conflict through its handling of aid is modeled through the link between *aid commitment* and *likelihood of success* and *human security* and

transparency, accountability and communication at the local level. A third model used by SAFERWORLD in areas of limited access involves local communities in design and buy-in but not project management. That model gives priority to projects with a strategic, long-term view, and applies a risk management framework drawing on lessons learned in Afghanistan<sup>227</sup> in their design and approval. The framework, which is being incorporated into project designs under the New Deal Compact, typically relies on outside management and engineering companies with proven records in conflict settings and strong monitoring processes for overseeing project implementation.

A fourth model, used by donors in Turkey and the Arab world, involves building local and regional infrastructures that benefit Somali communities while at the same time fostering economic development opportunities with the donors (e.g., roads, ports, hospitals, schools, wells). While these provide immediate short-term benefits within communities, they create new gatekeepers with elite privileges and rarely incorporate mechanisms for monitoring how these future economic resources and opportunities are to be distributed, or conflict management over control of them.

Many of the major actors in international aid community active in Somalia participate in the Somalia NGO consortium based in Nairobi, providing a regional mechanism to coordinate activities, share information, and work together on specific issues.<sup>228</sup> The organization engages in collective advocacy with governments, UN agencies, donor

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*moderating groups and belligerent legitimacy* in the “taming the beast” balancing feedback loop in Figure 59.

<sup>227</sup> The subject pointed out that two of the most important lessons learned from work in Afghanistan is the need for local monitoring mechanisms, and not to pay government salaries. Many projects in Afghanistan did not have monitoring mechanisms in place for up to 10 years.

<sup>228</sup> The consortium currently consists of 30 international organizations that include major players such as Adeso, CARE, Caritas, CEFA, IRC, MEDAIR, Mercy Corps, Save the Children, Solidarity International, and World Vision. Somalia NGO Consortium, <http://somalangoconsortium.org/>. Retrieved March 26, 2016.

groups; has developed a code of conduct and risk management; provides advice to local NGOs; and facilitates coordination between member organizations and with the NGO Safety Program that provides security management support to reduce risks to personnel and assets. In particular, the consortium provides a key link between security sector activities, such as AMISOM and the SNA. While effective in serving these worthwhile functions, the organization seems to operate in a defensive atmosphere of mistrust and insecurity, resulting in lack of transparency and a reputation among some nonmembers for being more interested in ensuring that target burn rates can be met than coordination and cooperation. For example, access to the consortium database on resources, projects, and security concerns is limited only to members. Although the concerns are understandable, the lack of transparency, competition, and different cultures among donors, INGOs and NGOs was a recurrent theme that respondents say contribute to division and mistrust that exists between local communities, external actors, and the FSG, and that earn the collective INGOs the nickname “Nairobi warlords”.

*Conflict dynamics, peace operations, and aid*

Perceptions among respondents regarding AMISOM peace operations, conflict dynamics, and human security vary widely, ranging from enthusiastic support of an improved security environment, bravery of soldiers and their voluntary contributions to meeting humanitarian needs, to extreme distrust and disillusionment based on allegations of human rights abuses, self-interested agendas, corruption and collusion. Most perceptions, however, are somewhere in the middle, viewing the operations as conditional successes for improving human security and providing space for the FSG in the state building process, but with serious reservations about inconsistency in strategies,

capacities and professionalism and long-term impact on conflict dynamics with no exit strategy. Some of these reservations are attributed to the organizational issues within the AU and AMISOM itself, some to individual TCC units, some to limited capacities in AMISOM due to funding and material constraints (i.e., support from the EU and US), some to the relationships between AU and the UN and its mission in Somalia, and some to the relationships between AMISOM and humanitarian organizations.

The divergence of perceptions of AMISOM's success can be traced to different views of legitimacy of AMISON's primary mandate - eliminating Al Shabaab's control over territory - compared to support mandates such as helping to secure territory for the FSG, protection of civilians, and facilitating aid to meet humanitarian and development needs. Since early 2014, AMISOM has made limited progress in reducing Al Shabaab control over towns in villages in South Central Somalia outside of Mogadishu (primarily along the coast and borders as shown in Figure 58), but stabilization progress has lagged far behind, leaving communities sometimes more at risk than when under the control of Al Shabaab. The lack of effective stabilization and degraded human security is attributed to several factors that include management issues, capacity issues, and cultural issues.

AMISOM officers describe a key management issue to be lack of effective communication between AU and the "front line" for how decisions made at HQ (driven by interests of different international stakeholders in AMISOM) impact strategic and tactical goals on the ground. The AU has first tier relationships with the UN as an authorizing organization and ultimate transition partner, with the EU as the primary funding organization, with the US as a key military advisor, and with the FSG as an operational partner. The diverse interests and competition among these organizations for

influence in Somalia can get in the way of strategic management of AMISOM operations. In addition, lack of effective coordination between the political component of AMISOM (responsible for community outreach and understanding local conflict contexts)<sup>229</sup> and the military command, and lack of transparency and communication between AMISOM units (from different troops contributing countries)<sup>230</sup> with different operational areas of responsibility, create both strategic and tactical management issues.

The campaign, Operation Eagle, carried out in the spring of 2014 along the Southern coast and Ethiopian border of Somalia was frequently cited as example of management and communication problems that permeate AMISOM's horizontal and vertical relationships. A senior official of the Peace and Security Operations Department of the AU in Addis Ababa reported that UN dictated the campaign timeline for Operation Eagle, motivated in large part by the FSG timeline for Vision 2016. AU HQ passed targets for the campaign down to AMISOM commanders, knowing that there would not be time for necessary preparations on the ground for stabilization capacities. The result was that there was no effective plan for securing and protecting the towns from return of Al Shabaab either from within the community or through the SNA, or plans for what to do with Al Shabaab captives or defectors. Stabilization issues in the wake of AMISOM campaigns remain contentious, as the AMISOM military troops do not have the mandate

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<sup>229</sup> Lack of coordination between the political, civil-military affairs component of AMISOM and the military was a major issue in 2011, when the Ugandan led AMISOM troops in the campaign that drove Al Shabaab from Mogadishu. Lacking local knowledge, AMISOM soldiers and officers had to move block by block through hostile neighborhoods learning who belonged to which clan or sub-clan and what their allegiances were prior to conducting any operations engaging Al Shabaab. The situation has presumably improved since the office moved from Nairobi to Mogadishu.

<sup>230</sup> For example, in 2012 the Commander of AMISOM in Mogadishu would not know exactly where Kenyan or Ethiopian troops were deployed in their areas of responsibility, what plans of engagement they had, or what local alliances were being negotiated. Unity of command continues to be a major issue today.

to remain as an occupying force and their policing capacities are extremely limited;<sup>231</sup> SNA capacities are also limited and not trusted by local communities;<sup>232</sup> and the civilian aid community is reluctant to send in teams until there is peace and neutrality, which cannot exist while there is a risk of Al Shabaab's return.<sup>233</sup>

In these settings, AMISOM units from different TCCs use different strategies to stabilize towns. Ethiopia, Kenya, and Djibouti units build on prior relationships with major clan leaders, whereas Uganda and Burundi units rely more on the SNA to take the lead in developing cooperative mechanisms within the community and then supporting these relationships through provision of humanitarian aid from their own supplies in lieu of stabilization projects that are long in coming. Both practices are criticized, however. The former for exacerbating clan-based grievances and creating new gatekeepers engaged in corruption and collusion;<sup>234</sup> the latter for an inappropriate role as biased intervening parties and alleged instances of exploitation of the vulnerable and human rights abuses.<sup>235</sup>

The deep tensions and distrust between AMISOM troops and the humanitarian community hampers resolution of the stabilization issues. In response, AMISOM and the

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<sup>231</sup> See discussion on AMISOM limited policing capacities in previous section of Chapter 3.

<sup>232</sup> The SNA is often by local communities seen as an arm of Mogadishu or a competitive, majority clan militia (from whose ranks they have often come).

<sup>233</sup> The UN concerns are real, as evidenced by the increasing presence of hardened foreign fighters in the leadership of Al Shabaab, and increasing use of terrorism, targeted killings and assassinations. This represents a significant change from relationships that the UN had with the ICU a decade ago.

<sup>234</sup> The most notorious and widely cited example of collusion between AMISOM troops and Al Shabaab is around the continuance of illegal trade activities from the port of Kismayo since Kenyan troops took control in 2012, supported by the Ras Kamboni clan militia. The UN monitoring group estimates that at least \$250 million worth of charcoal has been illegally shipped to the international market from the port in 2013-2014.

<sup>235</sup> Initially, the AU initially strongly rejected Human Rights Watch allegations of rape and sexual exploitation by AMISOM that came out September 8, 2014, in the last days of my field research. A subsequent investigative team of the AU confirmed 2 of the 21 allegations, and recommended mechanisms to be put in place to address sexual exploitation abuse. African Union Press Release, April 21, 2015, Addis Ababa, "The African Union releases the key findings and recommendations of the report of investigations on sexual exploitation and abuse in Somalia", <http://www.peaceau.org/uploads/auc.com.investigation.sea.amisom.21.04.2015.pdf>. Retrieved March 26, 2016.



UN Office for the Coordination of Humanitarian Affairs (OCHA) launched country specific guidelines to govern civil-military coordination in Somalia.<sup>236</sup> However, all AMISOM troops interviewed – from commanding officers down to the front line soldiers - expressed frustration at the lack of cooperation with the humanitarian community and some of the boundaries implicit in the guidelines. These troops expressed a strong commitment to the mandate for protection of civilians, and providing “a conducive environment for humanitarian assistance to reach the Somali people.” This commitment is motivated at least in part by recognition that doing so is critical to “win hearts and minds” within the villages they enter, and that they cannot do so if not allowed to share their food and medical supplies with people who are in need, who “cannot wait another day for help” that is often not forthcoming due to aforementioned security concerns of the humanitarian community and lack of stabilization support.

Respondents from the humanitarian community expressed two criticisms of the AMISOM approach. First, they argue that it is the AMISOM operational strategies that create these dilemmas, and second, that AMISOM use of humanitarian relief is a ploy to gain trust in villages and induce denouncements of Al Shabaab, thereby putting villages at risk. All respondents (e.g., political, military, aid, academic) provided similar descriptions of the conflict dynamics between AMISOM and Al Shabaab. Prior to a campaign, AMISOM advertises its plans to liberate villages, so as to reduce the risk of civilian casualties (and thereby minimize risk of increasing local grievances). Al

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<sup>236</sup> AMISOM, Press Release, “AMISOM and Humanitarian actors launch the Somalia Country Specific Guidelines to promote a clear distinction between Military across and Humanitarian actors,” November 24, 2014, <http://amisom-au.org/2014/11/amisom-and-humanitarian-actors-launch-the-somalia-country-specific-guidelines-to-promote-a-clear-distinction-between-military-actors-and-humanitarian-actors/>, Retrieved March 26, 2016.

Shabaab, anticipating defeat in direct confrontation, retreat into the surrounding countryside a day or two ahead of the troop advances. In many cases, they threaten the local leaders to accompany them and take key resources from the villages. They only retreat “a little bit”, disappearing just outside the reach of the troops into the bush. The troops then march into the village where they meet little to no resistance, but also find little to no infrastructure for governance. AMISOM seeks out the local leaders who are left, with whom they work to establish new systems for managing the peace, governance, and service delivery. This may result in the creation of a new set of “gatekeepers”, who control the flow of services and resources as well as providing local physical security. These gatekeepers may have grievances of their own – being minority clans or persons of lower stature now elevated to unaccustomed positions of authority.

Eventually, aid workers attempting to bring resources to the villages experience two new challenges. The first is the development of relationships with the new set of security entrepreneurs, which usually involves some type of quid pro quo arrangement involving a distribution of resources. This is particularly difficult to do and maintain their principle of neutrality, as the new gatekeepers are now clearly working with AMISOM, who are not neutral. In addition, Al Shabaab or their proxies now control the roads, and are able to set up roadblocks to prevent supplies from reaching the villages without exacting a “tax” or and perhaps seize them for their own use. In both instances, aid resources may be significantly diverted. Human security and resiliency of civilians and local government decrease in the villages as AMISOM moves on to the next campaign, while people are left more or less confined to their village under conditions that are worse than they were before. Humanitarian workers believe that this strategy has led to many

instances of increased violence and deficits in human security in rural areas even as AMISOM proclaimed increasing victories and liberations from 2013-2014, making stabilization operations a high priority, but which have yet to be realized. These issues of trust and cooperation between the communities are further exacerbated by constant rotations of personnel involved in positions of day-to-day operational responsibilities.<sup>237</sup>

### ***Summary of Field Research***

Three crosscutting themes emerged from the field interviews: the need for conflict transformation and justice in addition to improved security and political stability; bridges from the local to the regional and national levels in addressing root causes of conflict; and transparency and accountability of external interventions in Somalia. These three themes are interdependent and require harmonized approaches among external actors (especially between the different communities involved in peace operations and aid), and between external and local communities.

The need for conflict transformation processes reflects a deep desire for justice that is not met by existing mechanisms in Somalia for conflict resolution (of which there are three) or the current political process of negotiation and power brokering for roles in the FSG. Current processes focus on collective reconciliation, but apart from the Sharia courts, do not even consider a concept of justice, and do not give voice to individuals. Without such processes, the risk of conflict between clans will continue, and youth will

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<sup>237</sup> AMISOM officers and troops rotate every 12-18 months; most humanitarian workers interviewed in Somalia and Nairobi stay in positions no more than 2 years, although there are some exceptions.

remain vulnerable to radicalization.<sup>238</sup> As one Somali refugee described it, the current system administered by elders is based on past precedence and communal retribution, and “does not clear the hurt inside” of victims. In his work for CARE, he would see perpetrators of rape go free after paying compensation to the fathers of rape victims, while the women would receive “nothing but the shame that they must bear for the rest of their lives.” Traditional systems also risk marginalizing wrongdoers, rather than apprehending them. “If a young man does something wrong in his community’s eyes, Al Shabaab becomes a safe haven for him, to avoid facing the elders.” The current success of peace operations will be lost if not followed by the establishment of institutions that address both individual and collective desires for justice.

The need to address justice extends beyond the individual to local level communities and beyond. The lack of bridging mechanisms to address inclusiveness, relevance accountability, justice and security issues at different levels results in a situation where the solution to any of these issues “depends on where you sit.” Building consensus is extremely difficult, and clans remain locked within patterns of political infighting between regional and national interests(*The Consequences of Political Infighting*, 2013). Many believe that the emergence of local level administrations with voices that can be heard at the same level as representatives in Mogadishu will be the only way that Somalis will come together. There are currently no mechanisms for bridging dialogues at multiple levels or clear path for creating them.

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<sup>238</sup> A recent report by Mercy Corps confirms these assessments, finding that youth are not radicalized as a result of economic grievances or lack of opportunity and poverty, but because they are angry at not having a voice in their futures and frustration with perceive self-interests and unresponsiveness of the traditional elder systems (Proctor, 2015).

Sustainable conflict transformation and buy-in to mechanisms for justice require transparency about what external actors are doing where, what resources are being provided, who are the intended beneficiaries of those resources, who is accountable for managing those resources, and who is empowered to hold the managers accountable. This is required at all levels, and is required now, not just for the future negotiated political structures. Transparency is desired as much in security operations (e.g., AMISOM, SNA, local policing) as for humanitarian relief and development aid, and is key to winning legitimacy among the eyes of the Somalis. Respondents acknowledged the risks that more transparency could create. However, most expressed a belief that in balance, more transparency nurtures critical buy-in to both peacebuilding and state building efforts than not, and is essential for more Somalis to eventually own these processes without resorting to violent conflict in the future. This belief is based on traditions of Somalis to respect collective decisions, as long as they have been involved in the process.

These three crosscutting themes reveal one major finding of the field research. That is, the impacts that external interventions through peace operations and aid have on reducing persistent conflict and improving human security and resiliency are as much a function of *how* interventions are conducted as they are of *what* the interventions are. However, the international community tends to be evaluated through the opposite lens – with more emphasis on deciding, coordinating, and measuring what is done, and less on how it is done and whom the intervention will benefit most. At the very least, these should be given equal emphasis. There are positive examples of where this is happening at multiple scales, but best practices are ad hoc and inconsistently applied in both the peace operations and aid communities.

## Conclusions

Collectively, the findings described in this chapter provide insights to answer the broad overarching question explored through this research, which is whether patterns in observed trends of persistent conflict can be explained by associations with dynamic endogenous system structures, and if so, how do external interventions interact with those structures to affect resiliency of conflict actors, and what are the policy implications. The research findings answer the first two questions as described below. The third question, regarding policy implications, is discussed in the final chapter.

### **1. Do existing predictors of conflict persistence (involving both internal and external factors) explain observed dynamics of civil conflict trajectories over time?**

Yes, regression analysis shows that state characteristics found in the literature are highly correlated with, and have strong explanatory power for, observed patterns of conflict persistence (overshoot and collapse, damped impulse, exponential, and oscillatory behaviors). What is interesting is that the factors found to be most significant proxy a mix of micro and macro mechanisms. While most studies on conflict dynamics are conducted at either the macro or the micro level, it is the interaction between levels that produces some of the most important effects, such as tipping points and shifts in polarity.

This study finds that the likelihood of relatively shorter duration outcomes (e.g., overshoot and collapse and damped impulse) are consistently and significantly differentiated from the likelihood of longer duration outcomes (exponential or oscillatory behaviors) by positive correlations with higher levels of the ratio of state capacity to state reach (e.g., state security forces per km<sup>2</sup>), gender equality (proxy for cooperative

mechanisms), and smaller populations. In contrast, predictors based on state capacity alone (e.g., GDP per capita or oil income) or state reach alone (e.g. per cent urban population), governance (e. g., polity scores), social grievances or cohesion (e.g. social fragmentation or ethnic polarization), or economic opportunity cost (poverty depth) are not consistent differentiators between the likelihood of conflicts with shorter durations versus those with longer durations. This result is attributed to underlying structures in overshoot and collapse and damped impulse with stronger conflict balancing loops provided by combinations of effective coercive mechanisms (state capacity and state reach) and cooperative mechanisms (gender equality) compared to exponential or oscillatory behaviors.

The study finds evidence of differentiating conflict balancing mechanisms between the two outcomes with shorter durations as well. Overshoot and collapse is significantly associated with lower state capacities (GDP per capita, population, state security forces), weaker governance (lower polity scores), higher economic opportunity costs (higher infant mortality rates and lower poverty rates) and less social cohesion (higher social fragmentation and lower ethnic polarization). Balancing mechanisms for overshoot and collapse are therefore more likely to derive from capacity limitations and resource constraints on state and challengers, combined with moderate opportunity costs. In contrast, damped impulse is positively correlated with higher state capacities, including oil, that result in balancing mechanisms primarily through coercion. Both are susceptible to conflict recurrence but through different pathways associated with the relaxation of their respective balancing mechanisms. Of the two, overshoot and collapse

is less likely to result in recurrence, due to correlation with higher cooperative capacity (proxied through gender equality) and increased opportunity costs.

Finally, the study finds evidence of differentiating mechanisms between the two outcomes of longer durations. Exponential behavior, which is associated with higher intensity conflict, is differentiated from oscillatory behavior, by conflict type (being strongly and consistently correlated with conflict over governance or mixed issues involving both governance and territory), lower polity scores, population, state reach and capacity; less social cohesion; more forest sanctuary; and higher levels of gender equality and lower poverty depth. These correlations show that exponential growth is more likely than oscillatory behavior when weak state balancing mechanisms are combined with more resource availability to support conflict. Oscillatory behavior is more likely if the conflict is over contested territory, rather than political goals.

Three of the four reference behaviors are manifested at the mesa- and micro-levels within the case study of Somalia (overshoot and collapse, oscillatory behavior, and exponential growth). Causal modeling of these dynamic feedback structures in the five phases of the Somalia conflict based on process tracing are consistent with the macro level regression results for correlations between predicted risk factors, causal mechanisms and reference behaviors. The consistency suggests that the explanatory framework based on dynamic system structures and reference behaviors, and the inferred associations with causal mechanisms, scale to explain within-country variations.

Narratives from individual perspectives at the local level corroborate the presence and importance of the inferred mechanisms and the relationships between them (e.g., state capacity and reach, cooperative institutions, opportunity cost, availability of conflict



resources, social cohesion, conflict drivers) and emphasize that connections between these mechanisms at multiple levels are critical determinants of whether they become balancing or reinforcing influences on conflict.

**2. Do third party military peace operations and aid interventions in these conflicts interact to reduce or increase risk of persistent conflict?**

Yes, as found with the answer to the first question, military peace operations and aid interventions interact at the mesa- and micro levels to effect conflict persistence. This study shows that what matters most in determining whether these interactions reduce or increase risk is how the interventions are implemented relative to each other, and not what the interventions are. Macro level econometric analysis is not useful for seeing these effects, especially when different sequencing and lag times are involved.

In macro level econometric analyses, peace operations by the UN and regional organizations (measured by the product of troop strength and mission months) are strongly and positively correlated with overshoot and collapse and damped impulse behaviors, and weakly correlated with exponential growth, independent of aid interventions. They are least likely in conflicts with oscillatory behavior. Higher proportions of humanitarian aid to total aid are similarly correlated with equally higher likelihoods of overshoot and collapse, damped impulse, and exponential growth, relative to oscillatory behavior, independent of peace operations. These correlations are robust regardless of different controls used.

However, the explanatory power of the econometric models of external interventions and conflict patterns is weak compared to those based on combined state and conflict characteristics. Moreover, various instruments constructed to test the

differentiating power of ratios of aid to peace operations in the cross-country regression analysis yield insignificant correlation results.<sup>239</sup> By themselves, then, these macro level analyses indicate that endogenous structural conditions and conflict drivers are the primary determinants of conflict dynamics, which external interventions may amplify but not fundamentally change.

The Somalia case study showed this proposition to be false. Historical process tracing, causal modeling and individual interviews of intervention actors and stakeholders in the Somalia conflict reveal significant and complex interdependencies between the effects of peace operations and aid interventions that change relative balances and interdependencies between mechanisms to yield different patterns of conflict persistence. These interdependencies, which have been both helpful and counter-productive for decreasing conflict risk and increasing human security, have been present in all phases of the Somalia conflict to significantly affect outcomes. This is true independent of the degree of harmony between goals, mandates, and codes of conduct between peace operations and aid interventions.

Interactions between peace operations and aid interventions occur most often at the local level to affect security conditions and power relations, while coordination mechanisms to reduce the likelihood of increasing conflict that may obtain from them are most often found at higher levels. In addition, lack of transparency and trust between organizations often lead to uncertainty, confusion and stalemates that are exploited by

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<sup>239</sup> Interestingly, the same is not true for state military expenditures relative to aid. The ratio of military expenditures to aid is found to be positively and significantly correlated with shorter duration outcomes (overshoot and collapse) compared to longer duration outcomes (exponential growth and oscillatory behavior). Higher military expenditures to aid is negatively correlated with exponential growth and higher conflict intensity than with oscillatory outcomes.

conflict actors. Uncoordinated attempts to develop work around solutions can perturb local endogenous system structures, creating new conflict drivers that may persist far into the future, such as warlords and gatekeepers.

A common thread between the macro level regression analysis, and micro level process tracing and field interviews, is the central importance of local level moderating groups as a balancing mechanism for reducing risk of persistent conflict. Local level moderating groups have a strong influence on conflict drivers and legitimacy of intervention actors in all system structures, and are a key link between intervention actors and the likelihood of success of political solutions that must ultimately obtain for conflict resolution.

The empowerment of local level groups relative to each other (e.g., between clans), and degree of cooperative mechanisms and inclusivity used within these groups varies significantly within and across administrative levels, as do the institutions they employ for conflict transformation. Where these local level institutions do not meet individual and community desires for justice, political solutions alone are insufficient to bring an end to conflict. Different strategies employed by peace operations and aid interventions in these diverse local level contexts often generate counterproductive tensions, and may exacerbate historic perceptions of injustices that hidden under the surface.

## **Chapter 4: Discussion of Research Results**

The research and analysis presented in this study are robust to many different model specifications, and have been tested for sensitivity to scale. Multiple sources have been used to corroborate quantitative data values and qualitative conflict dynamics. As a result, some of the findings can be considered with high confidence for policy insights. However, there are still limitations to the findings. Three considerations of research results are discussed below: limitations of the research, future research needed, and policy implications of the findings. Future research needs and policy implications are both substantive and methodological.

### **Research Limitations**

Research limitations fall into three categories: data quality and coverage, sensitivity and limitations of the methodology, and complexity. Quality of data in conflict settings is always a concern, particularly in Africa where institutional capacity for generating data is limited. While this study uses the best available resources, there are several variables for which the data quality is questionable, or there are no data. The most significant are the capacities of state military forces, peace operations, and belligerents. In addition, lack of data at the subnational level for socio-economic-political conflict risk factors limits the ability to robustly test micro-level phenomenon, while proxies for state reach, social cohesion, and inclusivity of peacebuilding initiatives; and transitional justice initiatives.

The quality of data on state military capacities varies significantly between countries. In some cases, the number of troops in the state armed forces reported is

unrealistically reported to be constant over the entire 25-year time period (e.g., Republic of Congo, Gabon, Guinea, Kenya, Lesotho, Mali), while in others it is missing for many of the conflict years (e.g., Somalia, Liberia). Some countries report large numbers of militia and paramilitary but the relationship between those militias and paramilitaries to the state armed forces are not.

Another problem with the data quality for approximating state military capacity is that military expenditures and troop sizes are only proxies for state capacity. These do not account for differences between countries in how military expenditures are used to build capacity, nor the quality of troops in national armed forces. There is a similar limitation on capacity of peace operations, as differences in quality of troops and training are not accounted for.

A third problem is in assessing relative capacity between state and challengers. Estimates of numbers of persons actively engaged as belligerents are only provided by Military Balance Reports in 147 of the 810 observations, and are not provided at all by the ACLED or UCDP conflict databases. As noted by other researchers, belligerents have asymmetric advantages that are only weakly approximated by difficulty of state reach in this research.

Subnational level data are only just becoming available to conduct analysis of interactions between peace operations and aid interventions at the mesa- and micro levels. However, as this research has shown, socio-economic-political factors are equally influential in conflict dynamics. There is currently no collection or storage of data on these important indicators at the subnational level. As a result of data limitations, there

are limitations on extension of the quantitative methodology to increasingly smaller scales.

A second limitation is on the extension of the methodology to increasingly large  $N$  studies. This limitation results from the subjective analysis required for the categorizations of conflict dynamics into reference behaviors, which requires analytic judgment that cannot be automated.

A third limitation is in the complexity that can be usefully modeled within the dynamic systems framework for policy relevance. Too much complexity generates models that in which the effects of policy decisions on system behavior are difficult to interpret. A general rule of thumb is to limit major stocks to 7 or less.

## **Future Research Needs**

Future research needs are of three types: data collection, methodology, and understanding mechanisms represented by the proxy variables in this study. Geo-referenced, micro-level data on indicators of social demographics, economics, political and civil institutions, aid effectiveness, human security and well-being is required to test how the observed patterns of conflict dynamics are generated at local levels. In addition, research is needed for better indicators to for data collection and assessment of relative capacities between state forces, troops engaged in peace operations, and challengers.

Even without new data, some new insights could be provided by future research that expands the methodology to include stochastic analyses, using the simulation model developed in this research to generate probabilistic resiliency landscapes. These landscapes could reveal likely human security outcomes as a result of trade-offs between timing, capacities, and level of interventions by peace operations and humanitarian aid

organizations, with variations on critical parameters such as effectiveness and legitimacy. The landscapes could support policy research by testing for robustness to resiliency metrics such as latitude, resistance, and precariousness, while being optimized for panarchy.

A second avenue for fruitful research in the methodology is the incorporation of individual agency into models of the dynamic system structure driving conflict. This can be done through the structural mechanisms for goal adjustments and delays. Several different approaches should be compared that include agent based modeling, game theoretic, and that are informed by field research on case studies to better understand mechanisms that influence individual decision-making.

Understanding of causal mechanisms for how transparency and agency in individual decision-making at the grass roots level affects conflict dynamics is the third area where future research should be concentrated. The specific areas suggested by this study are scalable mechanisms for transparency, inclusivity, and accountability that can build new roles and platforms for civil society while honoring and utilizing traditional institutions effectively. The mechanisms for apparent transformation (e.g., Rwanda, Liberia, Burundi) should be assessed at the grass roots level and compared with those where conflict appears to be been damped but not transformed (e.g., Mali, Guinea) or continues to increase unabated (e.g., Somalia, DRC) or oscillating indefinitely (e.g., CAR, Ethiopia, Uganda, Kenya, Ivory Coast). Moreover, these mechanisms need to be studied for how they may be implemented in different contexts so as not to increase human insecurity and vulnerability.

One of the most robust and surprising findings of the macro level regression analysis is the strong correlation between different types of reference behaviors and gender inequality, and that this correlation is different than and independent of factors for corruption, polity, or institutional capacity. The interpretation that gender equality may be a proxy for cooperative behavior and conflict management skills is reinforced by the qualitative analysis in the Somalia case study, and is consistent with findings and recent emphasis of the international communities engaged in peace and security as well as the development fields. However, the research agendas of these two communities tend to be developed in isolation from each other and not to share results. There is an important challenge and opportunity to bridge the research agendas across these communities on the role of women in peacebuilding in particular, and between security and development in active conflict settings in general.

Finally, many of the findings in this study are not new. For example, the need for better cooperation and coordination between military operations and humanitarian aid workers in providing human security in active conflict settings is well known (as evidenced by the observation by Doyle and Sambanis (2006) that this is the single biggest policy gap in peacebuilding strategies). Many different approaches to cooperation and assistance between peacekeeping operations, humanitarian aid, and development have been attempted with no apparent consensus on best practices or even normative values between the communities. A final recommendation for research is to understand what the outcomes have been to different approaches to cooperation and coordination between security operation and humanitarian aid in conflict settings, what the metrics are for



evaluating these as successes or failures, and how these perceptions affect the likelihood of policy resistance for improvements.

## Policy Implications

This study has shown that conflict persistence derives from dynamic systems in which interactions between actors and their capacities are sometimes more important than the actors or capacities themselves. In other words, verbs can matter more than nouns. The international system is not lacking in capacity for reducing conflict persistence. In the 25-year period covered by this study, a total of 17,000,000 troop missions months were engaged in 66 different peace operation missions in the 36 conflicts, while the international community contributed \$680 billion in aid. Indeed, writing on conflict in the Horn of Africa five years ago, Paul Williams concluded, “Lack of international engagement is not the crux of the problem. Rather, a significant part of the problem is that the type of engagement that has occurred has not built stable peace” (Williams, 2011). As previously concluded, **how** interventions are designed and implemented is at least as important for reducing the risk of conflict persistence and increasing resilience, as **what** they are.<sup>240</sup>

Policy recommendations to increase the effectiveness of interventions in active, persistent violent armed conflict therefore should be about verbs, i.e., transformative processes, not about nouns, i.e., transformative capacities. Rather than evaluating levels of preferred capacities or types of interventions, this study recommends that it is more constructive to concentrate policy efforts for current peace operations and aid intervention policies on the following actions:

1. Increase transparency, inclusivity, and accountability of current and future

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<sup>240</sup> These findings echo the theme of Nobel laureate Amartya Sen on development as freedom (Sen, 2001), and are reinforced in a recent report by the OECD, admonishing that new approaches are needed for measuring aid efforts of the international community (Hynes & Scott, 2013).

policy strategies;

2. Build bridges to horizontally and vertically integrate policy implementation across multiple levels; and
3. Begin paving pathways towards conflict transformation and justice.

### **Policy recommendation #1: Increase transparency, inclusivity, and accountability of interventions**

Increasing transparency, inclusivity, and accountability are interdependent, mutually reinforcing processes. Transparency is increasingly recognized and endorsed conceptually at the highest policy levels in the development community, but less so within security and humanitarian aid communities in conflict settings. Moreover, understanding of effective follow-through mechanisms at local levels is lacking. Creating effective transparency mechanisms for interventions in active conflict settings can be a tough sell at the implementation level, requiring cultural changes and overcoming significant policy resistance, but is essential in both peace operations and foreign aid if these interventions are to ultimately reduce risk of future conflict and increase resiliency. Lacking external transparency, peace operations are unlikely to reduce fear and uncertainty among the “peacekept”, encourage denouncement or defection of belligerents, or win legitimacy. Lack of internal transparency within peace operations complicates weak command and control mechanisms, precludes accountability, and hampers coordination with stabilization and peacebuilding efforts of civilian humanitarian aid organizations. Lack of transparency among aid organizations enables corruption, patronage, and exploitation that contribute to conflict persistence.

UN operations have more transparency than regional organizations involved in peace operations, with regular reporting mechanisms that are ultimately accessible to the general public. However, these mechanisms are not user friendly, and largely out of reach of many at the local level in conflict settings. Regular, transparent, two-way communication channels are required at local levels that can convey information about what is being done or is needed to protect people's lives and human rights or redress grievances, and by whom.

Transparency mechanisms in regional organizations, as exemplified by AMISOM, are minimal to non-existent. For example, data below the administrative level for troop deployments within specific areas of operation over time not only not accessible to the public, but also not even known to commanding officers of the different AMISOM units.<sup>241</sup> Even more problematic are clear communications regarding the reality of security situations on the ground, as peace operations attempt to gain the critical confidence of local communities necessary for prevailing in counterinsurgency operations,<sup>242</sup> and addressing lesson learned from peacekeeping failures to protect civilians.<sup>243</sup> Transparency in regional peacekeeping operations and command structures in Africa, their relationships to domestic security capacities, and transformation pathways for stabilization operations are all necessary and achievable policy goals requiring a

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<sup>241</sup> Personal communication, General Fred Mugisha, Kampala, Uganda, August 2014.

<sup>242</sup> For example, while AMISOM regularly reports substantial progress in security territory formerly under the control of Al Shabaab and weakening their capabilities, top US military commanders assess that the group continues to expand its terrorist agenda, and retains the ability to stage "almost daily lethal asymmetric attacks inside Somalia" in the face of "overstretched AMISOM forces" and a Somali National Army with "endemic deficiencies." See Statement of General David M. Rodriguez, USA Commander, US AFRICOM, Senate Armed Services Committee, on March 8, 2016 (Rodriguez, 2016).

<sup>243</sup> For example, recent report by the UNHCR on failures of the UN Mission in South Sudan (UNMISS) to protect civilians from massive human rights abuses of the government's "scorched earth policy," following earlier claims by Medecins Sans Frontiers (MSF) of a "complete and utter protection failure." See Bryce (2016).

combination of political will, cultural adjustments, and prudence, and supported by infrastructure investments for sustainability.

Transparency within the aid community active in conflict settings also varies widely. Reporting mechanisms for official development assistance by government donors and major INGOs are robust and increasingly accessible to the general public for monitoring, research, and policy planning.<sup>244</sup> However, these mechanisms lack transparency beyond the first level of donors and providers, who increasingly push funds down to lower levels through civil society NGOs and other domestic actors.<sup>245</sup> These funds are “extremely difficult to quantify and impossible to track, making it extremely difficult to fully account for funds and to assess the extent to which donors and international actors are working in partnership with local actors” (Randel, 2012). Lack of transparency makes research and policy planning difficult, hampers coordination with peace operations, and can drive wedges among humanitarian actors and between humanitarian actors and peacekeepers that are exploited by belligerents (Aal, 2000).

Increasing transparency of peace operations and foreign aid is also essential for getting the balance right between security and development during conflict and in immediate post-conflict periods. This study found that the ratio of security capacity to aid is a differentiating factor for the likelihood of conflict persistence, rather than either military or total aid expenditures alone. Higher ratios of security expenditures to aid are more likely to result in shorter duration conflicts, whereas lower levels are more likely to

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<sup>244</sup> An example is AidData.org, which compiles and disseminates data and is used extensively in this research.

<sup>245</sup> This is especially true when funds are resourced through adaptive, pooled emergency response mechanisms. From 2006 to 2011, conflict countries in Africa have been in the top ten recipients of such pooled funds for 5 out of 6 years (e.g., Somalia, Ethiopia, DRC, Kenya, Ivory Coast, Sudan, Uganda, Zimbabwe, Chad, and Niger).

be result in exponential growth or sustained low intensity conflict over long time periods. Transparency in security assistance provided by donors is as important as transparency within receiving organizations for getting this ratio right. Current US policies for building partner capacity through security sector assistance programs lack sufficient transparency mechanisms for monitoring and accountability, in spite of a proliferation of oversight committees, as exemplified with current situations in Yemen, Syria, and Iraq.<sup>246</sup>

By itself, increasing transparency in conflict settings can reinforce both balancing and reinforcing mechanisms, creating risks of intensified conflict and insecurity (Strandow, 2014). Transparency must be accompanied by inclusivity and accountability to reduce the risk of conflict persistence. The most robust finding of the macro level regression analysis is the correlation of higher gender equality with reduced risk of conflict persistence. These macro level findings are supported by evidence from household surveys in conflicts in Uganda, Sudan, Nigeria, and Nepal shows that people's sense of security depends not so much on who provides aid to whom and how much, but on whether the process is transparent and they know exactly what is going on (D'Onofrio & Maggio, 2015; Korb, 2008; Mazurana et al., 2014; Meier & Bond, 2006).

Increased local ownership, inclusivity and participation of all sectors of society (elders, youth, women, and civil society) is a mantra found in almost every research study and set of policy recommendations for interventions in conflict settings, grounded in solid research and field experiences, (Blaydes & De Maio, 2010; Call, 2008; Fortna, 2008; Mohamud & Kurtz, 2013; Proctor, 2015; Schirch, 2013) and instantiated as an

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<sup>246</sup> See Statement for the Senate Armed Services Committee, "Department of Defense Security Cooperation and Assistance Programs and Authorities", Commander Jeff Eggers, USN, on March 9, 2016 (Eggers, 2016).

international policy norm in the UN Security Resolution 1325 reaffirming the full participation of women in conflict resolution and peacebuilding.<sup>247</sup> Inclusive processes are credited with conflict transformation in Burundi, Rwanda, and Liberia, and Somalia at both the local and national levels (Ball, 2014; Bradbury, 2009; Gizelis & Kosek, 2005; Howe, 1997; Menkhaus, 1996; Oker, 2008). In contrast, lack of inclusivity is a characteristic of persistent conflict, and a major contributor to mass atrocities and the rise of violent extremism (Marchal, 2009; McDoom, 2012; Menkhaus, 2009b). Exclusionary policies, however, continue to plague many peacebuilding efforts, especially with respect to disarmament and reconciliation of armed groups in conflicts.<sup>248</sup>

Finally, local polities must be empowered to hold accountable those who receive benefits from external interventions. Ultimately, this requires a shift from the principle that “he who has the gun controls the resources” to one that maintains “a country belongs to its people” (Wenar, 2015). In the highly militarized societies that characterize persistent conflict settings, this shift is difficult to say the least, and is at the heart of conflict transformation goals. Often, there are few formal institutions with capacities to provide such accountability, nor are they necessarily the best path in cultures ripe with corruption. In these cases, informal institutions and civil society groups with local level buy-in are preferable vehicles for accountability, and can borrow strategies from both successful grassroots peacebuilding activities and playbooks of nonviolent activities (Bradbury, 2009; Paffenholz, 2010; Sharp, 2010). Security sector reform is key to

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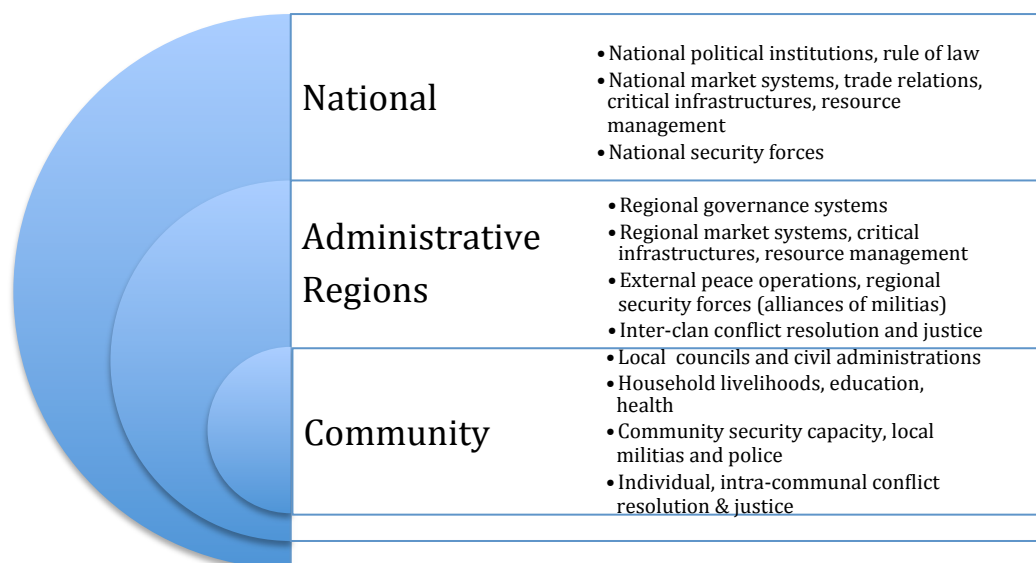
<sup>247</sup> See UN Office of the Special Advisor on Gender Issues and Advancement of Women (2000). , “Landmark resolution on Women, Peace and Security S/RES/1325.”

<sup>248</sup> For example, some researchers attribute the continued insurgency in Afghanistan to the exclusionary processes towards the Taliban in the processes that laid the foundations for a new government in Afghanistan after 2001.

whether such informal institutions and civil society groups can be effective accountability mechanisms. Successful security sector reform, in turn, has been found to depend critically on the participation of civil society (Ball, 2014; Siegle, 2011; Wulf, 2004).

**Policy recommendation #2: Build bridges between micro-macro levels interventions that account for interconnected conflict dynamics**

External interventions in civil conflict target multiple sectors that are nested from the local community up through administrative regions to the national level (Figure 1). These interventions involve a complex array of international and domestic actors with different policies, goals, capacities, and operational experience that has been shown to encourage the emergence of gatekeepers between each layer of actors (Figure 2).



**Figure 1 Nested targets of external interventions**



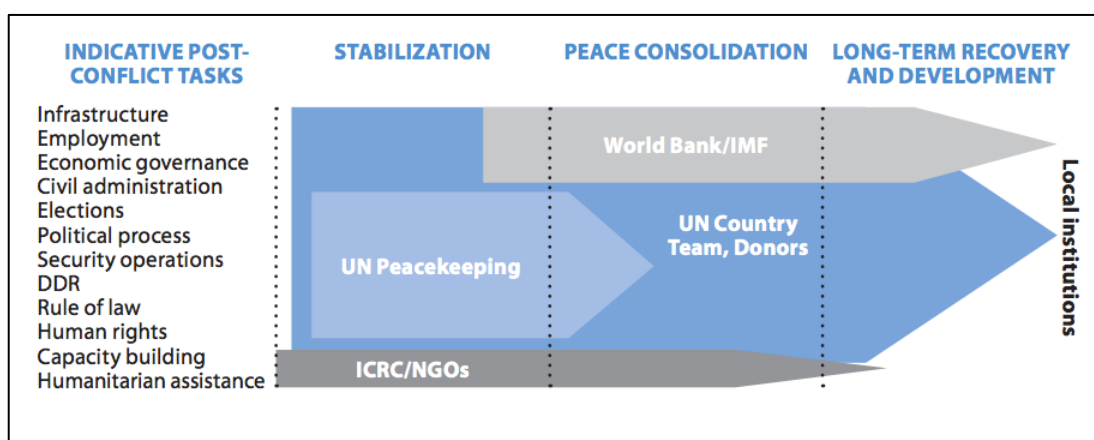


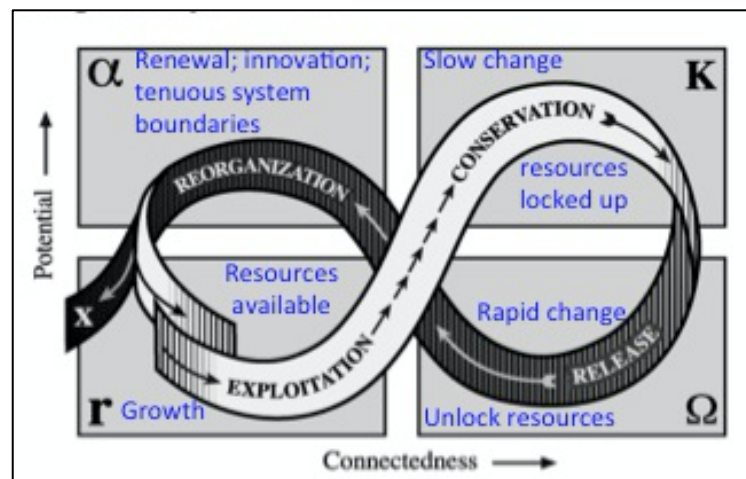
Figure 2 UN Peacekeeping Model<sup>249</sup>

The INGOs, NGOs and private foundations shown in Figure 2 have become increasingly important in the aid community, with the proportion of the total international humanitarian response drawn from private funding increasing from 17% in 2006 to over 30% in 2010 (Randel, 2012). Similar trends exist in peace operations, in which the trend is to increasingly employ partnership operations, mixing UN, regional, ad-hoc bilateral partners and domestic forces in different phases of peace enforcement, peacekeeping, and peacebuilding (Bellamy & Williams, 2015).

These different actors use many different formulas to determine sequencing strategies, target levels, and capacities of interventions. Harmonizing these diverse policies is unlikely and may even be undesirable. Instead, networked bridges are needed between the different targets of interventions to create adaptive systems that diffuse conflict and support resilience. These bridges must be compatible with (if not emerge from) existing social networks and provide flexible access to resources and collective responses to stress that are scalable from the individual to the national, without creating more gatekeepers and reinforcing security entrepreneurs, or adding otherwise

<sup>249</sup> UN *peacekeeping operations and guidelines* (2008).

unnecessary layers between donors and recipients. The panarchy framework is an example that relates potential capacity to connectedness in adaptive cycles of conservation, release, reorganization, and exploitation in response to changing needs and conditions (Figure 3).



**Figure 3 Panarchy Framework for Resilience and Sustainability (Gunderson & Holling, 2001)**

During conflict, traditional connections are broken and capacities are depleted. As new capacities and systems take their place, transparent, inclusive, and accountable infrastructures are required with permeable boundaries, interconnectivity, and flexible mechanisms for access to resource that allow these adaptive cycles to emerge.

The connection between peace operations and aid workers on the ground is particularly critical in active conflict settings. The Somalia case study shows that this connection is fragile, where it is not completely broken. Improving civil-military affairs must be a high priority backed by transparent and accountable resources for civilian-led security sector assistance, and transparent and accountable mechanisms for cooperative operations between aid organizations and regional peacekeeping troops. Efforts to

improve this connection are often met with skepticism,<sup>250</sup> challenge cultural norms within donor and recipient organizations, and pose two real concerns: (1) counterintelligence concerns of military troops, and (2) the deep tradition of neutrality in the humanitarian field. Overcoming these concerns is necessary for peace operations to win legitimacy, and for humanitarian aid organizations to reduce negative externalities of relief efforts in active conflicts.

**Policy recommendation #3: Begin paving pathways towards conflict transformation and justice.**

Many interventions in persistent conflicts are highly militarized and can lose sight of the ultimate objective, which is sustainable peace and security for the people. Military peace operations involving counter-terrorism or counterinsurgencies in particular leave few avenues for de-escalation and narrow the space for conflict transformation. As peace operations and aid interventions apply principles of transparency, inclusivity and accountability in these settings, historic tensions, grievances, and injustices may come into the open before there are viable pathways for constructive engagement. However, absent these principles, intervention actors are used to marginalize, co-opt, or collude with various actors in hidden root causes, creating winners, losers, and future spoilers to peace processes.

The Somalia case study provides multiple examples where immediate concerns for human security and political expediency have taken precedence over longer-term

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<sup>250</sup> For example, after six years in the field, AMISOM developed its first formal policy on civil-military relations in fall of 2014. This was met with distrust and skepticism by the NGO community in Nairobi, who viewed it as a ploy to exploit aid resources for the ‘hearts and minds’ campaign.

peace objectives and social reconciliation. Multiple conflict traps have emerged as a result—an entrenched war economy that fuels corruption and increases incentives for conflict, patronage systems that encourage political exclusion, security dilemmas that promote proliferation of illegal arms and dependency on external military forces, and a political reconciliation process that is viewed with suspicion and lacks grass-roots buy-in. Conflict transformation will be difficult as long as Al Shabaab and other belligerents are able to feed off the feelings of injustice and frustration these conflict traps produce.

Pathways out of these conflict traps require at a minimum the application of the first two policy recommendations. In addition, they require patience and a commitment to long-term strategies that emphasize endogenous consensus building processes as much as outcomes, as exemplified by Somaliland and Puntland, where “slow and painstaking local peace and reconciliation conferences build on each other to form larger and economically viable regions in which political power, revenue and resources are shared relatively fairly between sub-clans and clans.”<sup>251</sup> However, these processes do not guarantee justice for individuals in societies where traditional conflict resolution is based on collective mechanisms, and do not address the needs of the youth.

This study found that male youth unemployment is inversely correlated with gender inequality, and is more likely to be correlated with exponential growth in conflict. Indeed, the precariousness of youth is cited by the UNDP as a major risk factor for future conflict in Somalia, noting that

“...youth are major actors in the conflict, constituting the bulk of participants in militias and criminal gangs including Al Shabaab. Lost opportunities, unclear identity and a growing sense of marginalization among a youth in an environment of state collapse, violent conflict and economic decline provide fertile ground for

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<sup>251</sup> International Crisis Group (2014, p. 15).

youth radicalizations. The same reason that have pushed young Somalis to join Al Shabaab have also drawn them to join street gangs” (Africa Center for Strategic Studies, 2012, p. 15).

For conflict transformation to occur, these risks must ultimately be addressed through the creation of alternative futures for youth, and new avenues for individual justice that give a voice to the marginalized and provide healing to those who have been wronged. Such avenues must be informed by normative perspectives that move beyond collective restitution, and emphasize the interdependent relationships between the individual and society (Robinson, 2011).

## Summary

Almost two hundred years ago Vilfredo Pareto observed, “The efforts of men (*and women*) are utilized in two different ways: they are directed to the production or transformation of economic goods, or else to the appropriation of goods produced by others.” This study shows that the dichotomy implied by Pareto between these two outcomes is false. In reality, cooperative, conflict balancing and coercive, conflict-amplifying behaviors co-exist and interact through dynamic and complex mechanisms across multiple levels. These interactive mechanisms create many potential conflict traps that may be significantly affected by interactions between peace operations and aid interventions.

Effective intervention policies to break free from any one of the many conflict traps must contribute to basic security needs, reinforce cooperative conflict-balancing mechanisms, and support the growth of endogenous conflict transformation structures. This study demonstrates two common conditions that create policy dilemmas for meeting

these three requirements simultaneously: (1) the means for meeting short-term human security needs (e.g., stronger state security capacity, military peace operations or aid interventions) may introduce perturbations that undermine the long-term effectiveness of existing, cooperative conflict-balancing mechanisms; and (2) existing cooperative conflict management mechanisms can be enmeshed with root causes of conflict, undermining the possibility of future conflict transformations.

These insights are not new, and echo statements made by US AID in 2013 that “the immediate challenge is to integrate analytical efforts on conflict and food security with a view to shaping more effective interventions (in fragile states and conflict settings experiencing violent conflict). Expanding commitments in these fragile or failing states pose serious trade-offs in terms of policy” (Simmon, 2013). Many donor organizations (e.g., Mercy Corps, US AID, Catholic Relief Services, World Bank, UNDP) have developed conflict and resiliency assessment frameworks that attempt to guide analysts and policy makers in making these difficult decisions for their organizations.<sup>252</sup>

The overarching finding of this research, however, is that there is no single rule of thumb, framework, or set of metrics for navigating this policy trade-space. While attention to outcomes is necessary, doing so at the expense of principles can exacerbate root causes of conflict and is likely to only increase conflict persistence. Effective intervention policy to reduce conflict persistence must focus on principles of transparency, inclusivity, and accountability in operations; build scalable interconnectivity between intervention activities without creating more gatekeepers and

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<sup>252</sup> Examples are *Aid Delivery in Conflict-Affected IDA Countries: the Role of the World Bank*, 2004; Cliffe & Roberts, 2011; *Conflict Assessment Framework Version 2.0*, 2012; Faubert et al., 2010; Irmer, 2009; Mohamud & Kurtz, 2013; USAID, 2013; Walker, Jacobstein, & Gomes, 2014.

security entrepreneurs, and pave pathways towards conflict transformation resulting in individual and collective justice and alternative visions for the future.

## **Appendix A: Selection of Conflict Cases and Reference Behaviors**

The first step in the quantitative analysis is to choose the pool of cases of conflict persistence, and then to categorize these conflicts according to reference behavior. This Appendix discusses the protocol used to select the pool of conflict cases and determining their reference behavior. The metadata for these conflicts is then presented, followed by a brief summary of the individual conflicts within each group of reference behaviors, accompanied by figures plotting the events over time for each conflict.

### **Protocol for Selecting Cases of Persistent Conflict**

The cases for this research consist of thirty-four persistent conflicts in Africa from 1989 – 2014, resulting in 810 conflict years. These conflict cases are selected based on conflict persistence. As used here, the term conflict persistence refers to situations in which violent armed conflict events (associated with the same incompatibility) continuously occur from year-to-year for more than ten years, or if two or more episodes of the same conflict occurs within a ten year time period, regardless of the time length of the episode or the length of time between episodes. This is similar to (but more specific than) the definition used in the Human Security Report 2012, which defines a persistent conflict as “one that involves many years of fighting” (Mack, 2012). Persistent conflicts may consist of sustained periods of active conflict, or may experience apparent “spells of peace” during which there are no observed or recorded violent conflict events, but during which time the causal mechanisms for conflict have not been resolved.



The cases are constrained to Africa to take advantage of robust, subnational georeferenced data on conflicts in Africa (described in the next section) and because of the high number of cases of conflict persistence. The post Cold-War timeframe is chosen to avoid conflating intervention effects with those of covert military actors acting as Superpower proxies. A timeframe of 25 years is chosen to ensure that conflict dynamics leading to recurrence after 10 or more are not overlooked. This results in a sufficiently large data set to conduct statistically meaningful quantitative analysis.

Three primary data sources were used to identify persistent, violent armed intrastate conflicts in Africa - the UCDP/Prio armed conflict dataset, the UCDP-Georeferenced Event Dataset, and the Armed Conflict Location and Event Dataset.<sup>253</sup> If a conflict was active (e.g., violent conflict events were recorded in one or more of these datasets) over a timespan of ten years or more, it was included as a persistent conflict. This resulted in the pool of 34 conflicts listed in Table 1.<sup>254</sup> The set includes four countries with more than one persistent conflict—Ethiopia, Kenya, Nigeria, and the Central Africa Republic. In each of these cases, one conflict involved contestation among primarily political actors and/or citizens over governance issues, while territorial issues between ethnic or religious groups motivated at least one other.

The definition for conflict persistence clearly relies on the protocol used within each database for counting conflict events, which in turn determines whether a conflict is considered active or not. The frame of reference for counting conflict events in the

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<sup>253</sup> These three datasets are described in Appendix B.

<sup>254</sup> Using this protocol, conflicts in Botswana, Comoros, Egypt, Eritrea, Djibouti, Ghana, Madagascar, Morocco, Swaziland, Tanzania, Togo, Tunisia, and Zambia were excluded from the study, as were other minor conflicts within the countries that did experience persistent conflict, but which did not meet the criteria of persistent conflict.

UCDP data sets and ACLED are different (see Appendix B). The frame of reference for UCDP datasets is the conflict actor dyad, where at least one of the actors is the government. The date and location of each conflict event between actors that results in a battle death comprises one record. In contrast, the frame of reference for a conflict in ACLED is location. Each conflict event characterizes interaction between actors engaged in violent armed contestation at a location. Cross mapping of conflicts in ACLED and UCDP data was done on the basis of time, location, and actors involved in the conflict to determine the reference behavior pattern.

Of the 34 conflicts included in the pool of cases, only two were not recorded as active, persistent conflicts in all three sets—Burkina Faso and Gabon. These two cases are included in ACLED but not the two UCDP datasets. The omission of these two cases from the UCDP datasets can be attributed to the different thresholds used in ACLED and UCDP for defining an active conflict. UCDP only recognizes a violent armed conflict when one party is the government and the other party is a recognized political or ethnic organization; events are only recorded when they result in battle-related fatalities. This threshold may overlook violent armed conflict due to longstanding popular unrest or government oppression against citizens who are actively engaged in civil resistance and who may affiliate from time to time with ethnic militia. The conflicts in Burkina Faso and Gabon are primarily of this nature. Such conflicts may simmer for many years and suddenly erupt into organized violence, as shown by the coups in Burkina Faso in the fall of 2014 and again in 2015. The years of violent protests (and associated fatalities) that preceded these coups are captured by ACLED but not by UCDP.

## Determining Reference Behavior

The fundamental concept of reference behavior in dynamic systems provides the framework for analyzing observed patterns of conflict persistence, measured through frequency of violent conflict events. Dynamic patterns of the 34 cases map to behavior archetypes “Overshoot & Collapse”, “Damped Impulse”, “Exponential Growth”, and “Sustained Oscillations”. “Overshoot & Collapse” and “Damped Impulse” are associated with early acceleration of conflict events that reach a tipping point, and usually result in shorter durations. However, if the basic conflict structure does not change, conflict risk and capability may accumulate even when there are no active conflict events, creating latent potential for recurrence through delayed feedback loops. “Exponential Growth” and “Sustained Oscillations” are associated with conflicts of relatively longer durations that reflect sustain conflict with no spells of peace.

The outcome of interest for characterizing reference behavior is frequency of violent conflict events over the 25 years between 1989 and 2014. Conflict events over time are plotted and curve-fitted through regression analysis to determine the dominant reference behavior. Exponential growth and oscillatory behaviors about a mean are straightforward based on the goodness of fits using exponential and polynomial (or sinusoidal) equations, respectively. Distinguishing between overshoot-and-collapse and damped-impulse requires additional regression analysis of behavior in the right side tail. Overshoot and collapse is reflected by a Weibull hazard function, whereas damped impulse is reflected by truncated logistic growth.

## Statistical Analysis of Conflict Event Data and Summaries

This section summarizes conflict event data trends used to select and categorize each conflict included in the pool of cases. Statistical data on 1) number of conflict events, 2) actor types involved in interactions, 3) category of event type, and 4) time since triggering event are also examined to eliminate the possibility of unobserved conflict effects driving the econometric regression results.

Tables 1 and 2 display the frequency distributions for conflict events, type of conflict interaction, primary actor type, and event types for each of the conflicts within the SD behavior groupings. Data on interaction types and event types are from ACLED. ACLED records events as interactions between two primary actors. Actors are categorized as one of eight types as shown in Table 1 below. Two numbers define interaction types, where the first number is lowest of the two actor types—regardless of which is perpetrator and which is victim. If the event is a single actor event, involving no interaction, the second number coded is “0”. Each conflict event is categorized as one of the nine types shown in Appendix A, Table 2.

**Table 1 ACLED Actor Types Used to Define Interaction Types**

<b>Actor Type</b>	<b>Indicator Variable</b>
Government Force	1
Rebel Force	2
Political Militia	3
Ethnic Militia	4
Rioters	5
Protestors	6
Civilians	7
Outside/external force	8

**Table 2 ACLED Event Type**

<b>Event Type</b>	<b>Indicator Variable</b>
Battle-No change of territory	1
Battle-Non-state actor overtakes territory	2
Battle – Government regains territory	3
Headquarters or base established	4
Non-violent activity by a conflict actor	5
Violent Riots/protests	6
Violence against civilians	7
Non-violent transfer of territory	8
Remote violence	9

Some conflicts exhibiting overshoot and collapse or damped impulse appear to be in a state of stable peace, which may be a result of structural adjustments that shift the use of resources to predominantly productive capabilities, rather than destructive. Others are at risk of recurrence, depending on the power of the damping function over time or ability of the system to regain capacities. Examples of conflicts where violence was originally damped but has seen recent recurrences are the Republic of the Congo and South Africa. Exponential growth and oscillatory behavior illustrate cases of persistent conflict with no break in violence.

### **Overshoot and Collapse**

Conflicts with overshoot and collapse reference behavior are Chad, Liberia, South Africa-ANC, Namibia, Burundi, Rwanda. ACLED records a combined total of 6,904 events from 1997-2014 for the conflicts in this category. Of these, 5,459 are violent, resulting in a combined total of 36,534 fatalities. Conflict event interactions and types shown in Tables 3-4 share some similarities but also exhibit significant differences. Overall, violent conflict events occur primarily between government forces and rebel

forces. Involvement of political militia ranges from 6-30%. Ethnic militias are insignificant. Violence against citizens ranges from 20-60%.

**Table 3 Summary of ACLED Interaction Types: Overshoot and Collapse**

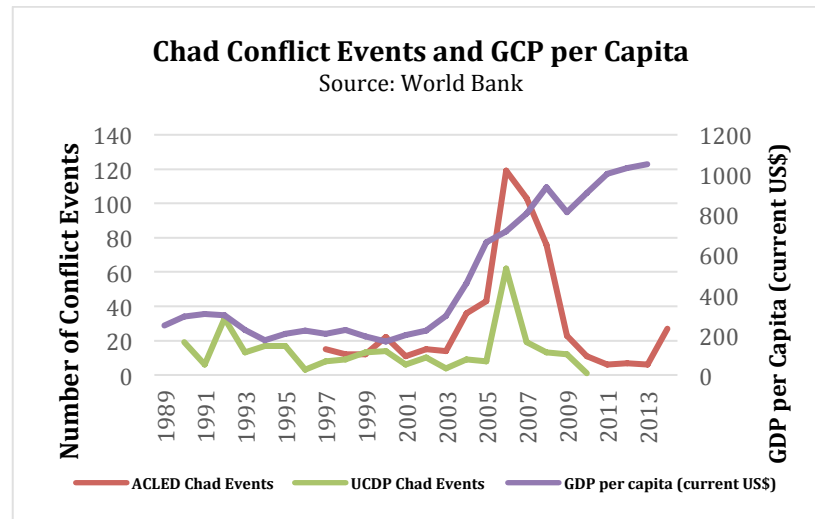
<b>Conflict</b>	<b>Approximate Ratio of Rebel/Government Forces Involvement in Events</b>	<b>Total Percentage of Interactions with Rebel and/or Government Force Involvement</b>	<b>Percentage of Interactions with Political Militia Involvement</b>	<b>Percentage of Interactions with Ethnic Militia Involvement</b>
Chad	1:2	45%	30%	3%
Liberia	1:1	75%	6	3
South Africa	1:400	25%	13%	5%
Namibia	7:10	34%	7%	1%
Burundi	8:5	85%	16%	<1%
Rwanda	1:2	60%	30%	<1%

**Table 4 Summary of ACLED Event Types: Overshoot and Collapse Reference Behavior**

<b>Conflict</b>	<b>Highest Category of Event Types (%)</b>	<b>Type 1</b>	<b>Type 5</b>	<b>Type 6</b>	<b>Type 7</b>	<b>Ratio 1:7</b>
Chad	Battle no change	45%	1%	3%	37%	1:1
Liberia	Battle No Change	31%	5%	21%	21%	3:2
South Africa	Violent Riots & Protests	2.5%	1.5%	75%	20%	1:10
Namibia	Violent Riots & Protests	16%	2%	62%	20%	4:5
Burundi	Battle No Change	47%	3%	2%	43%	1:1
Rwanda	Violence against citizens	25%	8%	5%	60%	1:3

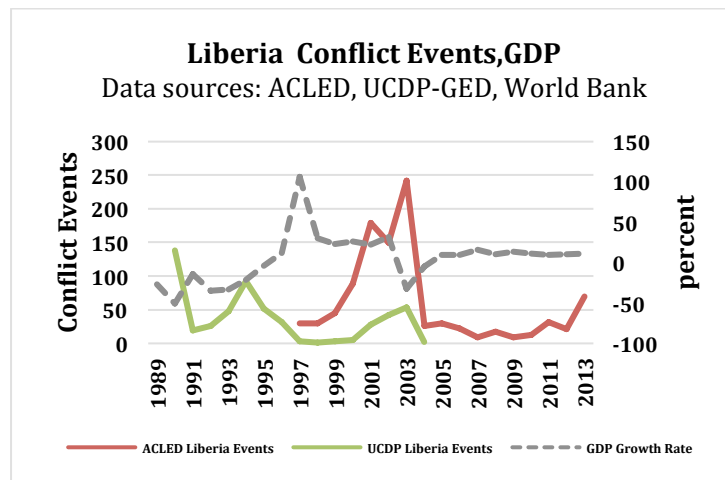
## *Overshoot and Collapse Conflict Data and Descriptions*

### *Chad*

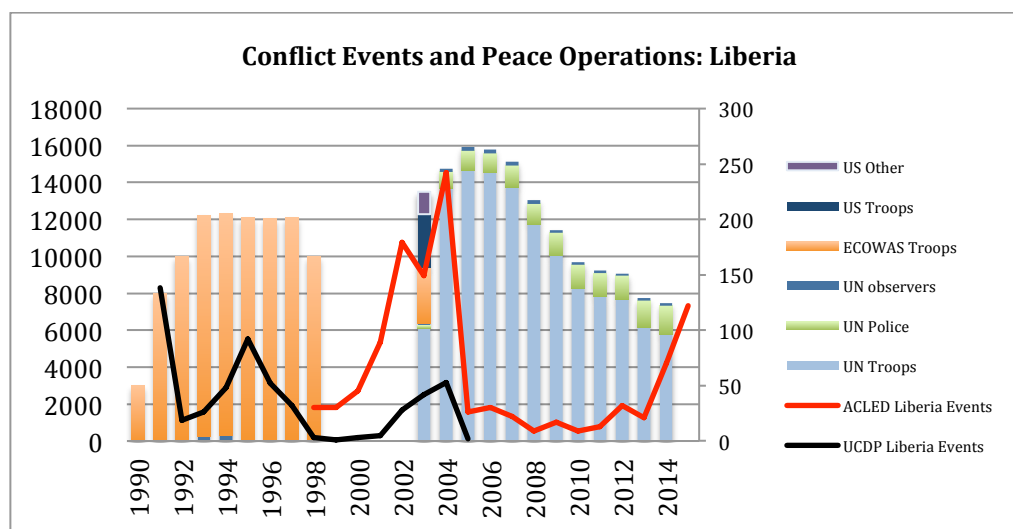


**Figure 1 Chad Conflict Events and GCP Per Capita**

### *Liberia*



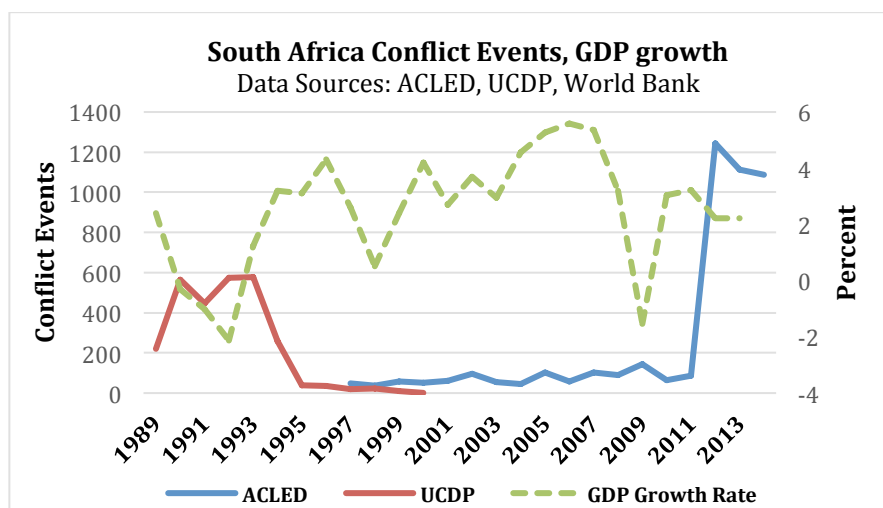
**Figure 2 Liberia Conflict Events, GDP Growth**



**Figure 3 Liberia Conflict Events and Peace Operations**

Liberia has experienced two civil wars between 1989 and 2014. The first lasted from 1989 until 1997, and the second from 1999 until 2003. The first civil war had its roots in a coup d'état in 1980 by Samuel Doe that overthrew the democratically elected government that included Charles Taylor. Taylor initiated an uprising against the Doe government in 1989, during which time multiple factions emerged to fight for control of the government, committing atrocities against civilians on all sides in spite of the presence of peace keeping troops from the Economic Community Monitoring Group (ECOMOG) supported by the Economic Community of West African States (ECOWAS), and the UN Observer Mission in Liberia (UNOMIL). Following several unsuccessful mediation attempts, the international community brokered a cease-fire in 1995, after which Taylor was elected president in 1997. Low-level fighting continued, however, with Taylor backing rebels in neighboring Sierra Leone (using revenues from diamonds) and erupted into a second civil war in 1999.

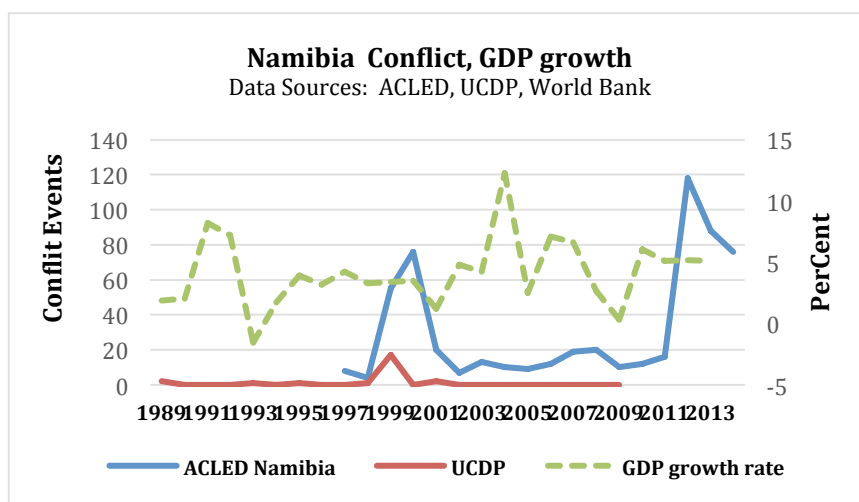


*South Africa Antiapartheid struggle***Figure 4 South Africa Conflict Events, GDP Growth**

The struggle against the oppressive apartheid regime in South Africa, led by the African National Congress (ANC), involved both violent and non-violent components until transition to democracy in 1994. Violent opposition against the government has roots in the militancy in the 1960s resulting in the jailing of ANC leaders (including Nelson Mandela) on charges of terrorism and treason; and the Soweto student uprising in 1974 that resulted in the indiscriminant killing of hundreds of unarmed citizens by South African police. Over time, labor, religious organizations, student organizations, militant white political organizations, aligned themselves with the black consciousness movement in opposition to the apartheid government of South Africa. The end of apartheid was triggered by the rise of DeKlerk to power in 1989 – 1991, who responded to the perceived demise of intellectual and moral commitment of the general populace to the apartheid regime, which occurred concurrently with the rise of black immigrants into the lucrative mining sector threatening the economy under policies of “separate development”. Conflict between rightwing whites, the anti-apartheid struggle, and De

Klerk's nationalist party ended in 1994, when an all-white referendum on ending apartheid was passed and Nelson Mandela was subsequently elected president.

### *Namibia*



**Figure 5 Namibia Conflict Events, GDP Growth**

Namibia gained independence from South Africa in 1990. The Caprivi Liberation Army was formed in 1994 with the goal of self-rule for the Lozi people inhabiting the Caprivi Strip between Namibia and Botswana. The Namibian government accused the rebels of being allied with the Angolan rebel movement UNITA. The movement gained momentum and in 1999 launched attacks on security facilities in the provincial capital of Caprivi. The government declared a state of emergency, which was followed by hard crack down on rebels, alleged UNITA forces, and citizens. The rise in conflict events in 2011 involves primarily riots in the capital city of Windhoek and protests over food prices and jobs.

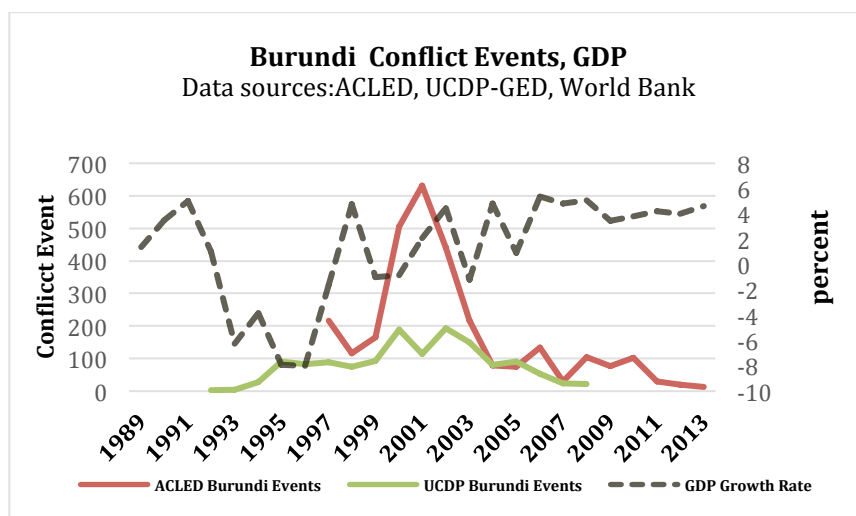
*Burundi*

Figure 6 Burundi Conflict Events, GDP

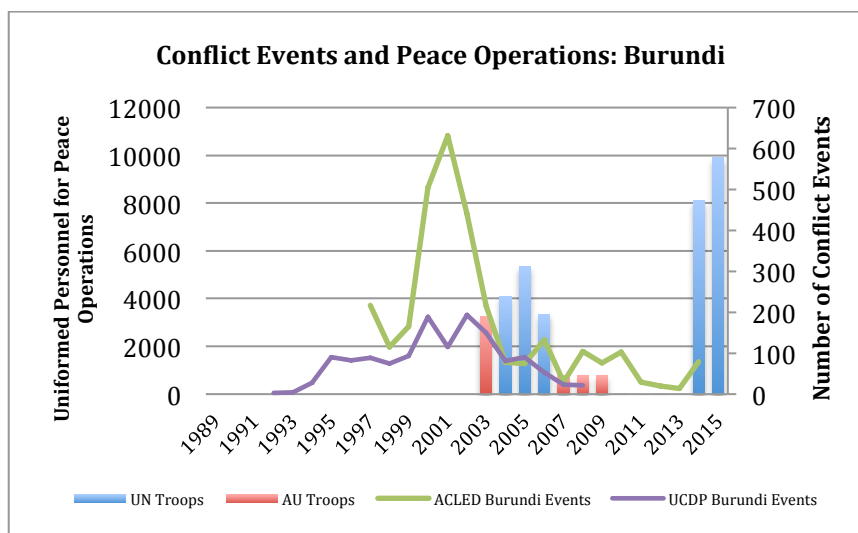
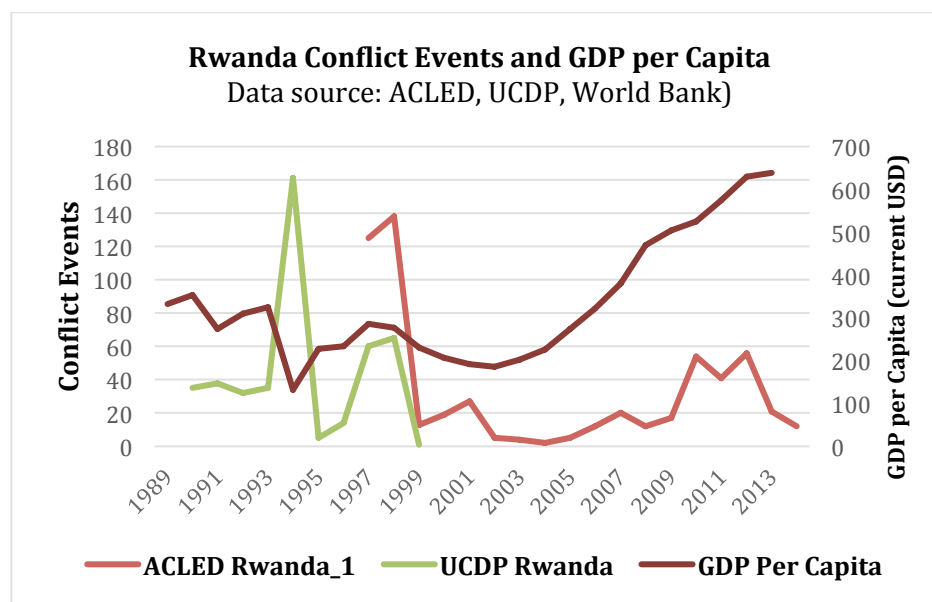


Figure 7 Burundi Conflict Events and Peace Operations

The Burundi civil war, lasting from 1993-2005, was a contest for power between the Tutsi-dominated army and armed Hutu Rebel groups, initiated by the assassination of democratically elected President Ndadye (Hutu) by Tutsi soldiers in October 1993 with widespread civilian casualties and spill over from Rwanda resulting in the 1995 massacre of Hutu refugees. A military coup in 1996 deposed Ntibantunganya, a Hutu,

and replaced him with Buyoya, a Tutsi. Buyoya represented the government in the internationally brokered Arusha accords signed in 2000. A transitional national assembly was set up in 2002 with a power sharing agreement to bridge the ethnic divide that remained with the two main Hutu rebel groups refusing to sign the accords. A peace agreement signed in 2003 called for integration of rebel soldiers with the national army. The agreement was supported by African Union peacekeepers from 2003-2004, with UN peacekeepers taking over from AU in 2004 and remaining through 2006. Small rebel forces and the Imbonerakure, a countrywide armed youth militia continued low level fighting have continued fighting in spite of the peace agreement (Figure 31). The threat of widespread civil war reemerged in the Spring of 2015, when President Nkurunziza (a Hutu) announced that he would run for a third term, in spite of a constitution that limits him to two. Inter-racial and inter-ethnic violence has risen in recent years among disgruntled shantytown dwellers and other disaffected groups in response to income inequality and poor service delivery by the government("South Africa: Security Risk," 2014)

*Rwanda*

**Figure 8 Rwanda Conflict Events and GDP Per Capita**

Rwanda exhibits a second of overshoot and collapse observed at year 11 post-conflict, when a secondary steep rise is observed, immediately followed by another logarithmically decreasing collapse in number of violent events.

### **Damped Impulse**

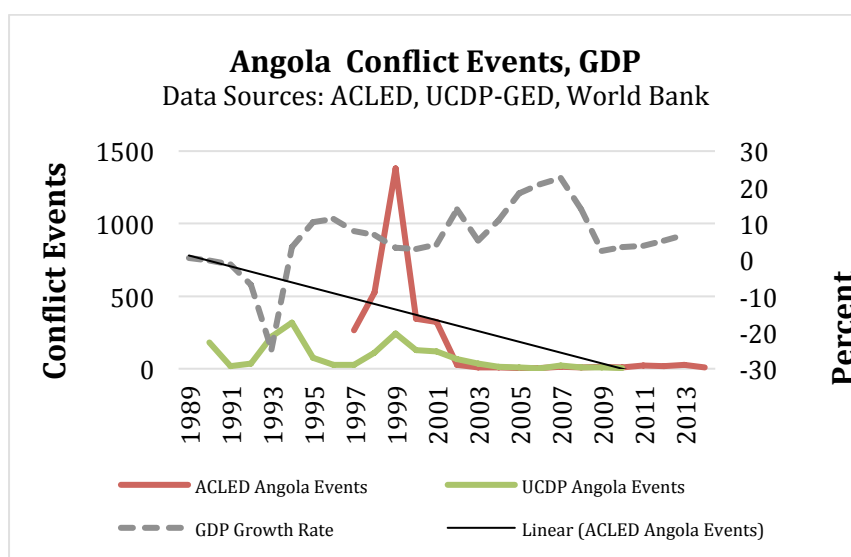
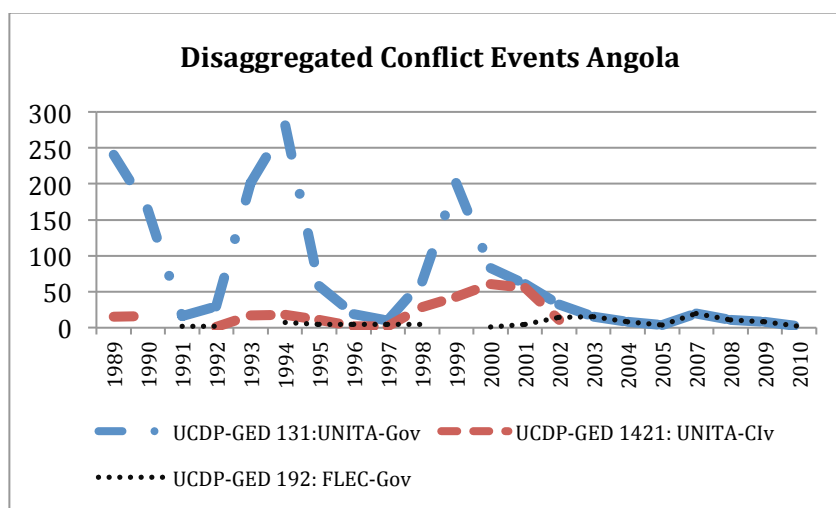
Conflicts with reference behavior categorized as a highly damped impulse are Angola, Sierra Leone, Lesotho, Guinea, Guinea-Bissau, Mali, Congo, CAR-Seleka. ACLED records a total of 9,845 events for the conflicts in this category, of which 5,967 are violent. Conflict event interactions and types are summarized in Tables 5 and 6. There is a wider spread among the type of primary actors involved than there is for overshoot & collapse.

**Table 5 Summary of ACLED Interaction Types: Damped Impulse Reference Behavior**

<b>Conflict</b>	<b>Rebel/Government Forces Involvement in Events</b>	<b>Events with Rebel and/or Government Forces</b>	<b>Events with Political Militia Involvement</b>	<b>Events with Ethnic Militia Involvement</b>
Angola	1:1	93%	3%	0
Sierra Leone	3:2	74%	20%	<1%
Lesotho	1:20	22%	39%	1%
Guinea	1:2	42%	9%	3%
Guinea-Bissau	1:5	62%	6%	<1%
Mali	3:1	56%	8%	3%
Congo	1:15	10%	77%	<1%

**Table 6 Summary of ACLED Event Types: Damped Impulse Reference Behavior**

<b>Conflict</b>	<b>Highest Category of Event Types</b>	<b>Type 1</b>	<b>Type 5</b>	<b>Type 6</b>	<b>Type 7</b>	<b>Ratio 1: 7</b>
Angola	Battle No Change	62%	1%	4%	17%	11:3
Sierra Leone	Battle No Change	42%	8%	6%	22%	2:3
Lesotho	Violent riots & protests	27%	3%	35%	33%	1:1
Guinea	Violence against citizens	24%	6%	32%	34%	3:4
Guinea-Bissau	Battle no change	50%	8%	24%	13%	5:1
Mali	Battle no change	32%	14%	15%	26%	3:2
Congo	Battle no change	54%	8%	1%	25%	2:1

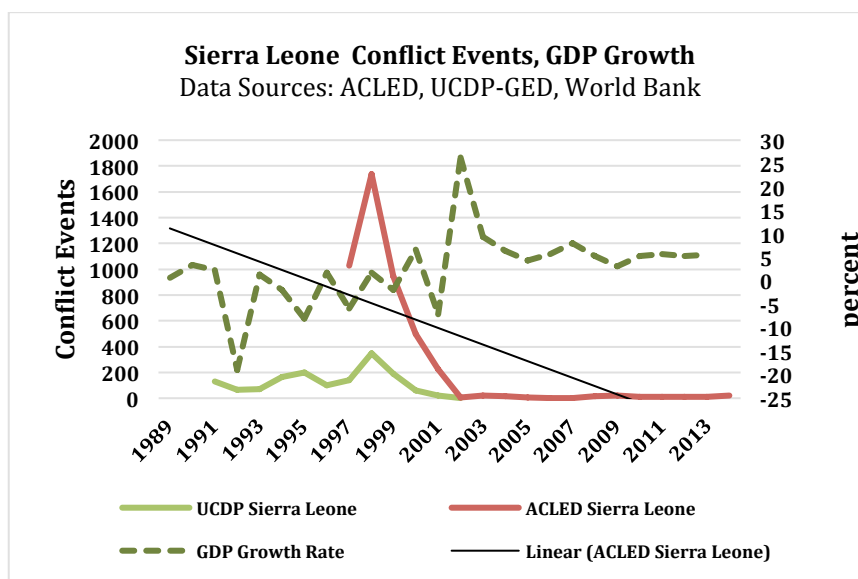
*Damped Impulse conflict descriptions and data**Angola***Figure 9 Angola Conflict Events****Figure 10 Disaggregated Angola Conflict Events, 1989 – 2014**

Several conflicts were active in Angola between 1989-2014. The dominant conflict, initiated in 1975, was between pro-Soviet People's Movement for the Liberation of Angola (MPLA), the National Union for the Total Independence of Angola (UNITA) and the National Front for the Liberation of Angola (FNLA) -- both backed by the United

States and Zaire—over control of the newly liberated country and its rich oil and mineral resources. Peace accords were reached 1991 and 1994, and there was a UN presence from 1995 to 1999. Renewed fighting between UNITA and the government ended in a ceasefire in 2002 followed by demobilization with UN oversight through 2003 (Figure 33). The International Crisis Group (ICGP attributes the collapse of UNITA as an effective fighting force to a combination of UN sanctions imposed from 1993-2002 and the death of UNITA leader Jonas Savimbi in February 2002. The conflict between FLEC separatists in the oil-rich Cabinda province was active from 1994-2009 at much lower levels than the conflict with UNITA (Figure 9).

Angola events are strongly dominated by interactions between government and rebels (70%), followed by interactions between rebels and citizens (10%). The majority of events are of type 1 – battles with no change of territory (62%), followed by type 7 – violence against civilians (17%). Total number of events recorded in ACLED from 1997 to 2014 is 2995; total number of events recorded in UCDP-GED from 1989-2010 is 1801.



*Sierra Leone*

Sierra Leone was constitutionally declared a one-party state in 1978. A brutal civil war in 1991 by Sankoh rebels as the Revolutionary United Front (RUF), led by former military and supported by Charles Taylor of Liberia, resulted in a new constitution that adopted a multiparty system. RUF funding was secured through conflict diamonds in the south and east areas of Sierra Leone under their control. Subsequent military coups in 1992, 1996, and 1997 are attributed to failure of new governments to deal effectively with the RUF and disgruntled military. In 1998, the West African ECOMOG intervention led by Nigeria drove the rebels out of the capital.

Civil war prior was fueled in Sierra Leone by trade in diamonds. UN monitoring troops deployed in July 1999 to monitor the Lome Peace Agreement, negotiated by international intervention that gave the leader of RUF political power and control of

diamonds in exchange for cessation of hostilities.<sup>255</sup> Violence by rebels against peacekeeping troops continued through 2001, until RUF disarmament began following intervention by the UK. The war was declared over and disarmament complete in 2002. Sierra Leone has since experienced relative peace and stability, as well as substantial economic growth, as shown by the steady rise in GDP per capita since the end of violence.

In Sierra Leone, a steep rise in violent events/year peaks over a period of 1-3 years, and is followed by logarithmically decreasing count over a period of at least ten years. Rebels were involved in 68% of Sierra Leone events, compared to government involvement in 6%. Interactions between rebels and citizens are moderately dominant events (30%); followed by events rebels with uncategorized interactions (20%); followed by interactions equally associated between rebels and outside forces (9%) and between political militia and citizens (10%). The majority of events are of type 8 - remote violence (26%), followed by type 5 - non-violent events by conflict actors (23%) and type 7 - violence against civilians (21%). Total number of events recorded in ACLED from 1997-2014 is 4,574; total number of events recorded from 1989-2011 in UCDP-GED is 1416.

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<sup>255</sup> UN peacekeeping troop buildup in Sierra Leone was incremental, beginning with 6,000 in 1998, increasing to 11,000 in February 2000 (UN Security Council Resolution 1289), to 13,000 in May 2000, and peaking at 17,500 in March 2001.  
<http://www.un.org/en/peacekeeping/missions/past/unamsil/background.html>

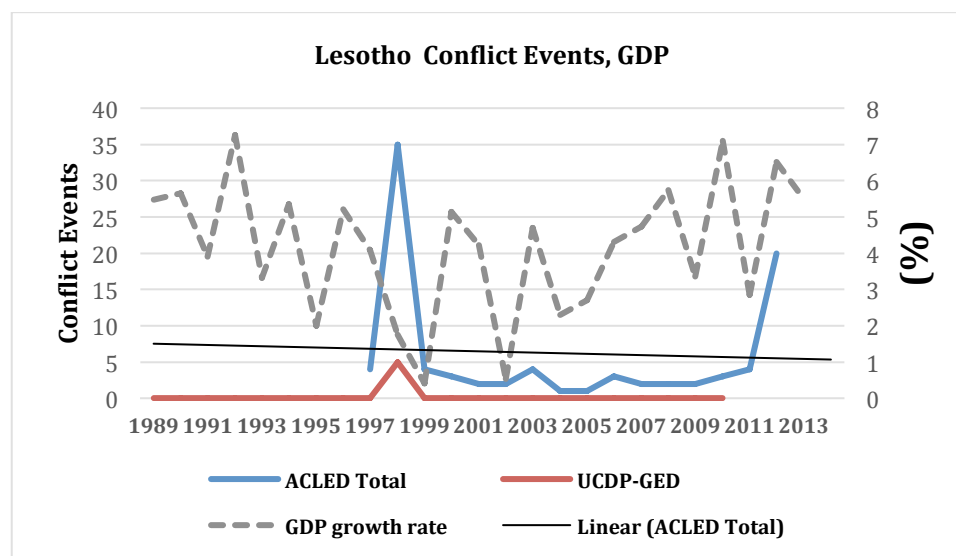
*Lesotho*

Figure 12 Lesotho Conflict Events, GDP Growth

Coup d'état quelled by South Africa Development Community 1998; threatened renewal in 2012.

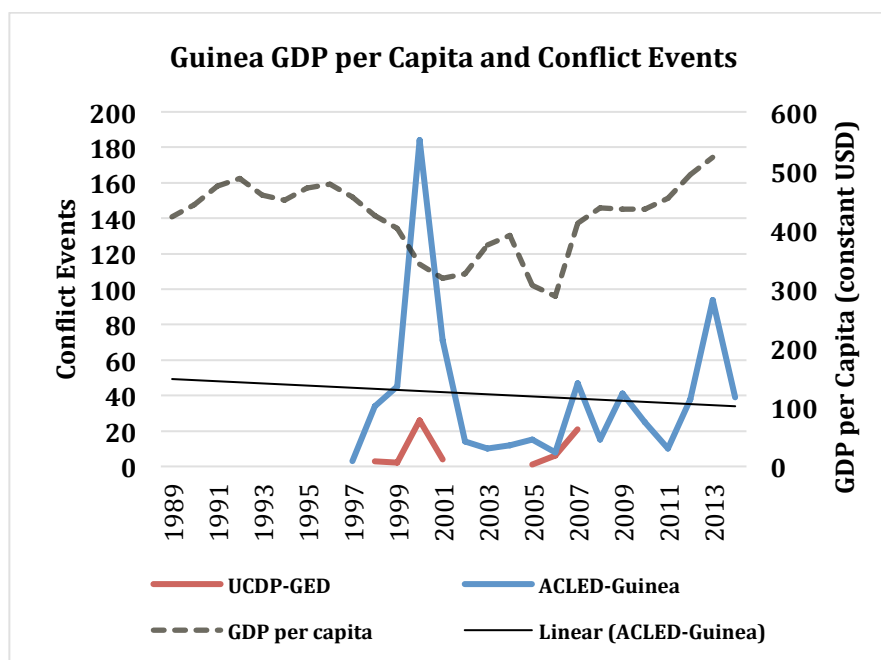
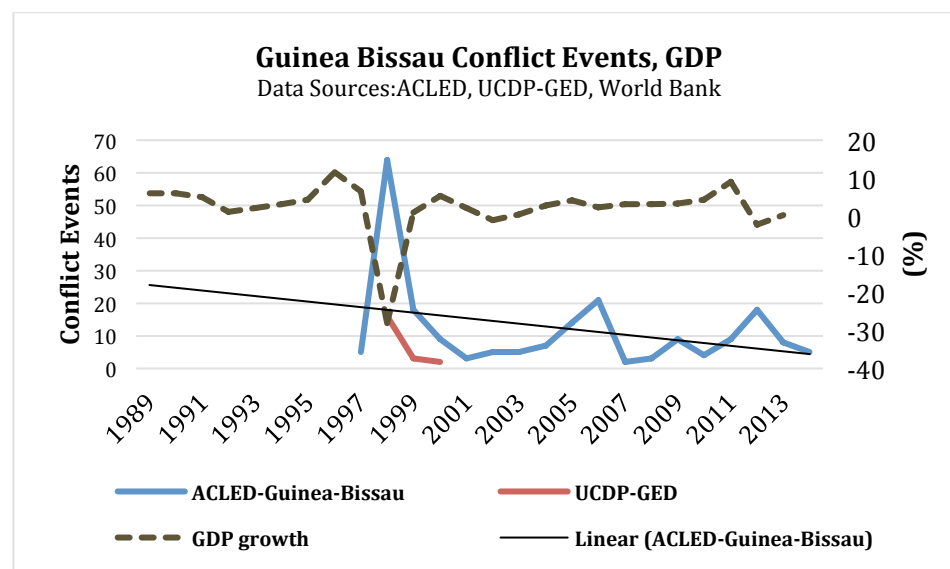
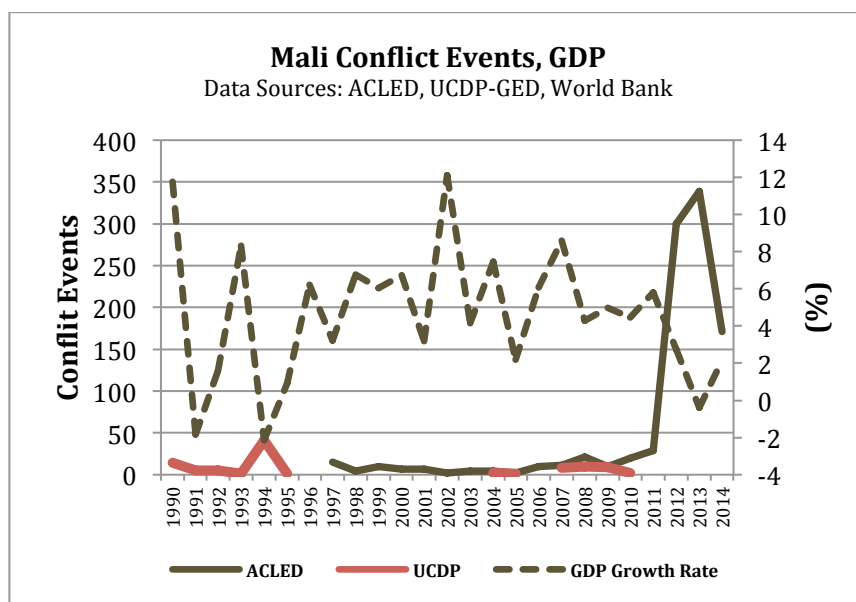
*Guinea*

Figure 13 Guinea GDP per Capita and Conflict Events

*Guinea-Bissau*

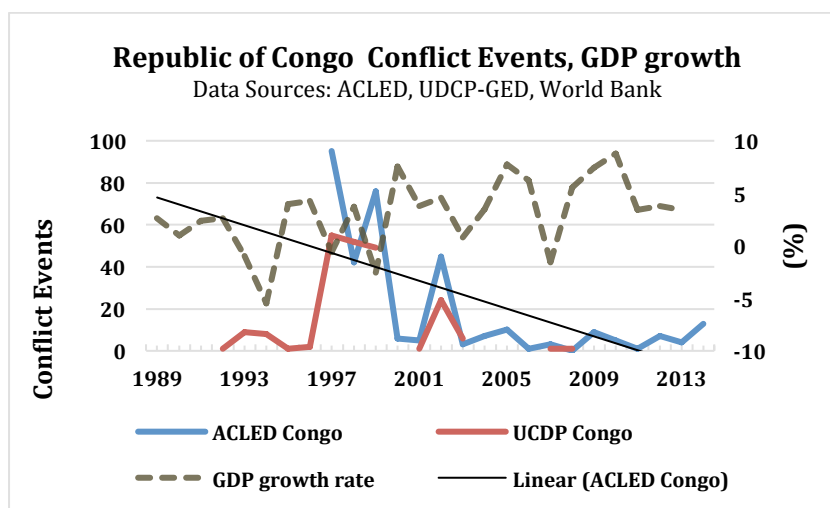
**Figure 14 Guinea-Bissau Conflict Events, GDP Growth, Military Expenditures**

The civil war from 1998 to 1999 was triggered by coup d'état against President Vieira, backed by neighboring states. The initiating event for the coup clashes with separatists, during which some military were accused of supplying weapons to the separatists. The military that were dismissed led the coup. An internationally negotiated peace agreement failed, followed by an unconditional surrender by Vieira.

*Mali*

**Figure 15 Mali Conflict Events, GDP Growth**

Mali experienced a sudden increase in conflict in 2011 when arms from the conflict in Libya flooded the northern sector where Al Qaeda in the Islamic Maghreb was active. Fighting between insurgents began January 2012 in North and South against Malian government, with insurgents in North demanding independence or greater autonomy. Coup d'état in April 2012; rebels declared independence. Islamic backed insurgents (who were resisted by Tuareg rebels) gained control of most cities in Northern Mali, with weapons coming from Libya. French military and AU forces retook control from Islamists in 2013 in response to request by Mali government. Peace deal signed between Tuareg rebels and government in July 2013 did not hold. Ceasefire signed by both sides in February 2015.

*Congo – Brazzaville*

**Figure 16 Republic of Congo Conflict Events, GDP Growth**

First civil war led by Ninja and Cobra militia following contested parliamentary elections in 1993 ended with peace accords in 1994. Militia did not disarm; flow of arms from regional conflicts provided resources to rise of militia movement in face of high unemployment and political uncertainty. Attempts to forcibly disarm the Cobra militia in 1997 led to second civil war among militia and government, which recruited Ukrainian mercenaries. UNITA-provided diamonds to government in return for Congolese support, prompting Angola to support the militia rebels, who were also supported by France. The rebels surrendered in 1999 after signing a peace agreement with government.

## Exponential Growth

Conflicts with exponential growth reference behavior are Somalia, Nigeria- Boko Haram, Mozambique, Sudan, Cameroon, Gabon, DRC, Mauritania, and Burkina Faso.

ACLED records a total of 32,681 events for the conflict in this category, of which 25,279 are violent. Conflict event interactions and types are summarized in Tables 7 and 8.

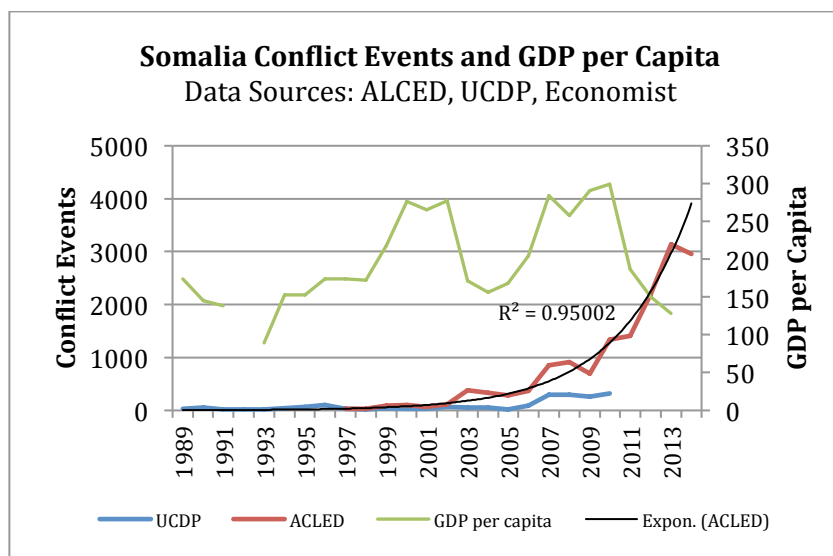
Compared to the previous two reference behaviors, political militia are more likely to be involved in conflict events compared to government or rebel forces.

**Table 7 Summary of ACLED Interaction Types: Exponential Reference Behavior**

Conflict	Rebel/Government Forces Involvement in Events	Events with Rebel and/or Government Force Involvement	Events with Political Militia Involvement	Events with Ethnic Militia Involvement
Somalia	1:1	38%	38%	8%
Nigeria- BH	0	8%	78%	13%
Mozambique	0	14%	38%	<1%
Sudan	1:2	45%	22%	6%
Cameroon	1:5	22%	21%	11%
Gabon	0	10%	9%	<1%
DRC	2:3	64%	20%	4%
Mauritania	1:3	22%	2%	<1%
Burkina Faso	0	12%	4%	6%

**Table 8 Summary of ACLED Event Types for Conflicts with Exponential Reference Behavior**

Conflict	Highest Category of Event Types (%)	Type 1	Type 5	Type 6	Type 7	Ratio 1:7
Somalia	Battle no change	54%	7%	5%	29%	2:1
Nigeria-BH	Violence against citizens	14%	1%	0%	84%	1:6
Mozambique	Violent riots & protests	10%	8%	42%	39%	1:4
Sudan	Violence against citizens	34%	7%	13%	39%	1:1
Cameroon	Battle no change	35%	1%	30%	30%	1:1
Gabon	Violent riots & protests	5%	6%	70%	19%	1:4
DRC	Battle no change	38%	9%	6%	32%	1:1
Mauritania	Violent riots & protests	9%	<1%	70%	9%	1:1
Burkina Faso	Violent riots & protests	10%	7%	70%	10%	1:1

*Exponential Growth conflict descriptions and data**Somalia***Figure 17 Somalia Conflict Events**

Observed over 25 years, Somalia exhibits conflict escalation that is almost perfect exponential behavior. However, as discussed in the case study, micro level patterns are observed within smaller time segments of the macro pattern. The resources to sustain conflict in Somalia have varied over the past twenty-five years, with different roles played by the international community. Conflict events escalated significantly from 2011 – 2012 when the African Union Mission in Somalia (AMISOM) successfully dislodged Al Shabaab from the power base it had held in Mogadishu since 2006.<sup>256</sup> At the same time, Kenyan troops entered Somalia to attack Al Shabaab rebels accused of kidnapping

<sup>256</sup> There was also a massive famine in 2011, brought on in part by the previous years of conflict that resulted in massive displacements.



foreigners on Kenyan soil.<sup>257</sup> AMISOM presence in Somalia has since increased, driving Al Shabaab out of other strongholds, and a fragile federal government has been installed in Mogadishu supported by the international community. Yet even so, violent events have continued to increase exponentially, as dynamics between other international (e.g., development and humanitarian aid workers), regional (e.g., peacekeeping troops) and local actors (e.g., politicians and war lords) continue to fuel new and old conflicts, and Al Shabaab resorts to terror tactics.

### *Mozambique*

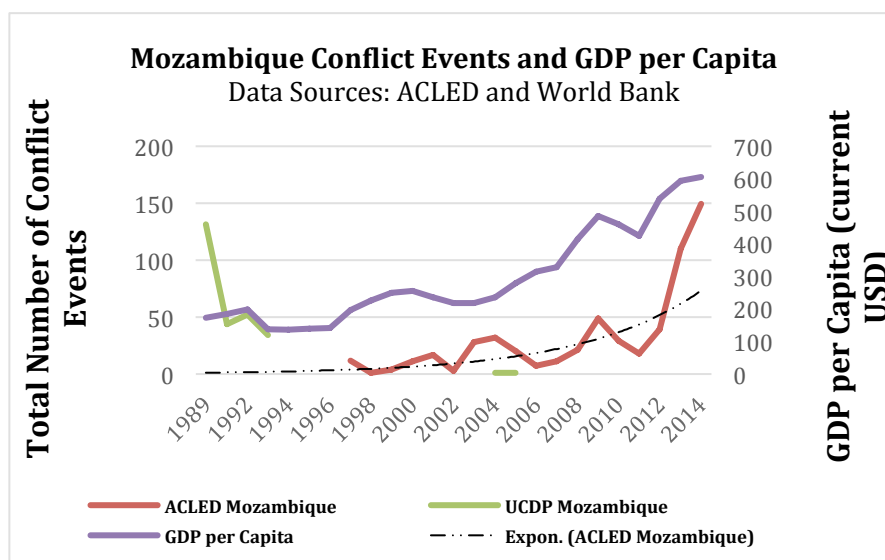


Figure 18 Mozambique Conflict Events

<sup>257</sup> For a timeline of the conflict in Somalia, see <http://www.bbc.com/news/world-africa-14094503>. AMISOM is a regional peacekeeping mission operated by the African Union with the approval of the United Nations. The African Union's Peace and Security Council created it in 2007 with an initial six-month mandate that has been subsequently extended and expanded to 22,000 troops as of 2014. Original troop contributing countries Uganda and Burundi were joined by Ethiopia in 2014 (<http://amisom-au.org/2014/01/ethiopian-troops-formally-join-amisom-peacekeepers-in-somalia/>), Kenya in 2012 (<http://amisom-au.org/kenya-kdf/>), and Djibouti in 2011 (<http://amisom-au.org/djibouti/>). Troops from Sierra Leone joined AMISOM in 2013 (<http://english.cntv.cn/program/newsupdate/20130402/100693.shtml>) but were called home in 2014 due to the Ebola crisis.

## Sudan

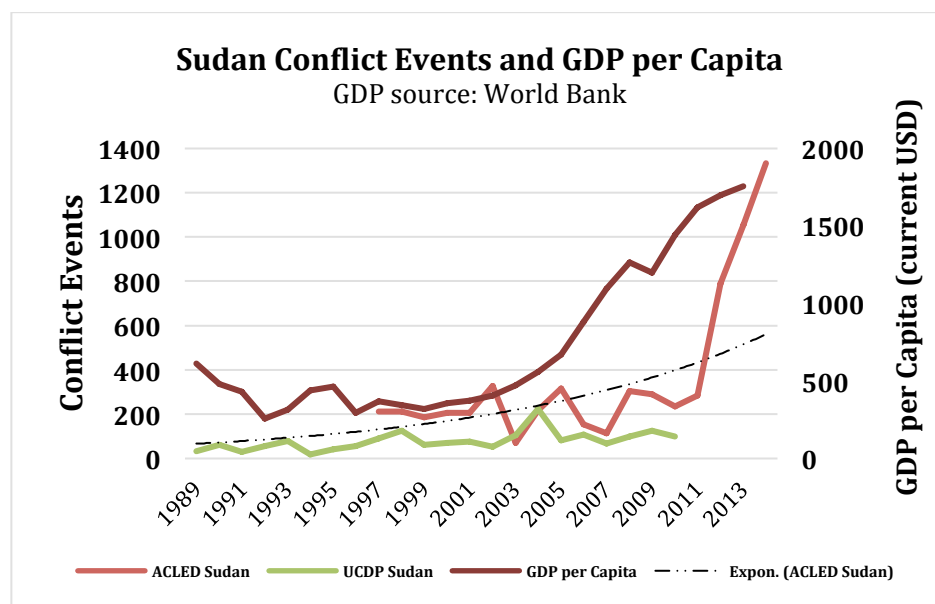


Figure 19 Sudan Conflict Events

## Cameroon

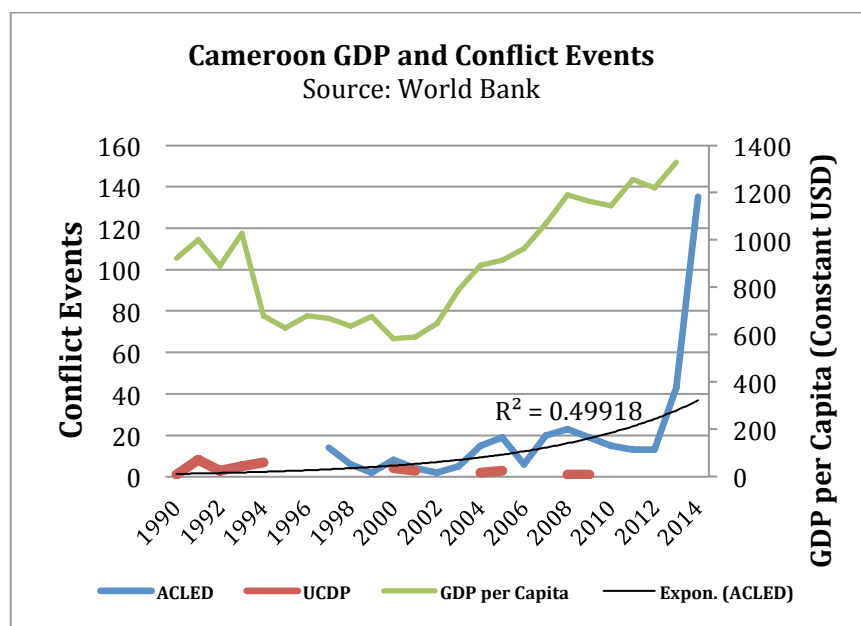


Figure 20 Cameroon Conflict Event

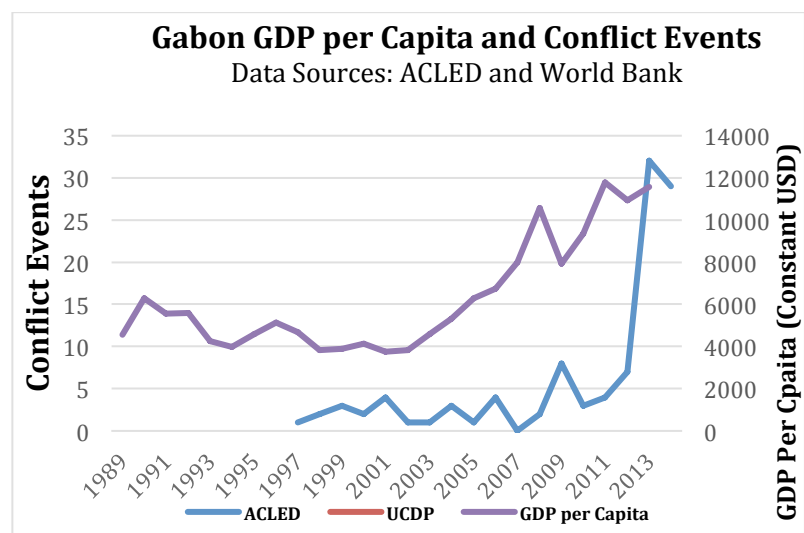
*Gabon*

Figure 21 Gabon Conflict Events

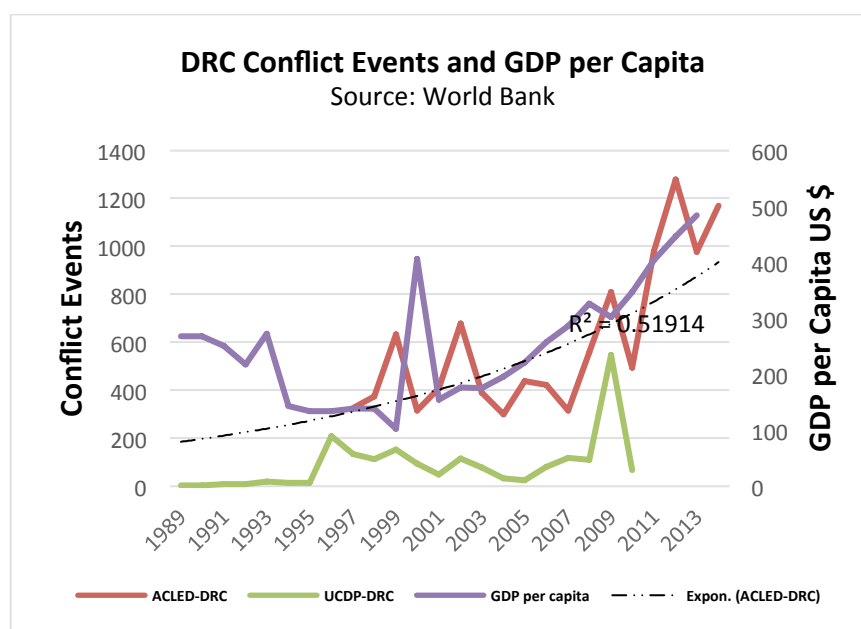
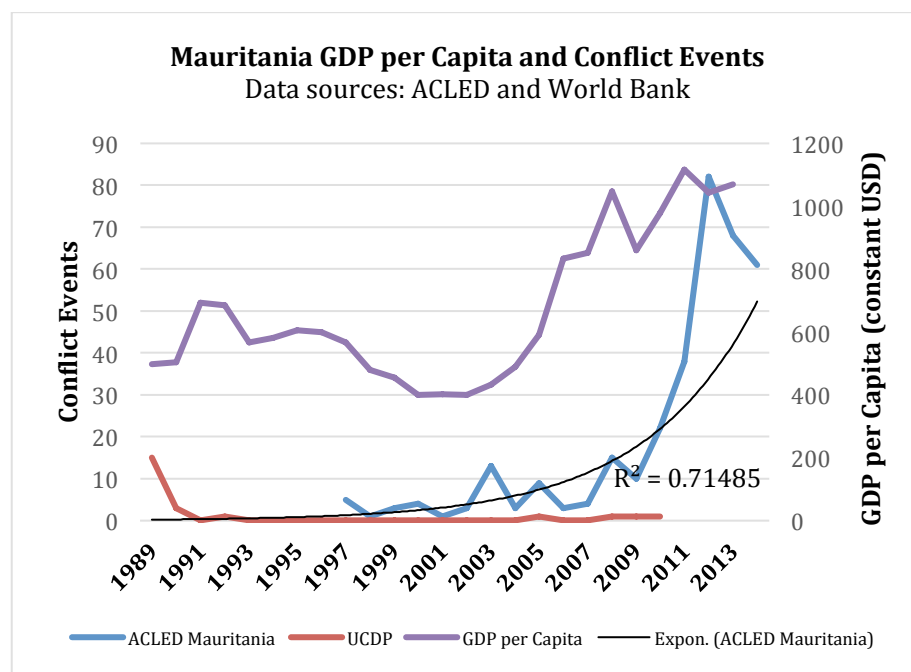
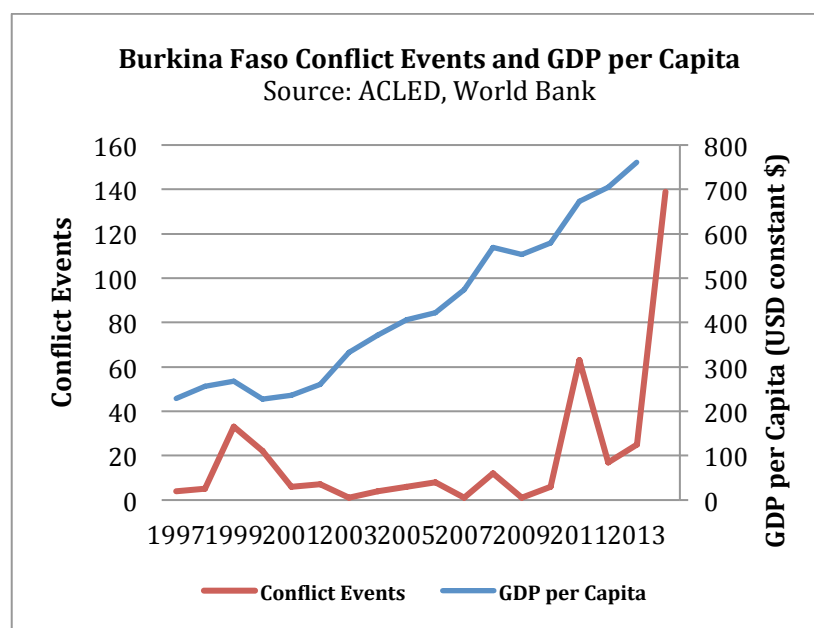
*DRC*

Figure 22 DRC Conflict Events

*Mauritania***Figure 23 Mauritania Conflict Events***Burkina Faso***Figure 24 Burkina Faso Conflict Events**

## Oscillations

Conflicts with reference behavior dominated by sustained oscillations (which may involve a rising or falling mean) are Ivory Coast, Ethiopia-ONLF, Nigeria-Political, Algeria, Guinea, Niger, Ethiopia-OLF, Kenya-Kikuyu and Turkana conflicts, CAR-political, Senegal, Zimbabwe, and Uganda. ACLED records a total of 19,899 events for the conflicts in this category, of which 15,178 are violent. Conflict event interactions and types are summarized in Tables 9 and 10 in Appendix A.

**Table 9 Summary of ACLED Interaction Types for Conflicts with Sustained Oscillations as Reference Behavior**

Conflict	Ratio of Rebel/Government Involvement in Events	Events with Rebel and/or Government Involvement	Events with Political Militia Involvement	Events with Ethnic Militia Involvement
Ivory Coast	30:2	41%	20%	5%
Ethiopia-ONLF/OLF	1:10	79%	3%	7%
Nigeria-Political	1:8	18%	44%	13%
Algeria	4:5	74%	11%	<1%
Niger	3:5	52%	5%	3%
Kenya -ethnic	3:2	16%	26%	50%
CAR- Seleka rebel coalition	4:1	36%	6%	<1%
CAR-political	15:1	32%	37%	1%
Senegal	1:1	45%	5%	<1%
Zimbabwe	0	23%	64%	<1%
Uganda	1:1	61%	5%	6%

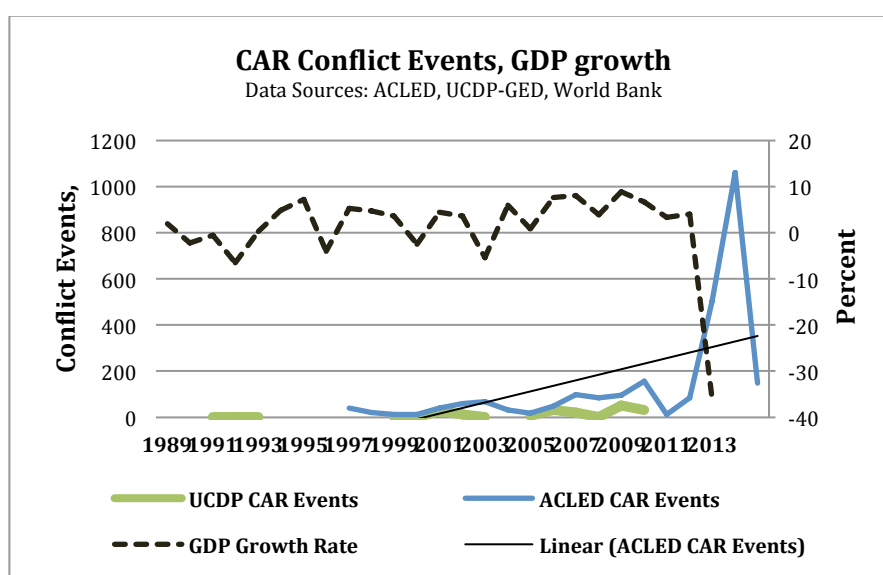
**Table 10 Summary of ACLED Event Types for Conflicts with Sustained Oscillations**

Conflict	Highest Category of Event Types	Type 1	Type 5	Type 6	Type 7	Ratio 1: 7
Ivory Coast	Violence against citizens	28%	3%	30%	33%	1:1
Ethiopia-ONLF, OLF	Battle no change	64%	5%	10%	20%	11:1
Nigeria-Political	Violence against citizens	34%	4%	23%	40%	3:4

Algeria	Battle no change	51%	6%	20%	21%	5:2
Niger <sup>258</sup>	Violent riots & Protests	26%	3%	33%	20%	1:1
Kenya – ethnic	Battle no change	58%	15%	1%	25%	2:1
CAR- Seleka rebel coalition	Violence against citizens	23%	11%	8%	52%	2:5
CAR-political	Battle no change	36%	4%	12%	33%	1:1
Senegal	Battle no change	36%	4%	32%	27%	4:3
Zimbabwe	Violence against citizens	3%	6%	12%	77%	3:70
Uganda	Battle no change	40%	9%	11%	39%	1:1

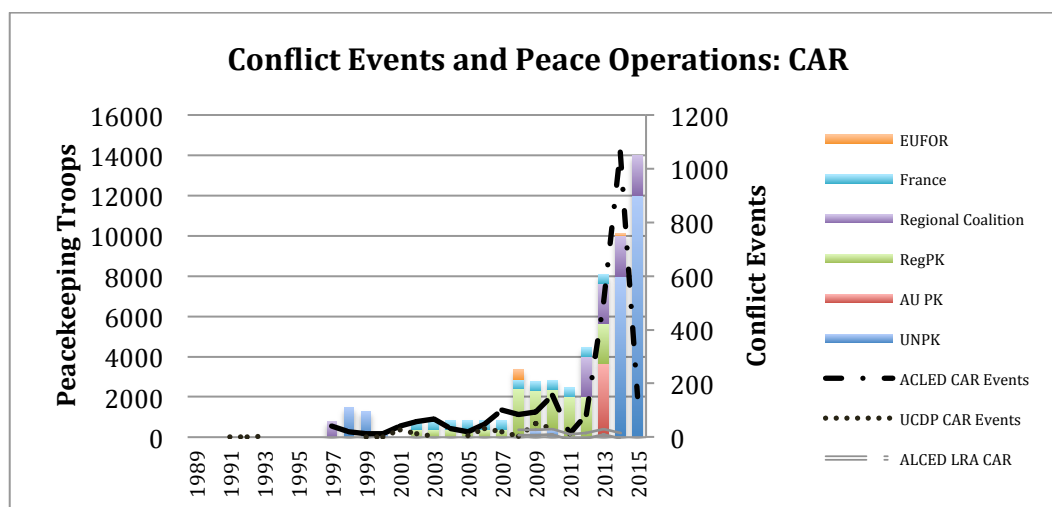
### *Oscillatory Behavior conflict data and descriptions*

#### *Central African Republic*



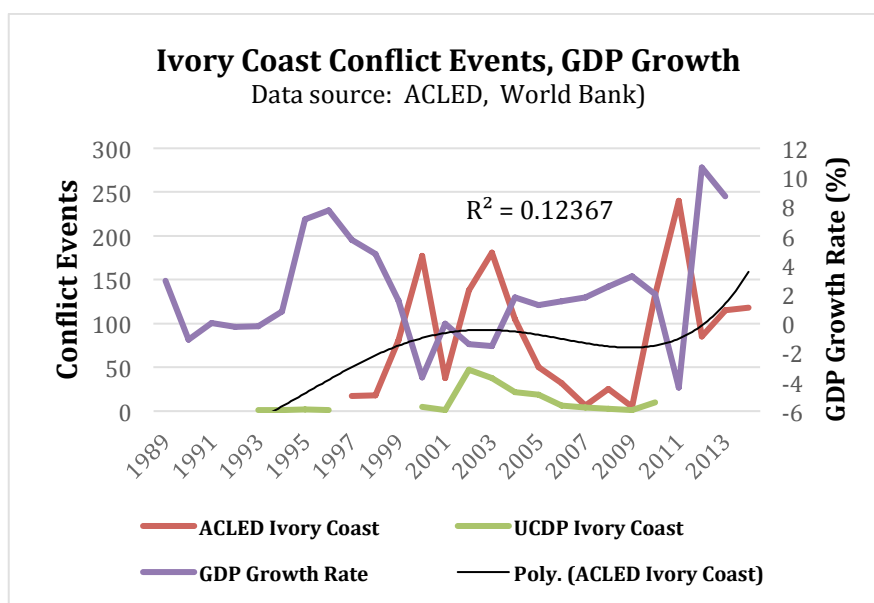
**Figure 25 Central African Republic Conflict Events, GDP Growth**

<sup>258</sup> Niger, alone of all the cases, saw 16% of events with Nonstate actor taking control of territory



**Figure 26 Peacekeeping Troops in Central African Republic**

### *Ivory Coast*



**Figure 27 Ivory Coast Conflict Events**

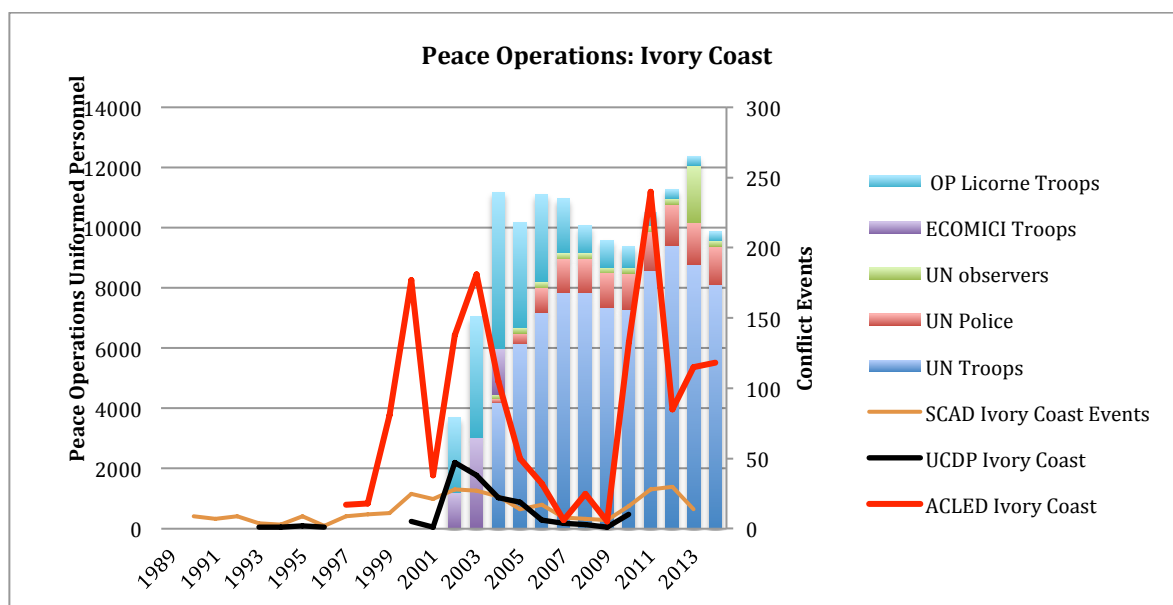


Figure 28 Ivory Coast Peace Operations

*Ethiopia-ONLF, Ethiopia –OLF*

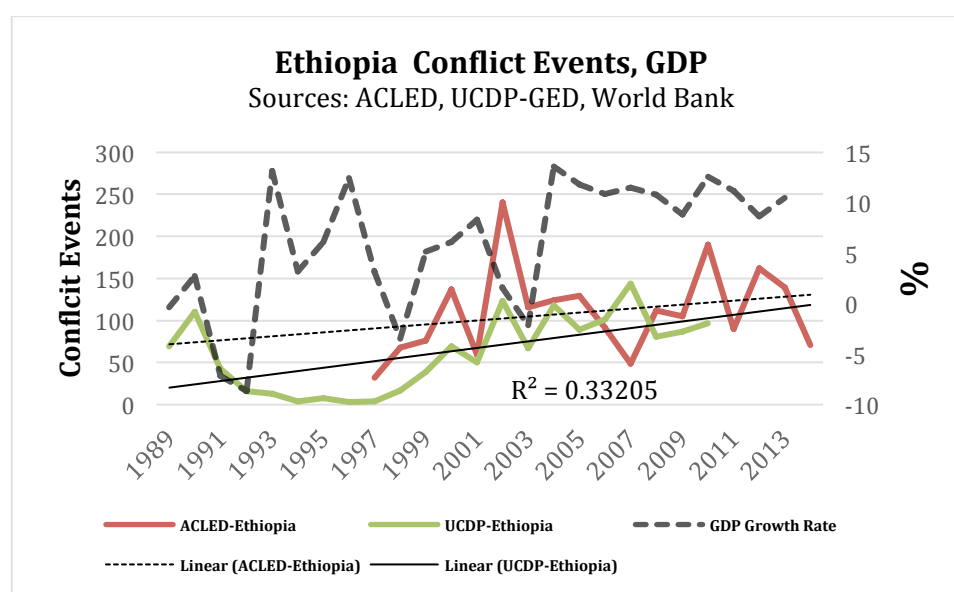


Figure 29 Ethiopia Conflict Events

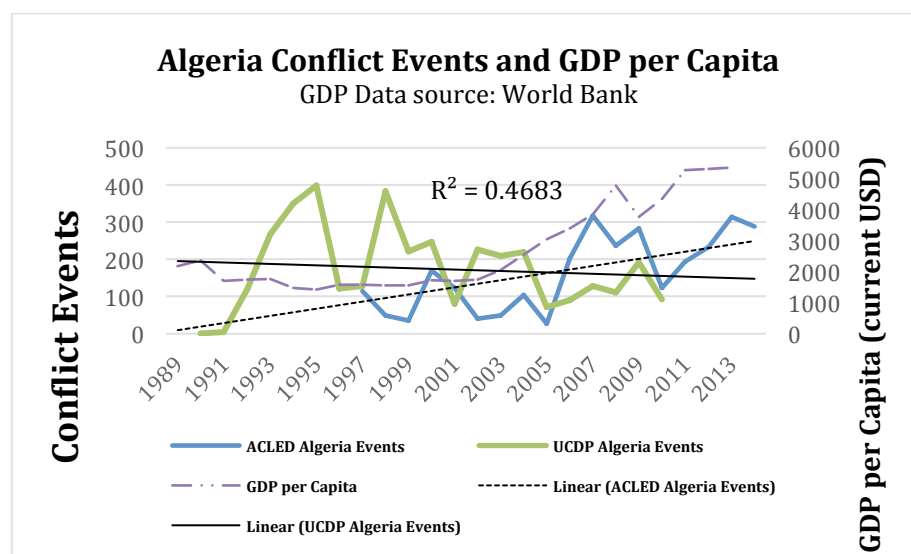
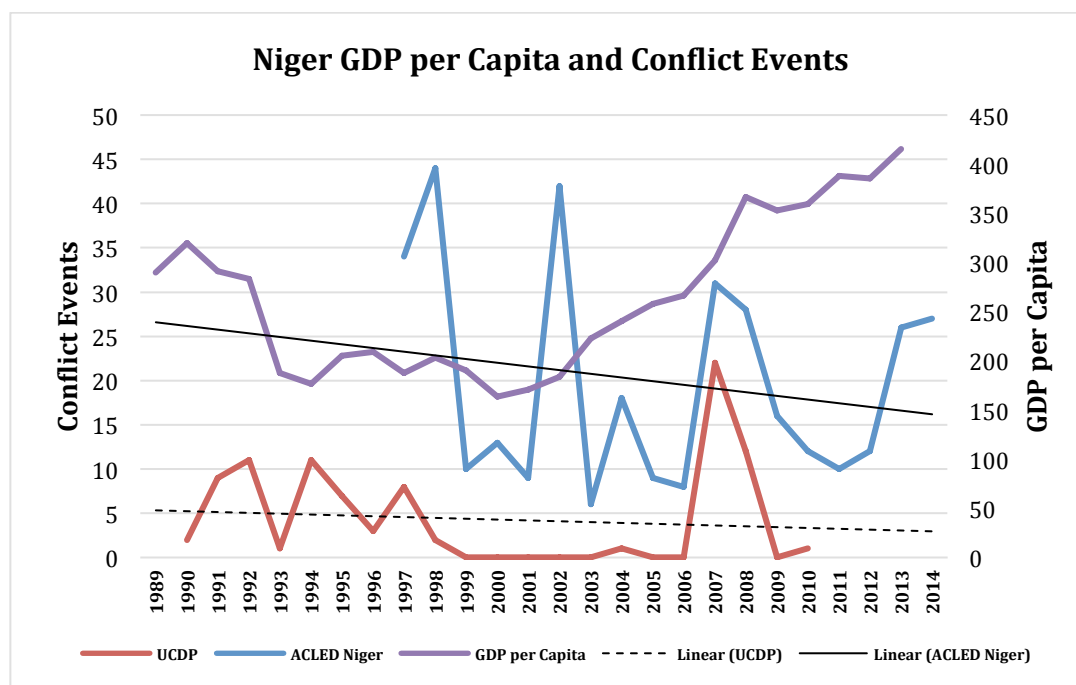
Like Somalia, Ethiopia has a long history of corruption and civil war that is impacted significantly by regional actors. However, in contrast to Somalia, the civil wars have been driven by secessionist goals rather than competition for consolidation of national power. The federal government in Ethiopia has resisted defeat or concessions in



the case of the Ogaden region (made up primarily of Somalis) but has made concessions in the conflict with Eritrea.

### *Nigeria-Political*



*Algeria***Figure 31 Algeria Conflict Events***Niger***Figure 32 Niger Conflict Events**

## Kenya

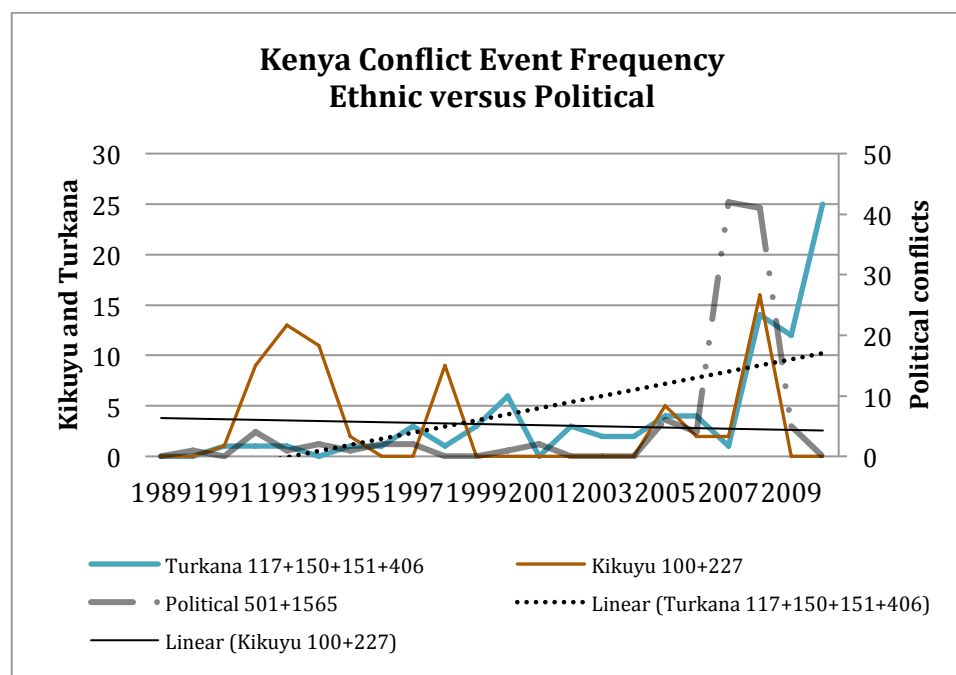


Figure 33 Kenya Ethnic Versus Political Conflict Event Frequency

## Senegal

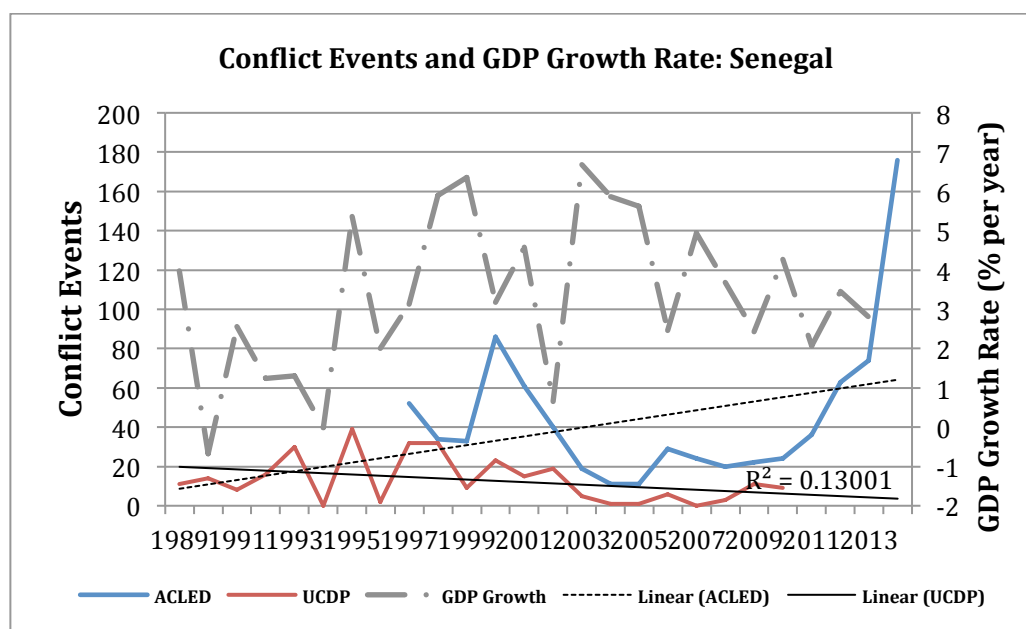


Figure 34 Senegal Conflict Events

## Uganda

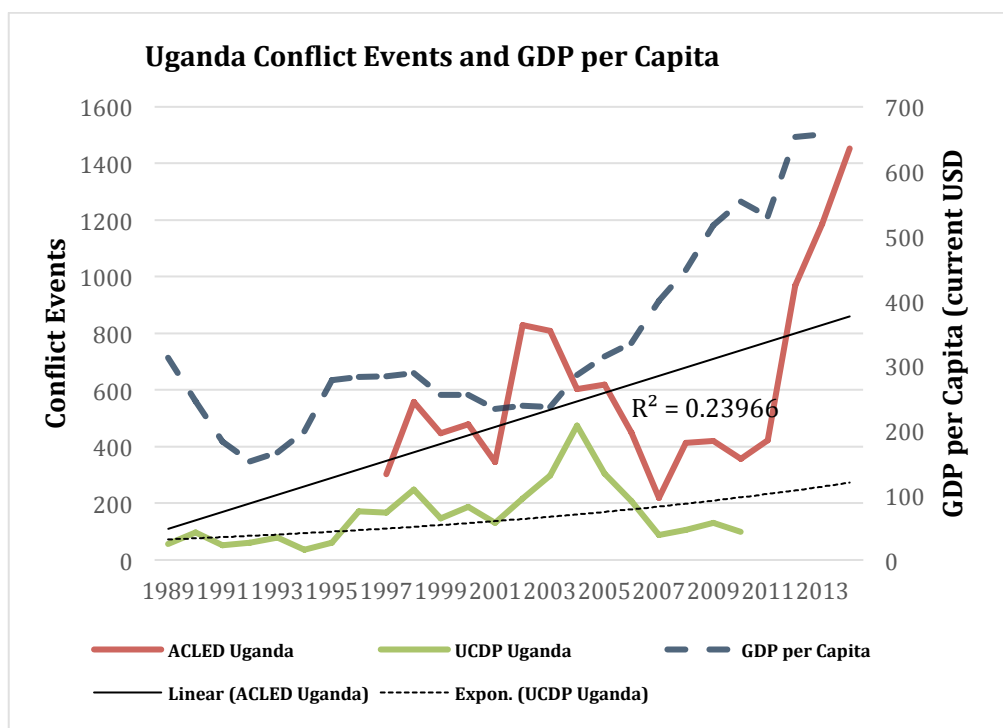


Figure 35 Uganda Conflict Events

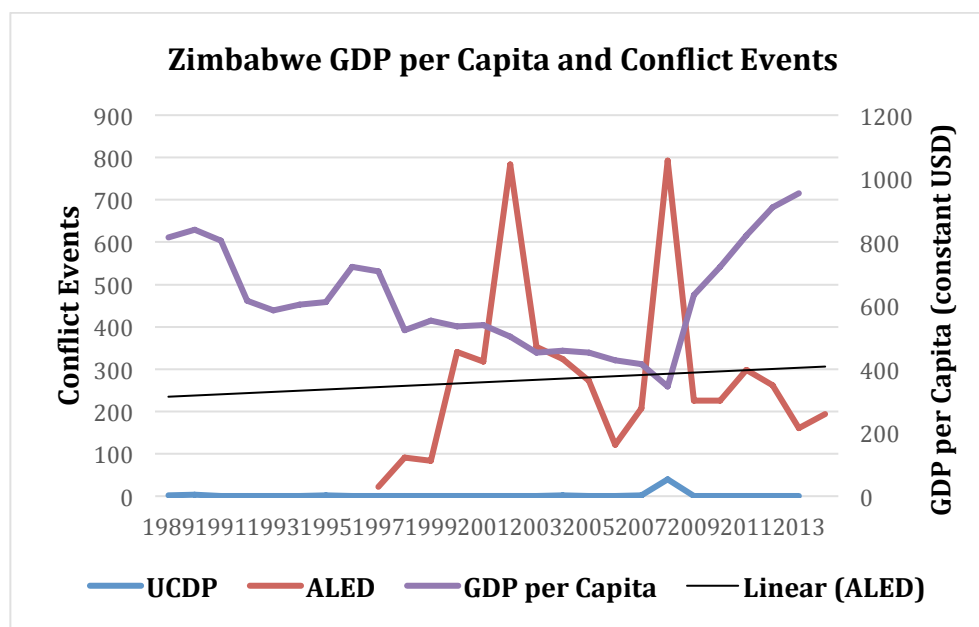
*Zimbabwe*

Figure 36 Zimbabwe Conflict Events

## **Appendix B: Description of Data and Data Sources**

This appendix discusses the data sources used in this research, presents summary statistics for the three categories of variables used in the quantitative analysis – country level socio-economic and political risk factors, conflict characteristics, and intervention characteristics. Country level socio-economic and political risk factors are derived primarily from the World Bank and the Polity IV project, respectively, except where noted. Conflict statistics draw on the UCDP/PRIO Armed Conflict dataset, the UCDP/GED and ACLED. These datasets are described, followed by summary statistics from UCDP/GED and ACLED on conflict events in the sample cases. The fourth set of statistics is for peace operations. Data on unilateral interventions is from the Regan (2002) dataset on foreign military interventions, the Correlates of War Project, and the UCDP Armed Conflict Dataset 2010-v1. An original data set on peace operations was created for this research, based on triangulated data from the SIPRI Multilateral Peace Operations Database, the International Peace Institute (IPI) Peacekeeping Database (Perry & Smith, 2013); official reports of the United Nations and other peace keeping organizations; published reports of news media and third-parties; and other scholarly research (Bellamy & Williams, 2011, 2015; Hultman et al., 2015; P. D. Williams, 2013). The fifth set of statistics describes aid and development trends in the pooled cases, based on information from AidData.org, ReliefWeb.int, and the OECD. The final set of data is for IDPs and refugees, obtained from the International Institute for Security Studies Armed Conflict Database, built from data collected and reported by the International Displacement Monitoring Center and the UN High Commission for Refugees.

## Data Sources

### Country-Level Conflict Risk Factors

As described in Chapter 1, risk factors associated strictly with country characteristics involve governance capacity and reach, socio-economic conditions, and inequality. Factors that have been shown in studies published in peer reviewed journals to have statistical correlation with conflict risk and duration in relevant contexts and that are associated with theoretical explanations of greed, grievance, and governance weakness were used as control variables.

- Economic Factors: GDP per capita; GDP growth; % GDP commodity exports (oil, metals); illicit trade
- Socio-economic factors: population size; population density; male secondary schooling; male youth unemployment, inequality; depth of poverty, presence of a dominant ethnic group with polarization of a minority;
- Geographic factors: land mass; mountainous terrain; wars on borders;
- Political factors: state reach (measured as % urban population, % access to electricity); governance (measured by both the Polity IV index and the World Bank CPIA index<sup>259</sup>),

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<sup>259</sup> Polity IV measures regime type (autocracy to full democracy). The Country Policy and Institutional Assessment (CPIA) index of the World Bank Group rates countries annually against a set of 16 criteria grouped in four clusters: economic management, structural policies, policies for social inclusion and equity, and public sector management and institutions. The economic management and the public sector management and institution clusters includes property rights and rule-based governance, quality of budgetary and financial management, efficiency of revenue mobilization, quality of public administration, and transparency, accountability, and corruption in the public sector; and environmental sustainability. The structural policy cluster includes trade, financial, sector, and business regulatory environment. The social inclusion and equity cluster includes programs to build human resources through health and education services; equity of public resource use; and regulations to ensure gender equality. The International

- Security Factors: annual military expenditures, military expenditures as percent of government spending, military expenditures as percent of GDP, military expenditures per capita; size of security forces

### ***World Bank Data***

The World Bank Open Data<sup>260</sup> provides annual data used in this study on the following country level conflict risk factors: GDP, GDP per capita, GDP growth, GDP share of lowest tenth percentile, commodity exports, population size and density, percent urban population and access to electricity, male and female secondary schooling, male youth unemployment, GINI index for inequality, CPIA index (including gender inequality and corruption), remittances, infant mortality, net migration, high estimates of internally displaced persons. Illicit trade in minerals is estimated from World Bank data.

### ***Trading Economics***

GDP and other economic data on Somalia is unavailable from World Bank for many of the conflict years of interest. This study uses time series data from Trading Economics, a commercial database of macroeconomic statistics for 200 countries, with more than 7000 financial and industry indicators from over 1000 sources updated hourly.<sup>261</sup>

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Development Association (IDA) resource allocation index (IRAI) is calculated based on the CPIA. The minimum level regarded as adequate for development is 2.41 (Collier & Hoeffler, 2004)

<sup>260</sup> World Bank, “World Bank Open Data”, <http://data.worldbank.org/>, Retrieved June 2014 – February 2016.

<sup>261</sup> Trading Economics, “Somalia Economic Indicators,” <https://www.quandl.com/vendors/tradingeconomics>. Data retrieved October 2015.



### ***The Economist***

Missing data on commodity resource dependency as a percentage of GDP is estimated from values and analysis reported by the Economist, differentiated by oil, metals, and food.<sup>262</sup>

### ***United Nations Development Programme***

Annual statistical tables and country reports from the UNDP<sup>263</sup> provide the following data for this study: human development index (HDI), (including gender differentiated in recent years), forest area, remittances inflow, net ODA as percent GDP, multi-dimensional poverty index.

### **Illicit Trade**

Illicit trade that fuels conflict is assumed to derive from four major sources: drugs, minerals, wildlife, and arms. Data on illicit drug trade since 1997 is from annual reports of the United Nations Office on Drug and Crime.<sup>264</sup> Data on illicit mineral extraction and wildlife trafficking is estimated using triangulated data from World Bank, the UN, the OECD, the World Economic Forum, and the US Department of the Treasury sanctions program.<sup>265</sup>

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<sup>262</sup> The Economist, August 12, 2015, “Commodity Dependency: A Risky State,” <http://www.economist.com/blogs/graphicdetail/2015/08/commodity-dependency>, data retrieved October 2015.

<sup>263</sup> United Nations Development Programme, “Human Development Reports”, <http://hdr.undp.org/en/data>, Retrieved June 2014 – February 2016.

<sup>264</sup> United Nations Office on Drug and Crime, “World Drug Report 2015,” <https://www.unodc.org/wdr2015/en/previous-reports.html>, Data retrieved June 2014 - October 2015.

<sup>265</sup> UNDP-MONUSCO-OSEG. 2015. “Experts background report on illegal exploitation and trade in natural resources benefitting organized criminal groups and recommendations,” Final report. April 15, 2015. [http://postconflict.unep.ch/publications/UNEP\\_DRCongo\\_MONUSCO\\_OSEG\\_final\\_report.pdf](http://postconflict.unep.ch/publications/UNEP_DRCongo_MONUSCO_OSEG_final_report.pdf), Retrieved October 2015; World Economic Forum, “State of The Illicit Economy Briefing Papers,” 2015. [http://www3.weforum.org/docs/WEF\\_State\\_of\\_the\\_Illicit\\_Economy\\_2015\\_2.pdf](http://www3.weforum.org/docs/WEF_State_of_the_Illicit_Economy_2015_2.pdf), Retrieved October 2015;

## **Ethnic Polarization and Social Fragmentation**

Data used in this study for ethnic polarization and social fragmentation draws on the databases created and published by Reynal-Querol (2001),<sup>266</sup> Posner (2004),<sup>267</sup> and the Minorities at Risk Project at the University of Maryland Center for International Development and Conflict Management (CIDCM). Reynal-Querol (2001) and Posner (2004) study the role of ethnicity and conflict on the poor economic performance of African countries. Reynal-Querol (2001) find that indices based on social fragmentation, ethnic polarization, and/or religious diversity are better predictors of poor performance than more traditional indices based on ethno-linguistic diversity measures (ELF). Posner (2004) finds that a measure of ethnic fractionalization based on politically relevant ethnic groups does a better job of accounting for the effects of ethnic diversity on economic growth in Africa than does ELF. The Minorities at Risk (MAR) Project is a university-based research project that monitors and analyzes the status and conflicts of politically active, marginalized and vulnerable communal groups since 1945 in all countries with a current population of at least 500,000.<sup>268</sup>

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OECD, "OECD Task force on charting illicit trade", Preliminary version 2015. <http://www.oecd.org/gov/risk/illicit-trade-converging-criminal-networks.pdf>. Retrieved January 2016; US Department of the Treasury, "Resource Center: Sanctions Program and Country Information," <https://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx>. Retrieved October 2015.

<sup>266</sup> British Library EThOS e-theses online service, "Ethnic and Religious Conflicts, political systems and growth," <http://ethos.bl.uk/OrderDetails.do?did=1&uin=uk.bl.ethos.271096>, Data retrieved June 2015.

<sup>267</sup> Posner, Daniel, 2004. "Measuring Ethnic Fractionalization in Africa," [http://web.mit.edu/posner/www/papers/ethnic\\_fraction.pdf](http://web.mit.edu/posner/www/papers/ethnic_fraction.pdf). Data retrieved June 2015.

<sup>268</sup> Minorities at Risk Project, 2009. "Minorities at Risk Dataset." College Park, MD: Center for International Development and Conflict Management. Retrieved from <http://www.cidcm.umd.edu/mar/data.aspx> on June 2015-September 2015. The project has proceeded in five phases since its inception, depending on the definition of groups included. The last update in 2007 broadened the definition of groups included, and reduced the size threshold to 100,000. The MAR database currently contains 282 ethnopolitical groups.

## **Military Expenditures**

### ***SIPRI Military Expenditure Database***

The SIPRI Military Expenditure Database contains longitudinal data on military spending of 171 countries since 1988 (and NATO countries since 1949 or when they joined NATO). The data for military expenditures by country is presented in current local price currency, constant US \$(2011) and current US\$ for calendar years and financial years. Data in constant US\$ (2011) per calendar year was used. The database also provides military expenditure as share of GDP, per capita, and as percentage of general government expenditures. SIPRI data is based on open sources and includes a questionnaire sent annually. The questionnaire defines military expenditures as:

“All current and capital expenditures on the armed forces, including peace keeping forces, defense ministries and other government agencies engaged in defense projects, paramilitary forces to be trained, quipped and available for military operations, and military space activities.”

These expenditures include active and retired personnel and their families, operations and maintenance, procurements, military research and development, military construction, and military aid. Excluded expenses are civil defense and current expenditures for previous activities.

### ***Military Balance Reports***

Annual Military Balance Reports published by the International Institute for Strategic Studies provide estimates of national army, total security sector troop size, and foreign troop presence, including peace keeping troops (*The Military Balance 1999*, 1999; "The Military Balance 2002-2003," 2002; *The Military Balance Report 2003-2004*

2003; *The Military Balance Report 2004-2005*, 2004; *The Military Balance Report 2005*, 2005; *The Military Balance Report 2006*, 2006; *Military Balance Report 2007*, 2007; *The Military Balance Report 2008*, 2008; *The Military Balance Report 2009*, 2009; *The Military Balance Report 2010*, 2010; *The Military Balance Report 2011: The Annual assessment of global military capabilities and defence economics*, 2011). These are cross-checked with estimates from the UCDP/Prio Dyadic Conflict data set (Harbom, Melander, & Wallensteen, 2008) and peacekeeping data sources. The reports also provide estimates of rebel troop sizes for 19 of the conflicts for a total of 195 conflict years.

### **US Military Assistance**

Annual data on US military assistance is from the database on US military aid to foreign countries maintained by the Center for International Policy and supported by the Open Society Foundation. The data provides breakdowns of US assistance to foreign militaries and police since 2000 that includes training, military equipment; financing, peacekeeping operations, excess defense articles, and counter terrorism operations.<sup>269</sup> Definitions of assistance programs are taken from the US State Department and the Federation of American Scientists; Congressional reports provided by the FAS and Congressional websites are used for clarification and corroboration of US military assistance data.<sup>270</sup>

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<sup>269</sup> Security Assistance Monitor, "A citizen's guide to US security and defense assistance," [http://www.securityassistance.org/data/country/military/country/1996/2017/is\\_all/Africa](http://www.securityassistance.org/data/country/military/country/1996/2017/is_all/Africa). Retrieved June 2014 - October 2015.

<sup>270</sup> Federation of American Scientists, "US Foreign Military Assistance Program Descriptions," <http://fas.org/asmp/profiles/aid/aidindex.htm>. Retrieved June 2015.

## Civil Conflict Event Data

Civil conflict statistics draws on four published conflict datasets: the UCDP/Prio Armed conflict Dataset, the UCDP/GED Africa dataset on conflict fatalities; the ACLED conflict event data set, and the SCAD dataset on political violence. These datasets are described, followed by summary statistics from UCDP/GED and ACLED on conflict events in the pooled cases.

### *UCDP/Prio Armed Conflict Dataset v.4-2015*

UCDP/Prio records annual, country-level data on conflict dyadic interactions in all armed conflicts globally from 1946 to 2014, where an armed conflict is defined as:

“a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths.”

A party is “either a government of a state or any opposition organization or alliance of organizations.” An opposition organization is “any non-governmental group of people having announced a name for their group and using armed force to influence the outcome of the stated incompatibility.” The UCDP/Prio only deals with formally organized opposition, as the focus is on “armed conflict involving consciously conducted and planned political campaigns rather than spontaneous violence.” In this respect, UCDP/Prio differs from both ACLED and SCAD. There are two types of incompatibilities in UCDP/Prio—that concerning control of territory or that concerning control of government (Gelditsch et al., 2002). For each event, UCDP/Prio records the intensity of violence, according to the following categories: minor (25-1000 battle deaths during the course of the conflict), intermediate (25-1000 battle deaths in any given year), and

war (at least 1000 battle deaths per year).

### ***UCDP-GED version 1.5-2011, 1989-2010***

UCDP/GED provides georeferenced data on conflict events and fatalities for armed intrastate conflicts in Africa between 1989 and 2010 at the subnational level (down to administrative level 2). Conflicts are defined and differentiated based on the actors and the issue involved.<sup>271</sup> The unit of analysis for each conflict is a violent event involving the use of armed force by an organized actor against another organized actor, or against civilians, resulting in at least one direct death. These events are categorized as single-day, continuous, or summary events based on the known time duration within which the event occurred. Fatalities are categorized as side a (usually government), side b (rebel, militia), or citizen. Low, high, and best estimates of fatalities are provided (Sundberg, Lindgren, & Padskocimaite, 2010).

### ***ACLED Conflict Data***

ACLED provided georeferenced data on conflict events in Africa between 1997 and 2014 at the subnational level (down to administrative level 2). The unit of analysis is a conflict event, which may or may not involve violence or death. ACLED differs from other conflict event databases in that it tracks interactions and outcomes between actor groups over space and time, providing insight into the dynamics of a conflict not available from other datasets.

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<sup>271</sup> Several anomalous data entries were noted for actors attributed to conflicts in the course of conducting this research. These anomalies involved actors attributed to the Burundi conflict ID number 90 and to Kenya conflict ID number 100.

There are seven event types (battles with no change of territory, battles in which a non-state actor overtakes territory, battles with government regaining control of territory, establishment of controlling presence (e.g., base or headquarters) in a territory, non-violent activity by a conflict actor (e.g., negotiation, recruitment drive), riots and protests, violence against citizens, non-violent transfer of territory and remote violence). Actor types are government, rebels, militias, ethnic groups, political organizations and civilians. Interaction types are categorized according to dyadic pairs of primary actors for each event.

ACLED codes estimated fatalities when reported by source material, with no distinction of victim type. If source reports differ or are vague, the lowest number of fatalities is reported. ACLED counting method for fatalities biases the total count downward, using the logic that most reports of fatalities are biased upward. For example, if a report mentions “hundreds” of fatalities, ACLED records “100”. If a report mentions dozens of fatalities, ACLED records “12”. Of the three datasets, only ACLED differentiates between different types of events to provide information on which type is more likely to produce civilian versus military fatalities, or to test for associations between type of conflict event and type of aid or presence of peacekeepers.

***Center for System Peace, Integrated Network for Societal Conflict Research (INSCR)***

The Integrated Network for Societal Conflict Research (INSCR)<sup>272</sup> was established to coordinate and integrate information resources produced and used by the Center for Systemic Peace. The following data resources were prepared by researchers

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<sup>272</sup> Center for Systemic Peace, “INSCR Data Page”, <http://www.systemicpeace.org/inscrdata.html>, Retrieved June 2014 – February 2016.

associated with the Center for Systemic Peace and are generated and/or compiled using open source information. These resources are made available as a service to the research community. All CSP/INSCR data resources have been cross-checked with other data resources to ensure, as far as possible, that the information recorded is accurate, reliable, and comprehensive. The INSCR maintains databases downloadable in SPSS or Excel on forcibly displaced persons 1964 - 2008, major episodes of political violence 1946-2014, the Political Instability Task Force State Failure problem set 1955-2015, Polity IV 1800-2014, coups d'état 1946-2014, and state fragility index 1995-2014. The INSCR data for Polity IV and coups d'état is used in this study.

### **Internally Displaced Persons (IDP) and Refugee Data**

IDP and refugee data provide surrogate measures for perceived human security. Data used in this study is from UNHCR, ReliefWeb, and the Internal Displacement Monitoring Center (IDMC). The IDMC is part of the Norwegian Refugee Council, an independent, NGO humanitarian organization recognized and is endorsed by the UN as a source for monitoring and analyzing internal displacement caused by conflict, general violence, human riots and natural hazards. The IDMC provides annual country level data reports for inflows and outflows of IDPs and refugees, and their origins and destinations. IDMC data aggregated by the International Institute for Strategic Studies (IISS) armed conflict dataset is used in this study.<sup>273</sup>

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<sup>273</sup> International Institute of Strategic Studies (IISS), “Armed Conflict Database Monitoring Conflicts Worldwide”, <https://acd.iiss.org/en/statistics/selectreporttype>, Retrieved June 2014 – February 2016.



## Foreign Aid Data

### *AidData*

AidData<sup>274</sup> provides an open source, searchable data portal and downloadable datasets at the national and subnational level of over one million past and present development finance activities from over 90 funding agencies and more than \$40 trillion in funding for development. Aid projects are coded by type, donor, and implementing partner. Pilot studies in select countries, including Somalia, Senegal, Uganda, and Nigeria DRC provide georeferenced aid projects to the first administrative level. Country level data is used for this study for all countries in Africa. AidData also provides data for remittances, governance, and foreign direct investment that is used to triangulate and corroborate other sources.

### *ReliefWeb*

ReliefWeb is an online resource provided by United Nations Office for the Coordination of Humanitarian Affairs (OCHA) for humanitarian information on global crises and disasters since 1996. Country specific data, updates, and reports are provided through downloadable “dashboard” reports that summarize humanitarian needs, partner responses, and clusters of humanitarian funding requested and received, and major donors.<sup>275</sup>

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<sup>274</sup> AidData Open Data for International Development, “Datasets”, <http://aiddata.org/dashboard>, Retrieved June 2014 – February 2016.

<sup>275</sup> ReliefWeb, <http://reliefweb.int/>. Data retrieved June 2014 – January 2016.

## **Peace Operations Data**

This study compiles published data on peace operations into a new dataset for monthly troops numbers for the 66 peace operations in the conflict cases studies between 1989-2014. These missions are of different types: UN missions, African Union missions, other regional organizations (e.g., ECOWAS), ad hoc coalitions, and unilateral missions. The following publications are used to obtain data on monthly troop deployments.

### ***SIPRI Multilateral Peace Operations (2000-2010)***

The Stockholm International Peace Research Institute (SIPRI) database on multilateral peace operations provides data on multilateral peace operations (both UN and non-UN) conducted around the world from 2000 – 2010. The included missions must meet the criteria for a peace operation, defined to be a mission under the authority of the UN and conducted by the UN or regional organizations or ad hoc coalitions sanctioned by the UN or authorized by a UN Security Council Resolution, with the state intention to (a) serve as an instrument to facilitate the implementation of peace agreements already in place, (b) support a peace process, of (c) assist conflict prevention and/or peace-building efforts. Data contains start data, authorized troop numbers, budgets. The dataset is available from SIRPI by request.

### ***International Peace Institute (IPI) UN Peacekeeping Database (1990-2015)***

The IPI peacekeeping database presents information on uniformed personnel contributions of contributing countries to UN missions by month, type and mission from

November 1990 to present and is updated monthly.<sup>276</sup> The data is gathered from archival UN records. Recent versions include financial and gender data.

### **Supplemental Data on Peace Operations**

The following web-based resources are used to obtain mission monthly troop data from 1989 to 2014 for regional, ad-hoc, and unilateral peace operations:

- International Institute for Strategic Studies: Military Balance Reports
- Mission Reports to the UN Security Council
- EU Military Commission
- African Union Peace and Security Department
- AMISOM Daily Media Monitoring
- Mission websites
- News Sources accessed through Factiva at the University of Maryland library system

### **Regression Analysis Variables: Summary Data**

This section provides metadata, summary statistics and qualitative associations within the statistical datasets on conflict events in the pool of cases considered in the quantitative analysis.

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<sup>276</sup>International Peace Institute, “IPI Peacekeeping Database,” [www.providingforpeacekeeping.org](http://www.providingforpeacekeeping.org). Retrieved June 2014 – October 2015.

## Conflict Events Metadata

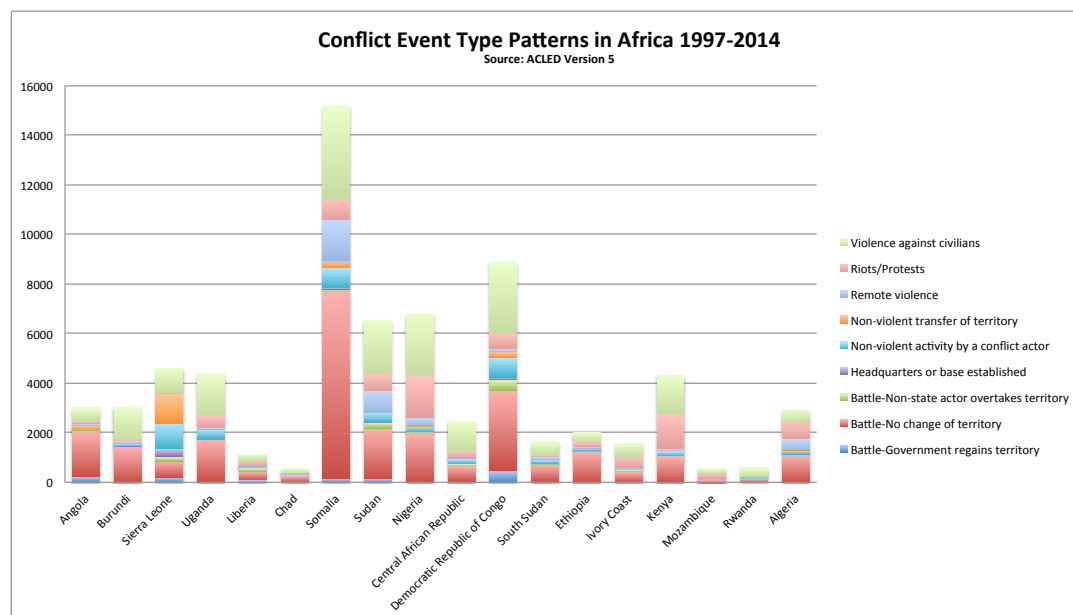
### *Comparison of Violent Conflict Event Count between Datasets*

For each conflict, Table 1 in the overview (p. 22) summarizes the following metadata: reference behavior, year of initiating event, conflict type, number of years in which there was violent conflict during the time period covered, number of recorded conflict events in ACLED (1997-2014), UCPD-GED (1989-2010), and total number of battle related fatalities (civilian and military). As illustrated, the pool of cases consists of a total of 584 ACLED violent conflict years compared to 470 violent conflict years in UCDP-GED, and a total of 51,883 ACLED violent conflict events compared to 20,621 UCDP-GED violent conflict events.

The metadata for number of conflict years, number of conflict events and battle related fatalities reported by the UCDP and the ACLED datasets are reasonably consistent, considering the different thresholds for counting when a conflict is active, what constitutes a conflict event, and the different time periods covered. The significantly higher number of events recorded by ACLED in Sierra Leone, Guinea, Ivory Coast, Guinea-Bissau, Zimbabwe can be attributed to the different threshold for counting conflict events during the peak of these conflicts. The significantly higher number of events recorded by ACLED for conflicts in Somalia, Mali, Sudan, Nigeria – Boko Haram, Kenya, the Central African Republic, Mauritania, Namibia, Cameroon, and the Democratic Republic of Congo can be attributed to a significant increase in violent activity in those conflicts after 2010, which are captured by ACLED but not by UCDP-GED. Similarly, the significantly lower count of events and fatalities recorded by ACLED for South Africa, Ethiopia, Rwanda, and Algeria can be attributed to the fact that

episodes with large numbers of events and fatalities occurred in these countries prior to 1997. These are captured by UCDP-GED but not ACLED. In spite of these differences, data from UCDP-GED and ACLED generate similar patterns of conflict events that result in the same reference behaviors.

### *Patterns of violent conflict event type*



**Figure 1 Conflict Event Types Across Cases**

## **Summary Statistics for Regression Analysis Variables**

### *Summary Statistics of Regression Analysis Variables by Conflict*

**Table 1 Summary statistics for regression variables by conflict country**

-> country_conflict	=	Angola_UNITA
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	24 7.166918 .938907 5.845485	8.662742
oilrents	25 46.04 13.22397 20	70
ssf_km2	25 97.18632 20.37713 52.16693	176.8489
milexp_GDP	22 .0556858 .0395576 .024479	.174476
male_employ	25 10.26 .1118034 10.1	10.6
urban	26 33.73077 5.639558 25	43

ethnic_polar	26 .5784615 .0431456 .57	.79
ln_pop	24 16.50333 .2361549 16.1232	16.88224
gdp_growth	24 5.592827 9.554885 -24.7	22.59305
gdplowtenpc	24 361.6541 457.66 27.6536	1405.358
polityIV_2	26 -2.461538 1.502818 -7	0
cpia	24 2.142403 .52714 1.3	2.783333
corruption	26 2.5 0 2.5	2.5
low10GDPsh~e	26 1.330385 .6205126 .8	2.5
gender_equ~y	17 3.088235 .2642971 2.5	3.5
frag	26 .59 0 .59	.59
-> country_conflict =		Burkina Faso
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.852107 .4093805 5.263054	6.625638
oilrents	26 0 0 0	0
ssf_km2	26 37.86982 4.161439 27.28938	41.94139
milexp_GDP	26 .0155743 .0042066 .0118858	.0274077
male_employ	24 5.195833 1.355658 0	6.4
urban	26 19.84615 4.985517 14	29
ethnic_polar	0	
ln_pop	26 16.316 .2207672 15.96492	16.68279
gdp_growth	25 5.474498 2.986568 -.6029285	11.01474
gdplowtenpc	25 87.7024 49.36227 38.03484	203.6301
polityIV_2	26 -2.269231 2.616222 -7	0
cpia	26 3.478979 .2881307 2.927	3.783333
corruption	26 3.35 0 3.35	3.35
low10GDPsh~e	26 2.239615 .2861955 1.8	2.7
gender_equ~y	26 3.5 0 3.5	3.5
frag	26 .0226923 .1157085 0	.59
-> country_conflict =		Burundi
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.105237 .2523165 4.682266	5.587658
oilrents	26 0 0 0	0
ssf_km2	26 1167.846 688.7712 288	2240
milexp_GDP	23 .0464347 .0181106 .0200809	.0803664
male_employ	26 10.27692 .1242826 9.9	10.4
urban	26 8.653846 1.765045 6	12
ethnic_polar	26 .51 0 .51	.51

ln_pop	25 15.7858 .1886573 15.511	16.13422
gdp_growth	25 1.297981 4.150113 -8	5.384657
gdplowtenpc	25 53.039 18.96149 34.56466	101.5015
polityIV_2	26 1.269231 4.754431 -7	6
cpia	25 3.011024 .538379 1.962	4
corruption	26 2.4 0 2.4	2.4
low10GDPsh~e	26 3.110769 .4265857 2.41	3.8
gender_equ~y	26 3.8 0 3.8	3.8
frag	26 .25 0 .25	.25
-> country_conflict =		Cameroon
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 6.770867 .2642173 6.36835	7.193836
oilrents	25 7.24 2.067204 4	12
ssf_km2	26 43.87223 9.588623 24.57627	50
milexp_GDP	26 .0137661 .0008622 .0122484	.0153261
male_employ	26 9.076923 2.382487 5	14
urban	26 46.5 4.571652 39	54
ethnic_polar	26 .89 0 .89	.89
ln_pop	26 16.61802 .2018999 16.27655	16.94109
gdp_growth	24 2.33379 3.669432 -7.932067	5.561688
gdplowtenpc	25 225.3482 58.49887 145.7737	332.8
polityIV_2	26 -4.461538 1.30325 -8	-4
cpia	25 2.960194 .4391549 1.7	3.375
corruption	26 2.5 0 2.5	2.5
low10GDPsh~e	26 2.5 0 2.5	2.5
gender_equ~y	26 3.2 0 3.2	3.2
frag	26 .58 0 .58	.58
-> country_conflict =		Central African Republic
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.881277 .2434047 5.526857	6.204409
oilrents	25 0 0 0	0
ssf_km2	26 7.005936 2.591438 4.099679	12.86174
milexp_GDP	14 .0140275 .003746 .0104929	.0245038
male_employ	26 10.38462 .3015854 10.2	11.4
urban	26 37.92308 .9347974 37	40
ethnic_polar	26 .79 0 .79	.79
ln_pop	25 15.11442 .1447664 14.86339	15.34513

gdp_growth	25 1.141739 8.812098 -35.99997	8.907132
gdplowtenpc	25 48.87179 20.01389 26.59394	89.08669
polityIV_2	26 .5384615 4.110774 -7	5
cpia	25 2.464028 .2870929 1.638	3
corruption	26 2.5 0 2.5	2.5
low10GDPsh~e	26 1.338462 .3655975 .8	1.9
gender_equ~y	26 2.5 0 2.5	2.5
frag	26 .21 0 .21	.21
-> country_conflict	=	Chad
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.939526 .6747661 5.117103	6.960027
oilrents	11 32.72727 11.13635 12	46
ssf_km2	0	
milexp_GDP	22 .0311224 .0267406 .0091612	.1053988
male_employ	26 10.25769 .0757527 10	10.4
urban	26 21.73077 .4523443 21	22
ethnic_polar	26 .66 0 .66	.66
ln_pop	25 15.97038 .2517983 15.56725	16.36693
gdp_growth	25 5.986699 8.879404 -15.70984	33.62937
gdplowtenpc	25 108.4368 50.4638 45.04986	187.6944
polityIV_2	26 -2.807692 1.52366 -7	-2
cpia	25 2.662709 .3888294 1.9	3.15
corruption	26 2 0 2	2
low10GDPsh~e	26 2.588462 .6482758 1.5	3.6
gender_equ~y	26 2.5 0 2.5	2.5
frag	26 .59 0 .59	.59
-> country_conflict	=	Congo
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 7.207728 .5614454 6.492493	8.147062
oilrents	25 53.6 11.48913 32	73
ssf_km2	26 34.91992 1.522495 29.91202	36.36364
milexp_GDP	13 .0279242 .0117756 .0168718	.0557603
male_employ	26 10.27308 .0533495 10.2	10.4
urban	26 59.57692 3.624065 54	65
ethnic_polar	26 .67 0 .67	.67
ln_pop	26 14.98761 .2022661 14.65875	15.32069
gdp_growth	25 3.042191 3.439617 -5.493076	8.751656



gdplowtenpc	25 307.9156 222.8922 106.8311	759.7087
polityIV_2	26 -2.807692 4.12814 -8	5
cpia	25 2.578454 .3932576 1.7	3.041667
corruption	26 2.35 0 2.35	2.35
low10GDPsh~e	26 1.846154 .2641678 1.4	2.3
gender_equ~y	26 3 0 3	3
frag	26 .12 0 .12	.12
-> country_conflict =		Cote D'Ivoire
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 6.825513 .2619045 6.401057	7.332328
oilrents	25 2.2556 2.448153 .02	7.8
ssf_km2	26 57.86768 26.12337 42.13836	125.7862
milexp_GDP	18 .0141725 .0025788 .0079872	.0182292
male_employ	22 6.527273 1.070906 6.1	9.9
urban	26 45.23077 4.580897 39	53
ethnic_polar	26 .43 0 .43	.43
ln_pop	25 16.58434 .1593911 16.27605	16.82692
gdp_growth	25 2.064115 3.712741 -4.38726	10.67409
gdplowtenpc	25 218.1114 50.41034 144.5955	321.0769
polityIV_2	26 -1.692308 4.379673 -9	4
cpia	25 2.873492 .4579556 2	3.625
corruption	26 2.4 0 2.4	2.4
low10GDPsh~e	26 2.303846 .121592 2.1	2.5
gender_equ~y	26 2.5 0 2.5	2.5
frag	26 .43 0 .43	.43
-> country_conflict =		Democratic Republic of the Congo
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	27 5.44508 .426176 4.612079	6.11054
oilrents	22 2.618182 .7404223 1.1	3.8
ssf_km2	27 37.36787 18.38933 21.17336	66.60785
milexp_GDP	18 .0158921 .0051914 .0042845	.023618
male_employ	27 14.34074 .1802972 13.8	14.6
urban	27 36.37037 3.649533 30	42
ethnic_polar	27 .59 0 .59	.59
ln_pop	27 17.7498 .2380183 17.33488	18.13136
gdp_growth	27 .823375 6.474869 -13.46905	8.481957
gdplowtenpc	27 55.43744 22.63385 22.15251	99.128

polityIV_2	27 1.222222 4.135525 -9	5
cpia	26 2.130449 .7277016 1	2.975
corruption	27 2 0 2	2
low10GDPsh~e	27 2.2 0 2.2	2.2
gender_equ~y	27 2.7 0 2.7	2.7
frag	27 .67 0 .67	.67
-> country_conflict	=	Ethiopia
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.49761 .4725055 4.680245	6.375132
oilrents	26 0 0 0	0
ssf_km2	24 188.025 78.84753 120	352.5
milexp_GDP	26 .0343883 .0275724 .0070117	.099346
male_employ	26 5.134615 .8717534 4.2	6.4
urban	26 15.30769 1.934306 12	19
ethnic_polar	26 .78 0 .78	.78
ln_pop	25 18.02593 .2149277 17.65357	18.35988
gdp_growth	25 6.005926 6.460493 -8.67248	13.5726
gdplowtenpc	25 94.79802 47.4084 37.72877	199.6014
polityIV_2	26 -1.192308 2.713216 -8	1
cpia	26 3.085648 .5292995 1.8	3.675
corruption	26 2.7 0 2.7	2.7
low10GDPsh~e	26 3.480769 .0401918 3.4	3.5
gender_equ~y	26 3 0 3	3
frag	26 .52 0 .52	.52
-> country_conflict	=	Gabon
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 8.672158 .3869016 8.226591	9.385696
oilrents	25 39.08 6.903622 26	50
ssf_km2	26 30.6944 5.507261 26.07004	37.15953
milexp_GDP	11 .014773 .0036002 .0088612	.0192011
male_employ	26 33.03846 3.043035 29.5	42.5
urban	26 79.69231 5.938143 68	87
ethnic_polar	26 .52 0 .52	.52
ln_pop	26 14.0502 .1816857 13.73933	14.33886
gdp_growth	26 2.855803 3.852905 -8.932623	8.54531
gdplowtenpc	25 1701.608 724.6704 1009.548	3217.51
polityIV_2	26 -2.884615 3.11547 -9	3

cpia	26 2.926923 .5196597 1	3.4
corruption	26 3.2 0 3.2	3.2
low10GDPsh~e	26 2.7 0 2.7	2.7
gender_equ~y	26 2.5 0 2.5	2.5
frag	26 .11 0 .11	.11
-> country_conflict	=	Guinea
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 6.021821 .160415 5.652606	6.242628
oilrents	26 0 0 0	0
ssf_km2	26 50.31397 .2464624 50.20408	51.02041
milexp_GDP	15 .021819 .0083279 .0117267	.0377102
male_employ	26 2.780769 .565699 1.8	4.1
urban	26 32.07692 2.855494 28	37
ethnic_polar	26 .84 0 .84	.84
ln_pop	26 15.9996 .2098096 15.56711	16.32312
gdp_growth	24 3.326746 1.37688 -.2801923	5.181603
gdplowtenpc	25 92.92769 28.77514 54.85295	164.5466
polityIV_2	26 -1.461538 2.77461 -7	4
cpia	26 2.91921 .234275 2.4	3.2
corruption	26 2.25 0 2.25	2.25
low10GDPsh~e	26 2.280769 .6112409 1.3	3.3
gender_equ~y	26 3.5 0 3.5	3.5
frag	26 .4 0 .4	.4
-> country_conflict	=	Guinea-Bissau
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	26 5.761222 .4330065 5.098647	6.491457
oilrents	27 0 0 0	0
ssf_km2	27 304.2302 44.39321 230.3571	330.3571
milexp_GDP	16 .0135793 .0067734 .0018035	.0227928
male_employ	27 10.32963 .1381604 10.2	10.9
urban	27 38.2963 6.626374 27	49
ethnic_polar	27 .53 0 .53	.53
ln_pop	27 14.13094 .1702604 13.84778	14.40358
gdp_growth	26 2.091592 6.924536 -28.09998	11.6
gdplowtenpc	26 77.86658 26.01812 40.95002	131.8968
polityIV_2	27 1.962963 4.839592 -8	6
cpia	26 2.710793 .1934482 2.4	3.3

corruption	27 2.35 0 2.35	2.35
low10GDPsh~e	27 2.318519 .2572593 1.9	2.7
gender_equ~y	27 2.5 0 2.5	2.5
frag	27 .05 0 .05	.05
-> country_conflict =		Kenya
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 6.240529 .4827864 5.405376	7.127302
oilrents	26 0 0 0	0
ssf_km2	26 50.88009 1.032663 48.50615	51.3181
milexp_GDP	26 .0178696 .0040603 .0118697	.0288821
male_employ	26 16.87692 .0651628 16.8	17
urban	26 20.57692 2.68586 16	25
ethnic_polar	26 .38 0 .38	.38
ln_pop	25 17.28301 .2017766 16.93641	17.60771
gdp_growth	25 3.50348 2.422614 -.799494	8.405699
gdplowtenpc	25 110.3547 67.00165 37.842	261.5575
polityIV_2	26 1.884615 6.313965 -7	9
cpia	26 3.484615 .3836931 2.6	4
corruption	26 3 0 3	3
low10GDPsh~e	26 1.85 .1726267 1.6	2.1
gender_equ~y	26 3.2 0 3.2	3.2
frag	26 .47 0 .47	.47
-> country_conflict =		Lesotho
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 6.332769 .4270391 5.661415	7.109491
oilrents	26 0 0 0	0
ssf_km2	25 66.66666 0 66.66666	66.66666
milexp_GDP	26 .0303647 .0078665 .0167727	.0492518
male_employ	26 32.35 3.970113 26.1	38.4
urban	26 20.34615 4.068831 13	27
ethnic_polar	26 .34 0 .34	.34
ln_pop	26 14.43307 .0828223 14.26655	14.56182
gdp_growth	25 4.162024 1.854649 .4020317	7.255418
gdplowtenpc	25 55.49729 25.44414 25.87996	110.1172
polityIV_2	26 4.923077 5.563618 -7	8
cpia	25 3.303567 .3592395 2.2	3.75
corruption	26 3.5 0 3.5	3.5

low10GDPsh~e	26 .9 0 .9	.9
gender_equ~y	26 4 0 4	4
frag	26 0 0 0	0
-> country_conflict	=	Liberia
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.154482 .5566696 4.171462	6.11884
oilrents	26 0 0 0	0
ssf_km2	26 69.35096 47.94399 20.83333	135.4167
milexp_GDP	11 .0068288 .0024051 .0036176	.0119242
male_employ	26 3.903846 .5915949 3.4	5.7
urban	26 47.80769 3.929572 43	58
ethnic_polar	26 .39 0 .39	.39
ln_pop	25 14.86428 .2643307 14.51183	15.27275
gdp_growth	25 5.103776 30.93215 -51.03086	106.2798
gdplowtenpc	7 79.37729 21.8235 50.35538	109.041
polityIV_2	26 2.192308 3.286569 -6	6
cpia	20 1.340417 1.078153 0	3.125
corruption	9 3 0 3	3
low10GDPsh~e	8 2.4 0 2.4	2.4
gender_equ~y	26 2.7 0 2.7	2.7
frag	26 .55 0 .55	.55
-> country_conflict	=	Mali
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.862546 .4130614 5.23564	6.52331
oilrents	26 0 0 0	0
ssf_km2	26 9.815574 .6981423 6.393443	9.959017
milexp_GDP	24 .0155712 .0016741 .0134711	.0211201
male_employ	26 8.015385 1.646011 0	8.8
urban	26 30.07692 5.106256 23	39
ethnic_polar	26 .42 0 .42	.42
ln_pop	26 16.27573 .2254594 15.9345	16.65377
gdp_growth	25 4.614097 3.635743 -2.139403	12.1
gdplowtenpc	25 105.624 71.18026 33.77377	237.4252
polityIV_2	26 5.038462 4.01478 -7	7
cpia	25 3.396468 .2689804 2.7	3.708333
corruption	26 3.35 0 3.35	3.35
low10GDPsh~e	26 2.565385 .6979641 1.4	3.7

gender_equ~y	26 3.3 0 3.3	3.3
frag	26 .08 0 .08	.08
-> country_conflict	=	Mauritania
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 6.451617 .3399778 5.987807	7.023717
oilrents	8 8.125 5.743008 4	21
ssf_km2	26 19.70874 1.086754 16.60194	20.26214
milexp_GDP	23 .0317877 .0071464 .0186244	.0401594
male_employ	26 45.03077 .526702 44.4	46.1
urban	26 50.23077 5.826201 41	59
ethnic_polar	26 .54 0 .54	.54
ln_pop	26 14.85269 .2188289 14.49297	15.19418
gdp_growth	25 3.573989 3.713953 -4.044697	11.44466
gdplowtenpc	25 173.4823 83.65276 95.70253	336.8859
polityIV_2	26 -4.576923 2.500769 -7	4
cpia	25 3.279174 .4284537 2	3.9
corruption	26 2.6 0 2.6	2.6
low10GDPsh~e	26 2.526923 .3617266 2	3.1
gender_equ~y	26 3.9 0 3.9	3.9
frag	26 0 0 0	0
-> country_conflict	=	Mozambique
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.57871 .4703568 4.913727	6.405285
oilrents	25 .0508 .0668905 0	.16
ssf_km2	25 24.37659 29.23128 2.544529	97.96438
milexp_GDP	26 .0174739 .0140965 .0080947	.0594349
male_employ	26 13.94231 .0757528 13.9	14.2
urban	26 28.88462 2.250812 24	32
ethnic_polar	26 .5 0 .5	.5
ln_pop	25 16.74455 .2055739 16.41037	17.06719
gdp_growth	25 6.486377 3.534875 -5.104722	11.89893
gdplowtenpc	25 57.21358 24.46952 28.59064	108.9062
polityIV_2	26 2.807692 4.595817 -7	6
cpia	25 3.296585 .3522723 2.484959	3.741667
corruption	26 3 0 3	3
low10GDPsh~e	26 1.984615 .1488417 1.7	2.2
gender_equ~y	26 3.5 0 3.5	3.5

frag	26 .3 0 .3	.3
-> country_conflict =		Namibia
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 7.950918 .398005 7.448269	8.646307
oilrents	25 0 0 0	0
ssf_km2	23 449.8447 132.2458 203.5714	542.8571
milexp_GDP	25 .0317803 .0134247 .0175123	.0811324
male_employ	26 34.9 6.379593 29.3	55.4
urban	26 34.26923 5.639558 27	45
ethnic_polar	0	
ln_pop	26 14.44475 .161731 14.12367	14.69217
gdp_growth	25 4.158073 2.832063 -1.579539	12.26955
gdplowtenpc	25 366.0291 205.561 168.4614	796.4738
polityIV_2	26 6 0 6	6
cpia	26 3.5 0 3.5	3.5
corruption	26 3.5 0 3.5	3.5
low10GDPsh~e	26 1.146154 .1630479 .9	1.4
gender_equ~y	26 4.5 0 4.5	4.5
frag	0	
-> country_conflict =		Niger
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.514501 .2942873 5.076538	6.000125
oilrents	23 .8956522 2.538338 0	9.2
ssf_km2	26 8.099404 .8428473 6.161138	8.451817
milexp_GDP	17 .0107422 .001407 .008614	.0134581
male_employ	26 7.3 0 7.3	7.3
urban	26 16.5 .9486833 15	18
ethnic_polar	26 .7 0 .7	.7
ln_pop	26 16.29403 .2802274 15.85299	16.76592
gdp_growth	25 3.27864 4.059917 -6.516445	11.04123
gdplowtenpc	25 79.73917 29.72008 46.69342	141.2177
polityIV_2	26 3.076923 5.23009 -7	8
cpia	25 2.888 .5768593 1.7	3.5
corruption	26 2.95 0 2.95	2.95
low10GDPsh~e	26 3.05 .3062679 2.6	3.5
gender_equ~y	26 2.5 0 2.5	2.5
frag	26 .22 0 .22	.22

-> country_conflict	=	Nigeria
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 6.327552 .8971126 5.030936	8.008204
oilrents	25 32.92 10.91223 14	62
ssf_km2	26 141.9569 40.11752 86.26373	178.022
milexp_GDP	26 .0077068 .0029066 .0040527	.0156455
male_employ	26 14.04231 .2610335 13.7	15
urban	26 37 5.51362 29	47
ethnic_polar	26 .4 0 .4	.4
ln_pop	25 18.65543 .1893312 18.35004	18.97235
gdp_growth	25 5.776835 6.677702 -.6178506	33.73578
gdplowtenpc	25 161.624 165.0023 29.08447	571.0476
polityIV_2	26 .4230769 4.72587 -7	4
cpia	25 2.889784 .5325776 1.6	3.575
corruption	26 3 0 3	3
low10GDPsh~e	26 1.9 0 1.9	1.9
gender_equ~y	26 3 0 3	3
frag	26 .55 0 .55	.55
-> country_conflict	=	Rwanda
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.722675 .415322 4.879463	6.459381
oilrents	25 0 0 0	0
ssf_km2	26 1511.859 941.474 258.3333	3208.333
milexp_GDP	26 .0284836 .0146344 .0110728	.0550917
male_employ	26 1 0 1	1
urban	26 15.96154 7.356525 5	28
ethnic_polar	26 .4 0 .4	.4
ln_pop	25 15.92949 .232104 15.54961	16.28162
gdp_growth	25 5.18196 13.90936 -50.24807	35.22408
gdplowtenpc	25 64.04549 29.80675 24.99639	127.7332
polityIV_2	26 -4.692308 1.619117 -7	-3
cpia	25 3.209411 .7493623 1.2	3.925
corruption	26 3.4 0 3.4	3.4
low10GDPsh~e	26 1.911538 .0711445 1.8	2
gender_equ~y	26 3.8 0 3.8	3.8
frag	26 .18 0 .18	.18
-> country_conflict	=	Sierra Leone



Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.627747 .4320048 5.034363	6.520564
oilrents	26 0 0 0	0
ssf_km2	23 130.5573 53.21012 42.25352	211.2676
milexp_GDP	24 .0174054 .0089949 .0054304	.0366596
male_employ	26 7.153846 .1630479 6.6	7.2
urban	26 40.92308 1.293772 39	43
ethnic_polar	26 .6 0 .6	.6
ln_pop	25 15.34644 .1632049 15.18153	15.6225
gdp_growth	25 2.583571 7.946066 -19.01291	26.26858
gdplowtenpc	25 84.49572 54.44933 32.13933	230.8467
polityIV_2	26 1.5 5.686827 -7	7
cpia	25 2.81446 .5771557 1.2	3.5
corruption	26 2.8 0 2.8	2.8
low10GDPsh~e	26 2.619231 .4647746 1.9	3.4
gender_equ~y	26 3 0 3	3
frag	26 .52 0 .52	.52
-> country_conflict =		Senegal
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 6.560751 .2889313 6.125731	6.998123
oilrents	26 .001 .0012649 0	.004
ssf_km2	26 87.31931 16.24583 50.58333	96.875
milexp_GDP	26 .0160598 .002079 .0133263	.0211206
male_employ	26 11.22692 .1079173 11.1	11.5
urban	26 36.07692 2.057631 33	40
ethnic_polar	26 .56 0 .56	.56
ln_pop	26 16.14838 .2080178 15.80138	16.50149
gdp_growth	0	
gdplowtenpc	25 174.7995 64.1297 96.07059	281.0942
polityIV_2	26 3.884615 4.283241 -1	8
cpia	25 3.381621 .4749643 2.3	3.816667
corruption	26 3.2 0 3.2	3.2
low10GDPsh~e	26 2.35 .2249444 2	2.7
gender_equ~y	26 3.5 0 3.5	3.5
frag	26 .04 0 .04	.04
-> country_conflict =		Somalia
Variable	Obs Mean Std. Dev. Min	Max

ln_gdppc	24 5.232882 .3098739 4.488636	5.700444
oilrents	27 0 0 0	0
ssf_km2	12 7.735247 7.879234 3.189793	31.89793
milexp_GDP	0	
male_employ	0	
urban	27 34.22222 3.226493 29	39
ethnic_polar	27 .68 0 .68	.68
ln_pop	27 15.85753 .1826566 15.65117	16.16856
gdp_growth	25 .413164 1.780485 -.3650562	8.849967
gdplowtenpc	0	
polityIV_2	27 .037037 2.579229 -7	5
cpia	27 1.703704 .2503559 1.5	2
corruption	27 1.2 0 1.2	1.2
low10GDPsh~e	0	
gender_equ~y	27 2.5 0 2.5	2.5
frag	0	
-> country_conflict	=	South Africa
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 8.373742 .3422265 7.838142	8.997254
oilrents	25 .074 .0851959 0	.29
ssf_km2	26 108.3911 63.96973 50.86491	228.9127
milexp_GDP	26 .0182551 .0088201 .0112536	.0435788
male_employ	26 43.64615 4.448841 30.7	52
urban	26 57.80769 3.888642 52	64
ethnic_polar	26 .72 0 .72	.72
ln_pop	26 17.60073 .1375783 17.3562	17.80453
gdp_growth	25 2.51677 2.076533 -2.137042	5.585046
gdplowtenpc	25 467.1921 160.6853 253.549	808.0865
polityIV_2	26 8.346154 1.49512 4	9
cpia	26 3.9 4.53e-16 3.9	3.9
corruption	26 3.4 0 3.4	3.4
low10GDPsh~e	26 1.023077 .0651625 1	1.2
gender_equ~y	26 5 0 5	5
frag	26 .39 0 .39	.39
-> country_conflict	=	Sudan
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	26 6.627022 .6042854 5.777602	7.521806

oilrents	23 10.18783 8.635872 0	27
ssf_km2	25 77.2058 34.26397 40.03224	142.0204
milexp_GDP	17 .0297571 .0103015 .0095431	.0465648
male_employ	27 22.04444 .1601283 22	22.6
urban	27 32.22222 1.502135 27	34
ethnic_polar	27 .7 0 .7	.7
ln_pop	27 17.17565 .211254 16.77538	17.48801
gdp_growth	26 3.846263 5.431544 -10.1	11.51573
gdplowtenpc	26 234.9567 145.6931 83.9758	480.4545
polityIV_2	24 -5.625 1.837117 -7	-2
cpia	25 2.036 .6143006 1	2.608333
corruption	0	
low10GDPsh~e	27 2.6 0 2.6	2.6
gender_equ~y	27 2.2 0 2.2	2.2
frag	27 .29 0 .29	.29
-> country_conflict =		Uganda
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 5.722363 .40718 5.024446	6.488248
oilrents	24 0 0 0	0
ssf_km2	26 268.3327 47.98651 206.0914	355.33
milexp_GDP	26 .0232647 .0058916 .013242	.0391867
male_employ	26 5.073077 1.028614 3.2	6.8
urban	26 12.73077 1.457606 11	16
ethnic_polar	26 .28 0 .28	.28
ln_pop	25 17.04263 .2430218 16.64416	17.44195
gdp_growth	25 6.781875 2.261461 3.141907	11.52324
gdplowtenpc	25 78.52796 35.63595 34.97977	157.769
polityIV_2	26 -3.307692 2.131089 -7	-1
cpia	25 3.653696 .3551989 2.9	4.1
corruption	26 2.55 0 2.55	2.55
low10GDPsh~e	26 2.353846 .0508392 2.3	2.4
gender_equ~y	26 3.5 0 3.5	3.5
frag	26 .53 0 .53	.53
-> country_conflict =		Zimbabwe
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 6.37781 .2682779 5.790569	6.808471
oilrents	26 0 0 0	0

ssf_km2	0	
milexp_GDP	12 .028455 .0156731 .0104069	.0733398
male_employ	26 12.41654 4.152184 7	20.2
urban	26 32.57692 1.747526 28	35
ethnic_polar	26 0 0 0	0
ln_pop	26 16.34622 .1067647 16.13642	16.53982
gdp_growth	25 .5904741 8.192756 -17.66895	11.90541
gdplowtenpc	0	
polityIV_2	0	
cpia	25 2.573475 .6594844 1.4	3.4
corruption	26 1.35 0 1.35	1.35
low10GDPsh~e	0	
gender_equ~y	26 2.7 0 2.7	2.7
frag	26 0 0 0	0
-> country_conflict =		algeria
Variable	Obs Mean Std. Dev. Min	Max
ln_gdppc	25 7.79542 .4667906 7.261676	8.58685
oilrents	25 19.2 6.557439 9	32
ssf_km2	0	
milexp_GDP	26 .0326342 .0099981 .0121083	.0535911
male_employ	26 32.84231 9.277248 19.1	46.1
urban	26 61.57692 5.886752 51	70
ethnic_polar	26 .51 0 .51	.51
ln_pop	25 17.28135 .1227314 17.05719	17.4844
gdp_growth	25 2.844508 2.231274 -2.100001	7.2
gdplowtenpc	25 786.9953 398.4567 413.1463	1554.603
polityIV_2	26 -1.230769 3.128037 -7	2
cpia	26 2.911538 .58057 1.9	3.5
corruption	26 3.3 0 3.3	3.3
low10GDPsh~e	26 2.9 0 2.9	2.9
gender_equ~y	26 3.75 0 3.75	3.75
frag	26 0 0 0	0

### *Summary Statistics of Regression Variables by Reference Behavior Type*

**Table 2 Summary Statistics of Regression Variables by Reference Behavior Type**

-> SDTYPE = 1

Variable	Obs	Mean	Std. Dev.	Min	Max
oilrents	138	2.622101	9.387639	0	46
ssf_km2	127	666.4571	787.446	20.83333	3208.333
ln_pop	152	15.76928	1.033962	14.12367	17.80453
gdplowtenpc	132	204.7288	205.1286	24.99639	808.0865
polityIV_2	156	1.717949	5.233632	-7	9
gender_equ~y	156	3.716667	.8962166	2.5	5
ethnic_polar	130	.536	.1344734	.39	.72
frag	130	.392	.16142	.18	.59
type	156	1.666667	.7477565	0	2
forest	156	16.36667	14.39294	7.6	48
ln_human_t~d	147	-3.653881	2.318929	-8.638258	.0268071
anninfmtort~y	156	127.2923	62.88798	41.4	299.6
ln_mile~_aid	127	-1.170656	1.878715	-6.31004	4.269493
scaled_usm~t	84	5.918993	12.45204	0	61.69116
ln_gdppc	150	6.37443	1.384321	4.171462	8.997254
ln_aid_per~p	150	-2.449681	1.661112	-7.704463	.6880941
scaled_unr~p	156	25.9494	87.73772	0	946.96
~l_sa_mm_tmp	156	2.328256	4.651077	0	18
-> SDTYPE = 2					
Variable	Obs	Mean	Std. Dev.	Min	Max
oilrents	181	13.76243	23.32128	0	73
ssf_km2	178	99.91372	97.56806	6.393443	330.3571
ln_pop	180	15.36318	.8741671	13.84778	16.88224
gdplowtenpc	175	153.5185	221.6414	25.87996	1405.358
polityIV_2	183	.9617486	5.226061	-8	8
gender_equ~y	174	3.2	.4554106	2.5	4
ethnic_polar	183	.5681421	.1524555	.34	.84
frag	183	.2503279	.2270424	0	.59
type	183	1.797814	.4776265	0	2
forest	183	38.56831	25.35906	1	75
ln_human_t~d	157	-3.685318	1.743677	-10.56152	-.6201745
anninfmtort~y	182	162.9797	57.98401	47.1	265.2
ln_mile~_aid	134	-1.742229	1.5473	-6.813139	2.752157
scaled_usm~t	103	3.051039	12.85057	0	128.6283
ln_gdppc	175	6.274932	.7958725	5.034363	8.662742
ln_aid_per~p	176	-2.14426	1.094035	-6.087308	.4951233

scaled_unr~p	183	7.394742	29.52463	0	207.804
~l_sa_mm_tmp	183	9.342842	67.47227	0	652.8
-> SDTYPE = 3					
Variable	Obs	Mean	Std. Dev.	Min	Max
oilrents	186	8.63543	13.45569	0	50
ssf_km2	199	40.93076	35.00786	2.544529	178.022
ln_pop	215	16.24231	1.22032	13.73933	18.97235
gdplowtenpc	183	360.4065	606.5643	22.15251	3217.51
polityIV_2	214	-1.742991	4.167201	-9	6
gender_equ~y	217	2.992627	.5612824	2.2	3.9
ethnic_polar	191	.624555	.131328	.4	.89
frag	190	.2923684	.2489559	0	.67
type	217	1.769585	.6400205	0	2
forest	217	38.91613	26.89128	.3	85
ln_human_t~d	191	-3.786984	2.599738	-10.34675	-.1758078
anninfmtort~y	215	132.7856	41.77261	52.3	242.8
ln_mile~_aid	147	-1.822038	1.140986	-4.196683	1.153862
scaled_usm~t	123	16.21612	43.90459	0	246.6
ln_gdppc	207	6.360083	1.118649	4.488636	9.385696
ln_aid_per~p	206	-2.32983	1.227956	-6.294655	.9429767
scaled_unr~p	216	31.94476	80.95439	0	399.72
~l_sa_mm_tmp	217	7.743318	34.016	0	264
-> SDTYPE = 4					
Variable	Obs	Mean	Std. Dev.	Min	Max
oilrents	246	5.243967	11.46199	0	62
ssf_km2	200	98.0124	93.86492	4.099679	355.33
ln_pop	248	16.82903	.9405953	14.86339	18.83417
gdplowtenpc	220	189.2305	260.8438	26.59394	1554.603
polityIV_2	228	.1666667	4.7943	-9	9
gender_equ~y	254	3.015354	.4465286	2.5	3.75
ethnic_polar	254	.4849606	.2332444	0	.79
frag	254	.2910236	.2165918	0	.55
type	254	1.771654	.5787949	1	3
forest	254	22.05591	17.1765	.7	48
ln_human_t~d	238	-4.016205	2.2109	-10.96989	-.6172625
anninfmtort~y	254	127.8043	60.32464	25.6	332.9
ln_mile~_aid	202	-1.348217	1.371804	-3.473125	3.375744

scaled_usm~t	139	4.911637	7.847186	0	40.72273
ln_gdppc	245	6.245271	.7740691	4.680245	8.58685
ln_aid_per~p	245	-2.596636	1.138982	-7.248315	-.8962762
scaled_unr~p	254	6.029776	23.37047	0	144.936
~l_sa_mm_tmp	254	3.558661	9.376932	0	63

## Correlation/Independence Check of Select Independent Variables

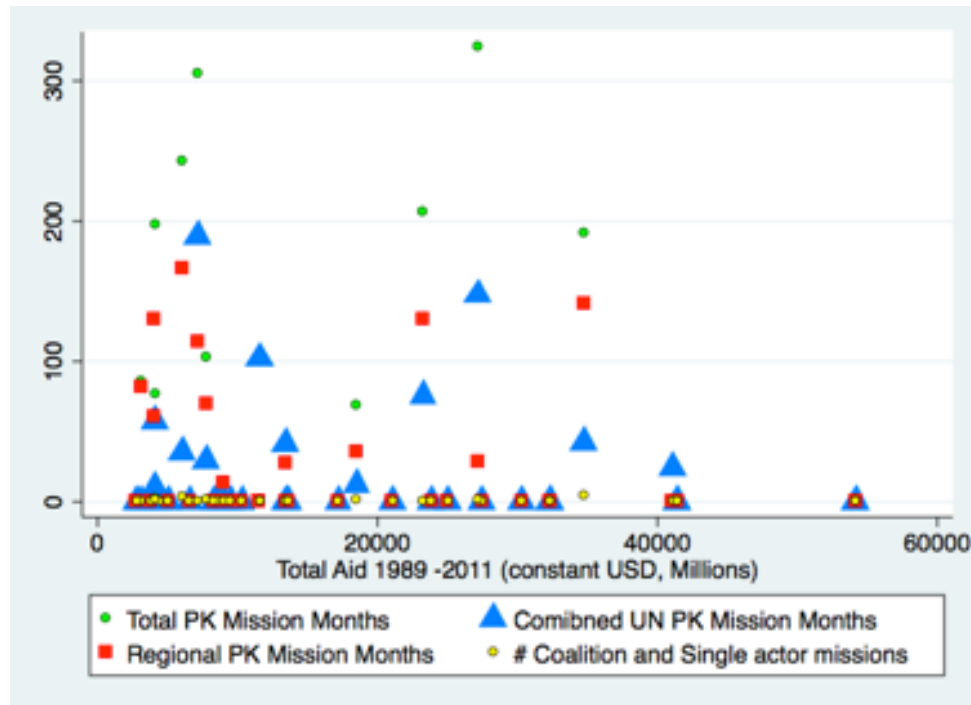
The following correlations are evaluated using pairwise correlation statistical algorithms in STATA, conditioned on having statistical significance in the 90% confidence level to report correlation coefficients.

- GDP
  - Strong positive correlation with population, military expenditure, landmass, aid
  - Weak positive correlation with US military assistance, percent GDP oil
  - Moderate negative correlation with aid per capita, humanitarian aid, number of regional and single actor troop-mission months
- Polity
  - Weak, positive correlation with conflict involving religious extremists; military expenditure per capita, GINI coefficient
  - Weak negative correlation with conflict involving ethnic factions
  - Strong, negative correlation with oil income
- Infant mortality
  - Strong positive correlation with coups, social fragmentation
  - Strong negative correlation with oil income, annual aid, military expenditure per capita, **polity**

- Institutional capacity (CPIA)
  - Weak negative correlation with peace agreements, type of war, sanctions, gender inequality
  - Weak positive correlations with number of marginalized groups, GDP growth, higher GDP per capita of lowest decile
- Border Conflict
  - Strong negative correlation with oil rent, military expenditure per capita, annual aid
  - Strong positive correlation with **number belligerents**, ethnic conflict and social fragmentation
- Number of belligerents has strong positive correlation with ethnic conflict, social fragmentation, and involvement of religious extremists
- Military expenditure per capita has strong positive correlation with coups
- US military assistance
  - Strong positive correlation with social fragmentation, **number of belligerents**, and annual aid
  - Weak positive correlation with GDP per capita of lowest decile
  - Moderate negative correlation with GDP per capita,
- Annual combined aid
  - Strong negative correlation with coup
  - Strong positive correlation with social fragmentation, ethnic conflict, number belligerents, religious extremists

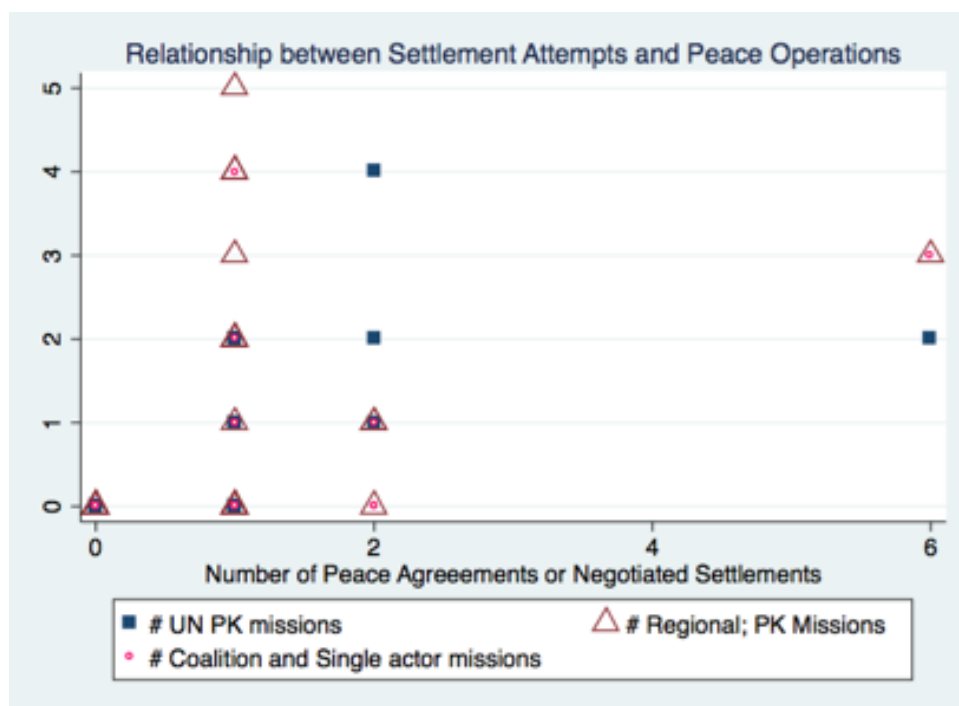


- State armed forces have strong positive correlation with ln GDP, percent GDP oil, military expenditures, military expenditures per capita, percent urban population (and access to electricity)
- Ratio of military expenditures to humanitarian aid
  - Strongly and positively correlated with HDI, GDP per capita, oil as % GDP, change in infant mortality rates
  - Negatively correlated with military expenditures as % GDP, aid as % GDP, and gender inequality
- Ratio of military expenditures to total aid
  - Positively correlated with GDP, HDI, state security forces and oil as % GDP
  - Negatively correlated with gender inequality, troop mission months of peace operations
- Total aid and PK Mission months show a slight negative correlation (-.16) but the correlation is not statistically significant (see figure below).



**Figure 2 Independence Between Aid and Peace Keeping Mission Months. Aid Data Source: AidData.org**

- Total aid and # belligerent groups show a slight correlation (-.1) but with no statistical significance.
- Annual humanitarian aid as percent of total aid has weak to moderate positive correlation with all types of peace operations, but is most strongly correlated with regional missions other than African Union (.32) and UN (.22).
- UN PK Mission months, Regional PK mission months, and Coalition PK Mission months are independent from each other. The number of PK missions and number of peace agreements or negotiated settlements is weakly correlated but the correlation is not statistically significant. (See figure below)
- Regional and single actor troop missions months have moderate positive correlation with percent GDP from oil, forest cover



**Figure 3 Relationship Between Number of Peace Agreements and Negotiated Settlements and Number of Peace Keeping Missions**

## **Appendix C: Field Interviews**

Field Research Plan: Europe

Field Research Plan: Ethiopia

Field Research Plan: Burundi and Uganda

Field Research Plan: Kenya

IRB Humans Subject Review Approval and Forms

Field Research Plan: General

Introduction Letter

Research abstract

Script for recruiting military officers and personnel as interview subjects

Consent Form

Supporting Document for Hayden IRB Application: Structured Interview

Questions Regarding Foreign Aid Interventions

Supporting Document for Hayden IRB Application: Simplified Peacekeeping

Questions

IRB Approval Letter

## Local and Regional Dynamics of Interventions in Somali Conflict: *Field Research Plan for Interviews in Europe July 9 – 24, 2014*

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July 3, 2014

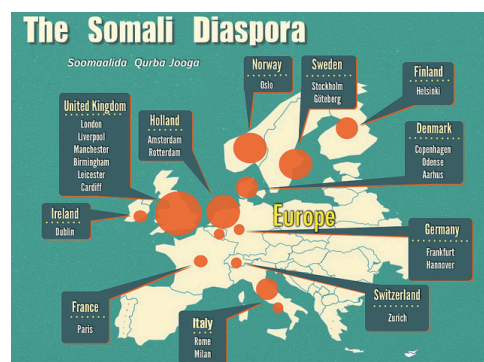
### Background

My research examines the combined effects of third-party peacekeeping, humanitarian aid, and development interventions on resiliency of different actors in civil conflict, using Somalia as a case study. Understanding the integrated effects of these interventions over time requires knowledge of what is happening on the ground among stakeholders and primary actors at the local and regional level, how these dynamics impact the broader conflict, and the result on both local and regional interests. I will conduct interviews with program managers and researchers at the headquarters of key international organizations responsible for some of these interventions to glean their understanding of mandates, their theoretical frameworks for program design and assessing impacts, and access to available data on interventions and their effects on capacities where possible.

### *Fight or Flight*

Several capital cities in Europe host international organizations and research institutions with long-standing interests and programs to address the Somali conflict and its impact on human security and resiliency of actors in conflict. The United Nations (UN) Office in Geneva, with its focus on disarmament research (through UN Institute for Disarmament Research, or UNIDIR) and refugees (through the Office of the UN High Commissioner for Refugees, or UNHCR) are of particular interest for assessing the capacity of fighters in the conflict, and the impact on those displaced by the conflict. In addition, the Center on Conflict, Development and Peacebuilding and the Small Arms Survey at the Graduate Institute of Geneva provide peacebuilding research to the UN on factors that potentially impact resiliency of conflict actors as well as the general populace.

### *The Diaspora*



The UNDP has estimated that remittances from the Somali Diaspora exceeded \$1B USD in 2004 and has continued to rise ever since, representing as much as 25% of household income, with over 40% of households receiving assistance. In conflict and peacebuilding, these remittances can

be a two-edged sword - supporting local clans in times of conflict as well as local reconciliation and state building.<sup>277</sup> The distribution of these remittances and impacts on human security and conflict is a key variable in my research. The Netherlands has received one of the largest influxes of Somalia Diaspora in Europe. Since 1998, this community has organized to provide extensive interventions involving provision of services, building social capital, and advocacy in their homeland through the Himlio Relief and Development Association (HIRDA). These programs, which are led by Somali's in partnership with other international actors, are of great interest.

### **Data Gathering and Interviews**

In Geneva, I will interview program managers and researchers associated with the following organizations on their programs in Somalia. :

- UNIDIR Weapons of Societal Disruption Program - engaged since January 2014 with Federal Government of Somalia on weapons and ammunition management (WAM), as a result of the UN Security Council decision in 2013 to partially lift arms embargo in Somalia, in order to support the newly formed government
- Small Arms Survey at The Graduate Institute of Geneva – conducting on-the-ground research in Horn of Africa on the presence of small arms, and factors that impact legal and illicit trade
- Center on Conflict, Development, and Peacebuilding at the Graduate Institute of Geneva – engaged in research on role of civil society and peacebuilding with focus on Somalia as a case study for last 20 years.
- Office of the UN High Commissioner for Refugees (UNHCR) – longitudinal data gathering on distribution of displaced persons and refugees from Somalia conflict, and UNHCR programs to provide services to the displaced and refugees.

In The Netherlands, I will interview program managers associated with the relief and development programs managed by HIRDA in Somalia, with emphasis on how they mobilize the Somali Diaspora to be directly involved.

### **Interview and Discussion Questions:**

The questions fall into three broad categories:

- understanding perceived conflict drivers and impact from local and regional perspectives,
- understanding the intended scope and outcomes of interventions, and factors that affect success in achieving those outcomes, and
- relationships between peace operations, development, and humanitarian aid interventions.

Observations of the impact of interventions on resiliency of different actors, challenges and opportunities in those interventions, and unintended consequences are of particular interest. Sample questions are provided below.

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<sup>277</sup> [UNDP, March 2009, "Somalia's Missing Million: The Somalia Diaspora and its Role in Development."](#)

### **How Information Will Be Used:**

My dissertation explores how interventions impact conflict outcomes through intervening variables associated with resiliency. Discussions and responses to interviews will inform a model to establish a baseline and examine alternative scenarios for sequencing and layering of interventions to achieve more stable equilibrium at local and regional levels. This model will then be used to test hypotheses and explore future policy options.

### **Sample Discussion and Interview Questions**

#### ***Background***

What is the primary area of operations/concern for interventions?  
 How long have you been concerned with/active in this area of operations?  
 How do you interact with the local community in the area of operations?  
 What is the local language and how do you deal with any differences?  
 What conflict assessment method, if any, do you employ?

#### ***Perspectives of Local Conflict Drivers***

1. What is the primary conflict in the area of operations? What is your understanding of the root causes and conflict drivers? How have those changed over time? What are contributing factors and how do they mitigate or amplify the drivers? How do your activities address these root causes?
2. What is your understanding of who the key stakeholders are in the conflict?
  - a) What are the underlying interests of these stakeholders?
  - b) What are their perceptions of the conflict?
  - c) What actions have the different key stakeholders taken to support (or oppose) peacebuilding? What are their capacities for taking action?
3. What are the primary sources and means of power (physical, military, spiritual, personal ability and skills, identity, social capital) of the key stakeholders and how do they use these resources in conflict?
4. How do sources of power differ among identity groups in the area of operations? Men and women? How do different groups use power over each other? Do some key stakeholders depend on other key stakeholders with more power (e.g., is there a power imbalance) and if so, how?
5. Over time, what have been indicators of conflict escalation or de-escalation in your area of concern/operations? What are potential triggers or windows of opportunity (e.g., key events) remembered by one side or other that lead to conflict escalation?
6. In your experience, are the key stakeholders open to change to reduce conflict in your area of operations, and what do they think is necessary to bring that change about? How do their desired changes relate to your mission for reducing violence and bringing peace and security to their community?

7. In your view, does your presence alter the power dynamics in the local community? If so, in what way(s) and how are conflict drivers affected?
8. In your experience, how do the drivers differ from the local to the regional and national scale?

***Peacebuilding (operations with respect to small arms, weapons, and ammunition management)***

1. What are the intended outcomes and metrics of success for your mission? Who defines those? Do you have any input? How successful do you consider your mission to be today? In the past?
2. Effective peace operations have been attributed to the mechanisms described below. In your experience, how do these relate to the motivations to manage weapons and ammunition in accordance with UN standards versus motivations to engage in diversion and illicit trade? To what extent will these processes be important to the Federal Government of Somalia, the Somali National Army, and AMISOM peace keeping officers in their ability to stabilize and control territory in Somalia with assurances of security in the long term? How do these motivations differ depending on the organization and the level within the organization and geography? Please be specific with examples if known.
  - Changing incentives for aggression relative to maintaining peace --especially through economic and political means
    - Peace dividends (e.g., socio/economic/political gains) for rank-and-file soldiers, political elite, and would-be spoilers
    - Influencing the perceptions of others regarding the legitimacy of different parties to the conflict
    - Military deterrence (increase cost of aggression)
    - Trip wire for enforcement missions from additional third parties
    - Condition aid upon compliance with peace operations
  - Alleviate fear and mistrust
    - Monitor compliance with cease-fires and rule of law, facilitate communication among parties in conflict, allow parties to signal intentions for peace
  - Prevent or control accidents or involuntary defection by hard-liners
    - Deter rogue groups, shift power towards moderates, ease communication, provide on-the-spot mediation, provide law and order, provide alternatives to escalation in response to alleged violations
  - Dissuade parties from political abuse and/or excluding the “other” from the political process
    - Monitor and/or train security sectors inclusively, monitor and/or run election processes, provide neutral interim administration, transform military groups into political operations
3. What other factors contribute to the outcome of your operations that are not mentioned above?
4. What factors are impediments to the success of your peace operations? What would be the most effective way to overcome those impediments?



5. Do you interact with groups that deliver humanitarian aid? What is your role in those interactions? Do those interactions significantly impact the outcomes of your peacekeeping mission (positively or negatively)? In what specific ways?
6. How does the involvement of troops from other countries, or of local militia, impact your ability to conduct effective operations?
7. Do the peace operations at the local level in your area of operations have an impact on the larger scale in the region? If so, how? What do you think may be the implications for sustainability of peacebuilding operations?

***Humanitarian aid and development programs***

1. In your experience, what are the greatest immediate barriers and/or threats to human security? Using concrete examples, how does your mission address those barriers and/or threats?
  - a) How does the ongoing conflict in Somalia specifically impact your mission in Ethiopia and elsewhere in the Horn, if at all?
2. In carrying out your mission, what kind of interactions have you had with local population? What have been the primary social structures through which you have been engaged in implementing humanitarian aid or development programs?
  - a) Have your programs had a positive, negative, or mixed impact on human security and resiliency in the short, medium, and long term<sup>278</sup>? In your view, what is the likelihood that these outcomes will be sustainable?
  - b) What was the level of local involvement in these programs?
  - c) What is your understanding of the intended goals of these programs? How were those communicated to you?
  - d) Do you know who is accountable for the management of these programs?
  - e) In your experience, were there unintended consequences of these programs (positive or negative)? If so, did they impact your peace operations? If so, in what way(s)?
  - f) How have these programs impacted local capacity building for peace building? Social cohesion? Community level trust? National level trust?
3. Based on what you know, what is the level of local support for these programs? Is the level of support consistent across the different stakeholders? If not, who is more supportive and why?
4. From what you have seen, what has been the impact (economically and materially) of these programs in the short, medium, and long term with respect to their intended objectives?
5. How have these programs impacted relationships between people and institutions in positions of power at the local, regional, and national levels?
6. From what you have seen, have these programs been perceived as being accountable and inclusive? What is perceived as positive and why? What is perceived as negative and why?
7. How have these programs affected social cohesion, trust
  - a) within the local community

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<sup>278</sup> Short term is 1 month – 1 year; medium term is 1 – 3 years; long term is 3 – 10 years or more.

- b) with the national government
- 8. Are other intervention programs addressing these barriers and/or threats? What is your relationship to those?
- 9. Have interventions (peacekeeping, political, humanitarian, development) by other third party actors impacted your operations? If so, which ones and how?

## **Local and Regional Dynamics of Interventions in Somali Conflict: *Field Research Plan for Interviews in Ethiopia July 29-Aug 10***

Nancy K. Hayden

*PhD Candidate, Center for International and Security Studies at Maryland University of Maryland, College Park, MD, USA*

*June 23, 2014*

### **Background**

My research examines the combined effects of third-party peacekeeping, humanitarian aid, and development interventions on resiliency of different actors in civil conflict, using Somalia as a case study. Understanding the integrated effects of these interventions over time requires knowledge of what is happening on the ground among stakeholders and primary actors at the local and regional level, how these dynamics impact the broader conflict, and the result on both local and regional interests.

Ethiopia is a key regional player with long-standing strategic interests in the Somali conflict. These interests involve complex security and economic concerns that include the presence of Ethiopian Somalis in the Somali regional state of Ethiopia and their claims upon the Ethiopian government (supported by extremists in the conflict in Somalia), a large influx of Somali refugees from the conflict in South Central Somalia, and violent cross-border spillover from Somalia. Historic governance, cultural, and natural factors in the region (e.g., climate change) create stresses that exacerbate the conflict and complicate the pursuit of Ethiopia's interests.

As a result, Ethiopia has participated in various interventions in Somalia over the past two decades, and is currently participating in peace operations to address national and human security concerns, is providing humanitarian aid and sanctuary for refugees, and is a regional leader in development initiatives to reduce the risk of conflict by fostering a stable and productive environment in the Horn of Africa. These initiatives involve many different sectors – government, civil society, private enterprises, international and regional non-governmental organizations, and academia. I wish to engage a cross-section of key stakeholders in Ethiopia who are (or have been) involved these initiatives. Specific areas of interest are:

- Ethiopian scholars and analysts within academia and think tanks who study issues that arise around the Somali conflict and Ethiopian efforts to resolve them.
- United Nation organizations in Ethiopia that run humanitarian aid and development programs for Somalis:
  - UNOPS, UNDP, WFP, World Bank, UNHCR, International Labor organization
- Ethiopian military involvement in the African Union Mission to Somalia (AMISOM)
  - Training and deployment of peace keeping troops
  - Civilian-military affairs

- NGOs and CSOs in Ethiopia working on humanitarian aid and development to address Somali conflict and/or reduce its impact in Ethiopia (refugees in Ethiopia and/or direct services in Somalia)
  - Examples: Mercy Corps, Medecins San Frontiers Switzerland; Oxfam, Save the Children, CARE
- Intergovernmental Authority on Development (IGAD) Office of the Facilitator for Somalia Peace and National Reconciliation

### **Desired Profiles of Interview Subjects**

#### *Humanitarian Aid and Development*

- Senior scholars and researchers in the area of regional peace keeping and security
- Decision makers responsible for strategic analysis of conflict and organization's role and those who advise them
- Ethiopian foreign service officials and diplomats in the area of regional peace keeping, security and development
- Program managers responsible for designing and implementing initiatives and those who advise them
- Practitioners who provide services in the field and those who support them

#### *Peace Operations in AMISOM*

- Senior officers and soldiers at battalion and command unit levels engaged in stabilization and protection missions
- Officers providing training, mentoring and advisory support to Somalia Police Force and Somalia National Army
- Soldiers on the ground in Somalia involved in securing humanitarian corridors, logistics, and/or escorting convoys for the delivery of aid
- Civil-military affairs officers or soldiers assigned to interface with civilians and/or the AMISOM civilian components in Somalia for non-security assistance
- Instructors who train troops to deploy for AMISOM missions.

### **Interview and Discussion Questions:**

The questions fall into three broad categories:

- understanding conflict drivers and impact from local and regional perspectives,
- understanding the intended scope and outcomes of interventions, and factors that affect success in achieving those outcomes, and
- relationships between peace operations and humanitarian aid interventions.

Observations of the impact of interventions on resiliency of different actors, challenges and opportunities in those interventions, and unintended consequences are of particular interest. Sample questions are provided below.

### **How Information Will Be Used:**

My dissertation explores how interventions impact conflict outcomes through intervening variables associated with resiliency. Discussions and responses to interviews will inform a model to establish a baseline and examine alternative scenarios for sequencing and layering of interventions to achieve more stable equilibrium at local and regional levels. This model will then be used to test hypotheses and explore future policy options.

## Sample Discussion and Interview Questions

### *Background*

- 1) What is the primary area of operations/concern for interventions?
- 2) How long have you been concerned with/active in this area of operations?
- 3) How do you interact with the local community in the area of operations?
- 4) What is the local language and how do you deal with any differences?
- 5) What conflict assessment method, if any, do you employ?

### *Perspectives of Local Conflict Drivers*

1. What is the primary conflict in the area of operations? What is your understanding of the root causes and conflict drivers? How have those changed over time? What are contributing factors and how do they mitigate or amplify the drivers? How do your activities address these root causes?
2. What is your understanding of who the key stakeholders are in the conflict?
  - a) What are the underlying interests of these stakeholders?
  - b) What are their perceptions of the conflict?
  - c) What actions have the different key stakeholders taken to support (or oppose) peacebuilding? What are their capacities for taking action?
3. What are the primary sources and means of power (physical, military, spiritual, personal ability and skills, identity, social capital) of the key stakeholders and how do they use these resources in conflict?
4. How do sources of power differ among identity groups in the area of operations? Men and women? How do different groups use power over each other? Do some key stakeholders depend on other key stakeholders with more power (e.g., is there a power imbalance) and if so, how?
5. Over time, what have been indicators of conflict escalation or de-escalation in your area of concern/operations? What are potential triggers or windows of opportunity (e.g., key events) remembered by one side or other that lead to conflict escalation?
6. In your experience, are the key stakeholders open to change to reduce conflict in your area of operations, and what do they think is necessary to bring that change about? How do their desired changes relate to your mission for reducing violence and bringing peace and security to their community?
7. In your view, does your presence alter the power dynamics in the local community? If so, in what way(s) and how are conflict drivers affected?
8. In your experience, how do the drivers differ from the local to the regional and national scale?

### *Peace Operations*

1. What are the intended outcomes and metrics of success for your mission? Who defines those? Do you have any input? How successful do you consider your mission to be today? In the past?

2. Effective peace operations have been attributed to the mechanisms described below. To what extent are these processes important to the outcomes of your operations? Please be specific with examples.
  - Changing incentives for aggression relative to maintaining peace --especially through economic and political means
    - Peace dividends (e.g., socio/economic/political gains) for rank-and-file soldiers, political elite, and would-be spoilers
    - Influencing the perceptions of others regarding the legitimacy of different parties to the conflict
    - Military deterrence (increase cost of aggression)
    - Trip wire for enforcement missions from additional third parties
    - Condition aid upon compliance with peace operations
  - Alleviate fear and mistrust
    - Monitor compliance with cease-fires and rule of law, facilitate communication among parties in conflict, allow parties to signal intentions for peace
  - Prevent or control accidents or involuntary defection by hard-liners
    - Deter rogue groups, shift power towards moderates, ease communication, provide on-the-spot mediation, provide law and order, provide alternatives to escalation in response to alleged violations
  - Dissuade parties from political abuse and/or excluding the “other” from the political process
    - Monitor and/or train security sectors inclusively, monitor and/or run election processes, provide neutral interim administration, transform military groups into political operations
3. What other factors contribute to the outcome of your operations that are not mentioned above?
4. What factors are impediments to the success of your peace operations? What would be the most effective way to overcome those impediments?
5. Do you interact with groups that deliver humanitarian aid? What is your role in those interactions? Do those interactions significantly impact the outcomes of your peacekeeping mission (positively or negatively)? In what specific ways?
6. How does the involvement of troops from other countries, or of local militia, impact your ability to conduct effective operations?
7. Do the peace operations at the local level in your area of operations have an impact on the larger scale in the region? If so, how? What do you think may be the implications for sustainability of peacebuilding operations?

***Humanitarian aid and development programs***

1. In your experience, what are the greatest immediate barriers and/or threats to human security? Using concrete examples, how does your mission address those barriers and/or threats?
  - a) How does the ongoing conflict in Somalia specifically impact your mission in Ethiopia and elsewhere in the Horn, if at all?

2. In carrying out your mission, what kind of interactions have you had with local population? What have been the primary social structures through which you have been engaged in implementing humanitarian aid or development programs?
  - a) Have your programs had a positive, negative, or mixed impact on human security and resiliency in the short, medium, and long term<sup>279</sup>? In your view, what is the likelihood that these outcomes will be sustainable?
  - b) What was the level of local involvement in these programs?
  - c) What is your understanding of the intended goals of these programs? How were those communicated to you?
  - d) Do you know who is accountable for the management of these programs?
  - e) In your experience, were there unintended consequences of these programs (positive or negative)? If so, did they impact your peace operations? If so, in what way(s)?
  - f) How have these programs impacted local capacity building for peace building? Social cohesion? Community level trust? National level trust?
3. Based on what you know, what is the level of local support for these programs? Is the level of support consistent across the different stakeholders? If not, who is more supportive and why?
4. From what you have seen, what has been the impact (economically and materially) of these programs in the short, medium, and long term with respect to their intended objectives?
5. How have these programs impacted relationships between people and institutions in positions of power at the local, regional, and national levels?
6. From what you have seen, have these programs been perceived as being accountable and inclusive? What is perceived as positive and why? What is perceived as negative and why?
7. How have these programs affected social cohesion, trust
  - a) within the local community
  - b) with the national government
8. Are other intervention programs addressing these barriers and/or threats? What is your relationship to those?
9. Have interventions (peacekeeping, political, humanitarian, development) by other third party actors impacted your operations? If so, which ones and how?

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<sup>279</sup> Short term is 1 month – 1 year; medium term is 1 – 3 years; long term is 3 – 10 years or more.

## **Field Research Plan: Peace Operations in Somalia: *Interviews with Burundi and Uganda AMISOM Peacekeeping Forces***

*Nancy Kay Hayden*

*PhD Candidate*

*University of Maryland School of Public Policy*

*August 12, 2014*

### **Background**

My research examines the combined effects of peace operations, humanitarian aid, and development on civil conflict, and the ability of participants in conflict and local populations to adapt and recover from conflict. I am using Somalia as a case study. My research goal is to develop a framework to improve understanding of the long-term consequences of these types of interventions. The purpose of the framework will be for policy analysis.

Understanding the effects of peace operations and humanitarian aid in conflict requires knowing what is happening on the ground at the local level. These interviews will provide unique insights of the local level consequences from the viewpoint of the Burundi troops in their support role to AMISOM.

### **Sample Discussion and Interview Questions**

I will ask you three types of questions:

- Questions about background for your area of responsibility during deployment
- Questions about causes of conflict in your area of responsibility
- Questions about your operations, and how relationships at the village level and with humanitarian aid organizations humanitarian affected your operations

### ***Background***

1. What was your area of responsibility for AMISOM?
2. What was the time period of your deployment?
3. What was the local language and how did you manage communications?
4. What were your relationships with the local community during your deployment, if any?

### ***Causes of Conflict***

1. Who were the combatants and what do you think was the main reason for conflict in your area? Did this change over time? What other factors contributed to conflict? Did your operations change the situation regarding these factors? How?



2. Who do you think are the most powerful persons that influence what happens in the conflict in your area (for example, who finances the conflict, or those who can make peace)? Who are the persons that are most affected by the conflict in your area?
  - a. What are the interests of these different persons (political, social, economic, security)?
  - b. What have these persons done to support (or oppose) your AMISOM operations? What are their resources (for example, physical, militia, spiritual authority, personal ability and skills, identity, social capital) where do they get these resources, and how do they use them?
3. How did sources of power differ among groups in your area of responsibility?
4. What were signs of conflict escalation (or de-escalation) in your area of operations? What are potential triggers or opportunities that lead to conflict escalation or de-escalation?
5. Who were the persons with most influence in the area willing to compromise to reduce conflict? Did this help your mission for reducing violence and bringing peace and security to their community?

### ***Peace Operations***

1. Mission purpose and success
  - a. What was the purpose of your mission?
  - b. What were the measures of success? Who defined those measures? Did you have a contribution for defining measures of success?
  - c. How successful was your mission? Did the success last over time?
2. How important were any of the factors or processes below for success of your operations? Please be specific with examples.
  - a. Dominant military power, combat capability and resources
  - b. Changing motivations of the local persons to support peace instead of violence
  - c. Providing peace dividends for potential spoilers
  - d. Threat of additional military operations from neighboring countries
  - e. Promise of humanitarian aid
  - f. Reduce fear and mistrust and provide more security
  - g. Detect defection
  - h. Provide local stability – for example,
    - i. Mediation between different groups,
    - ii. Support law and order,
    - iii. Monitor for human rights abuses
    - iv. Help in reconstruction for local community
3. What other factors affected the success of your peace operations (positively or negatively)?
  - a. What did you do to overcome the negative factors and what was the result?
4. Did your battalion support organizations (NGOS) that deliver humanitarian aid? What was your role? Did those interactions significantly impact the

outcomes of your peacekeeping mission (positively or negatively)? In what ways?

5. Did the presence of other military troops or local militia affect your operations? How?

## **Local and Regional Dynamics of Interventions in Somali Conflict: *Field Research Plan for Interviews in Kenya August 27–Sept 11***

*Nancy K. Hayden*

*PhD Candidate, Center for International and Security Studies at Maryland*

*University of Maryland, College Park, MD, USA*

*June 23, 2014*

### **Background**

My research examines the dynamics of third-party peacekeeping, humanitarian aid, and development interventions and their combined effects on resiliency of different actors in civil conflict, using Somalia as a case study. Understanding the integrated effects of these interventions over time requires knowledge of what is happening on the ground among stakeholders and primary actors at the local and regional level, how these dynamics impact the broader conflict, and the result on both local and regional interests.

Kenya has long-standing strategic interests in the Somali conflict that include instability in south central Somalia and operations in the port of Kismayo, cross-border spillover of violence and extremism, one of the world's largest refugee camps in northeast Kenya, and absorption of displaced persons living as refugees in major urban cities such as Nairobi. These interests intertwine with domestic politics in Kenya and affect stability. In addition, many International Nongovernmental Organizations (INGOs) that provide humanitarian aid or support peace operations in Somalia have their program offices in Nairobi. Some, such as the United Nations and World Bank, have dual mandates: (1) provide humanitarian relief aid in Somalia and to displaced persons within Kenya, and (2) support development initiatives that reduce the risk of conflict in Somalia by fostering a stable and productive environment with respect for rule of law and human rights. Some local Somalia NGOs also operate out of Nairobi due to security concerns.

The African Union Mission in Somalia (AMISOM) maintains offices and conducts security and peacekeeping training in Nairobi. Many other government organizations and embassies until very recently have also managed their operations in Somalia from Nairobi.

These initiatives involve many different sectors – government, civil society, private enterprises, international, regional, and local non-governmental organizations, and academia.

I will engage a cross-section of key stakeholders in Nairobi from all of these different organizations – NGOs, government, and military – to discuss their interventions in Somalia and the impacts. Targeted stakeholders are:

- Scholars and analysts within academia and think tanks in Kenya (and Somalia) who study issues that arise around the Somali conflict and regional efforts to resolve them (ISS, RVI, ICG, HIPS, Sahan Research).

- United Nation organizations in Kenya (and Somalia) that run humanitarian aid and development programs for Somalis (UNSOM, UNSOA, UNDP, World Bank, UNHCR, OCHA, UNIDIR)
- African Union Mission to Somalia (AMISOM)
  - Training and deployment of peace keeping troops (UN peace support training center IPSTC, Civilian-military affairs)
- Government donor program offices (e.g., US AID, DIFD)
- NGOs and CSOs in Kenya (and Somalia) working on humanitarian aid and development to address Somali conflict and/or reduce its regional impact (Mercy Corps; Oxfam, Save the Children, CARE, SAFERWORLD, Refugees International, Catholic Relief Services, HAVOYOCO, HIRJA, SEDHURO, Somalia NGO Consortium)
- Official mediation efforts, such as those through Intergovernmental Authority for Development (IGAD) Somalia Peace Facilitation Office
- Local populace affected by conflict and interventions and the choices they make

### **Desired Profiles of Interview Subjects**

#### *Humanitarian Aid and Development (international and local partners)*

- Senior scholars and researchers in the area of regional peace keeping and security
- Decision makers responsible for strategic analysis of conflict and organization's role and those who advise them
- Kenya foreign service officials and diplomats in the area of regional peace keeping, security and development
- Program managers responsible for designing and implementing initiatives and those who advise them
- Practitioners who provide services in the field and those who support them
- Affected populations

#### *Peace Operations in AMISOM*

- Senior officers and soldiers at battalion and command unit levels engaged in stabilization and protection missions
- Officers providing training, mentoring and advisory support to Somalia Police Force and Somalia National Army
- Soldiers on the ground in Somalia involved in securing humanitarian corridors, logistics, and/or escorting convoys for the delivery of aid
- Civil-military affairs officers or soldiers assigned to interface with civilians and/or the AMISOM civilian components in Somalia for non-security assistance
- Instructors who train troops to deploy for AMISOM missions.
- Affected populations

#### *Government donors*

### **Interview and Discussion Questions:**

The questions fall into three broad categories:

- Understanding conflict drivers and impact from local and regional perspectives,

- Understanding the intended scope and outcomes of interventions, and factors that affect success in achieving those outcomes, and
- Relationships between peace operations and humanitarian aid interventions.

Observations of the impact of interventions on resiliency of different actors, challenges and opportunities in those interventions, and unintended consequences are of particular interest.

### **How Information Will Be Used:**

Discussions and responses to interviews will inform a model to examine scenarios for sequencing and layering of interventions to achieve more stable equilibrium at local and regional levels. This model will then be used to test hypotheses and explore future policy options. The analysis will be presented as a dissertation thesis to the University of Maryland and may be published as an academic article.

## **Sample Discussion and Interview Questions**

### ***Background***

1. What is the primary area of operations/concern for interventions?
2. How long have you been concerned with/active in this area of operations?
3. How do you interact with the local community in the area of operations?
4. What is the local language and how do you deal with any differences?
5. What conflict assessment method, if any, do you employ?

### ***Perspectives of Local Conflict Drivers***

1. What is the primary conflict in the area of operations? What is your understanding of the root causes and conflict drivers? How have those changed over time? What are contributing factors and how do they mitigate or amplify the drivers? How do your activities address these root causes?
2. What is your understanding of who the key stakeholders are in the conflict?
  - a) What are the underlying interests of these stakeholders?
  - b) What are their perceptions of the conflict?
  - c) What actions have the different key stakeholders taken to support (or oppose) peace building? What are their capacities for taking action?
3. What are the primary sources and means of power (physical, military, spiritual, personal ability and skills, identity, social capital) of the key stakeholders and how do they use these resources in conflict?
4. How do sources of power differ among identity groups in the area of operations? Men and women? How do different groups use power over each other? Do some key stakeholders depend on other key stakeholders with more power (e.g., is there a power imbalance) and if so, how?
5. Over time, what have been indicators of conflict escalation or de-escalation in your area of concern/operations? What are potential triggers or windows of

- opportunity (e.g., key events) remembered by one side or other that lead to conflict escalation?
6. In your experience, are the key stakeholders open to change to reduce conflict in your area of operations, and what do they think is necessary to bring that change about? How do their desired changes relate to your mission for reducing violence and bringing peace and security to their community?
  7. In your view, does your presence alter the power dynamics in the local community? If so, in what way(s) and how are conflict drivers affected?
  8. In your experience, how do the drivers differ from the local to the regional and national scale?

### ***Peace Operations***

1. What are the intended outcomes and metrics of success for your mission? Who defines those? Do you have any input? How successful do you consider your mission to be today? In the past?
2. Effective peace operations have been attributed to the mechanisms described below. To what extent are these processes important to the outcomes of your operations? Please be specific with examples.
  - Changing incentives for aggression relative to maintaining peace --especially through economic and political means
    - Peace dividends (e.g., socio/economic/political gains) for rank-and-file soldiers, political elite, and would-be spoilers
    - Influencing the perceptions of others regarding the legitimacy of different parties to the conflict
    - Military deterrence (increase cost of aggression)
    - Trip wire for enforcement missions from additional third parties
    - Condition aid upon compliance with peace operations
  - Alleviate fear and mistrust
    - Monitor compliance with cease-fires and rule of law, facilitate communication among parties in conflict, allow parties to signal intentions for peace
  - Prevent or control accidents or involuntary defection by hard-liners
    - Deter rogue groups, shift power towards moderates, ease communication, provide on-the-spot mediation, provide law and order, provide alternatives to escalation in response to alleged violations
  - Dissuade parties from political abuse and/or excluding the “other” from the political process
    - Monitor and/or train security sectors inclusively, monitor and/or run election processes, provide neutral interim administration, transform military groups into political operations
3. What other factors contribute to the outcome of your operations that are not mentioned above?
4. What factors are impediments to the success of your peace operations? What would be the most effective way to overcome those impediments?

5. Do you interact with groups that deliver humanitarian aid? What is your role in those interactions? Do those interactions significantly impact the outcomes of your peacekeeping mission (positively or negatively)? In what specific ways?
6. How does the involvement of troops from other countries, or of local militia, impact your ability to conduct effective operations?
7. Do the peace operations at the local level in your area of operations have an impact on the larger scale in the region? If so, how? What do you think may be the implications for sustainability of peace building operations?

### ***Humanitarian aid and development programs***

1. In your experience, what are the greatest immediate barriers and/or threats to human security? Using concrete examples, how does your mission address those barriers and/or threats?
  - a) How does the ongoing conflict in Somalia specifically impact your mission in Kenya, if at all?
2. In carrying out your mission, what kind of interactions have you had with local population? What have been the primary social structures through which you have been engaged in implementing humanitarian aid or development programs? Please give specific examples.
  - a) Have your programs had a positive, negative, or mixed impact on human security and resiliency in the short, medium, and long term<sup>280</sup>? In your view, what is the likelihood that these outcomes will be sustainable?
  - b) What was the level of local involvement in these programs?
  - c) What is your understanding of the intended goals of these programs? How were those communicated to you?
  - d) Do you know who is accountable for the management of these programs at the local level?
  - e) In your experience, were there unintended consequences of these programs (positive or negative) on human security? If so, did they impact your operations? If so, in what way(s)?
  - f) How have these programs impacted local capacity building for peace building? Social cohesion? Community level trust? National level trust?
3. Based on what you know, what is the level of local support for these programs? Is the level of support consistent across the different stakeholders? If not, who is more supportive and why?
4. From what you have seen, what has been the impact (economically and materially) of these programs in the short, medium, and long term with respect to their intended objectives?
5. How have these programs impacted relationships between people and institutions in positions of power at the local, regional, and national levels?

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<sup>280</sup> Short term is 1 month – 1 year; medium term is 1 – 3 years; long term is 3 – 10 years or more.

6. From what you have seen, have these programs been perceived as being accountable and inclusive? What is perceived as positive and why? What is perceived as negative and why?
7. How have these programs affected social cohesion, trust
  - a) Within the local community
  - b) With the national government
8. Are other intervention programs addressing these barriers and/or threats? What is your relationship to those?
  - a) Have these interventions had a positive, negative, or mixed impact in the on your programs in the short, medium, and long term? In your view, what is the likelihood that the outcomes from these other humanitarian aid or development interventions will be sustainable?
9. Have conflict interventions (peacekeeping, political, humanitarian, development) by other third party actors impacted your programs? If so, which ones and how?



### **Addendum for AMISOM Operation Eagle in Spring 2014**

*These questions are specific to the recent campaign, if they have not already come up in previous discussions.*

1. Which programs have targeted the newly liberated areas of Somalia?
  - a) How has the campaign impacted these programs?
2. Are there particular concerns with program implementation that will require modification as a result of the campaign? How are these addressed?
3. Are the metrics used for resiliency in other programs relevant in the immediate aftermath of liberation of these Somali regions? If not, what are the more appropriate measures?
4. Has the campaign impacted other programs in Kenya or Somalia not specifically targeted to these areas? If so, how?
5. Are there additional programs that you would suggest be implemented to improve human security in the newly liberated areas? What are the barriers to implementing those programs?
6. What additional programs or actions by other parties or organizations would make your work more effective in addressing human security concerns around the Somali conflict?

### **Addendum for New Deal Compact 2013**

*These questions are specific to the recent pilot program by the development community, if it has not already come up in the previous discussions.*

### **Addendum for New Government 2013 and US Recognition**

*These questions are specific to the recent political progress in formalizing and consolidating power of the national government, if they have not already come up in previous discussions.*

## **IRB Human Subject Review Forms and Approval**

### **Interventions in Somali Conflict: General Field Research Plan for Effects on Human Security and Resiliency**

*Nancy K. Hayden*

*PhD Candidate, Center for International and Security Studies at Maryland  
University of Maryland, College Park, MD, USA*

*August-September, 2014*

#### ***Background***

My research examines the combined effects of past third-party peacekeeping, humanitarian aid, and development interventions on resiliency of different actors in civil conflict, using Somalia as a case study. Understanding the integrated effects of these interventions over time requires knowledge of what has happened on the ground among stakeholders and primary actors at the local and regional level, how these dynamics impacted the broader conflict, and the result on both local and regional interests.

#### ***Interview Subjects***

The desired profiles of interview subjects are:

##### *Humanitarian Aid and Development*

- Senior scholars and researchers in the area of regional peace keeping and security
- Donor organization decision makers responsible for strategic analysis of conflict, the organization's role and those who advise them
- Program managers within donor organizations responsible for designing and implementing initiatives and those who advise them
- Foreign service officials and diplomats in the area of regional peace keeping, security and development
- Practitioners who provide services in the field and those who support them
- Recipients of aid and development services

##### *Peace Operations*

- Senior officers and soldiers who have been engaged in the African Union Mission to Somalia (AMISOM)
- Program managers, researchers, and decision makers for United Nations
- Officers providing training, mentoring and advisory support to Somalia Police Force and Somalia National Army
- Soldiers on the ground in Somalia involved in securing humanitarian corridors, logistics, and/or escorting convoys for the delivery of aid
- Civil-military affairs officers or soldiers assigned to interface with civilians and/or the AMISOM civilian components in Somalia for non-security assistance
- Instructors who train troops to deploy for AMISOM missions.

I will conduct field research in the Netherlands (NGOs representing the Somalia Diaspora Community), Ethiopia (headquarters for regional and international organizations for peacekeeping, aid and development in Somalia; national support to AMISOM peacekeeping mission) Burundi (national support to AMISOM peacekeeping mission), and Kenya (headquarters for regional and international organizations for peacekeeping, aid and development in Somalia; national support to AMISOM peacekeeping mission).

Ethiopia and Kenya are key regional players with long-standing strategic interests in the Somali conflict. These interests involve complex security and economic concerns that include the presence of Ethiopian Somalis in the Somali regional state of Ethiopia and their claims upon the Ethiopian government (supported by extremists in the conflict in Somalia), a large influx of Somali refugees from the conflict in South Central Somalia, and violent cross-border spillover from Somalia. Historic governance, cultural, and natural factors in the region (e.g., climate change) create stresses that exacerbate the conflict and complicate the pursuit of both Ethiopia and Kenya's interests.

As a result, Ethiopia and Kenya have participated in various interventions in Somalia over the past two decades, and are currently participating in peace operations to address national and human security concerns, are providing humanitarian aid and sanctuary for refugees, and are regional leaders in development initiatives to reduce the risk of conflict by fostering a stable and productive environment in the Horn of Africa. These initiatives involve many different sectors – government, civil society, private enterprises, international and regional non-governmental organizations, and academia. I wish to engage a cross-section of key stakeholders in both Ethiopia and Kenya who are (or have been) involved these initiatives. Specific areas of interest are:

- Scholars and analysts within academia and think tanks who study issues that arise around the Somali conflict and efforts to resolve them.
- United Nation organizations that run humanitarian aid and development programs for Somalis:
  - UNOPS, UNDP, WFP, World Bank, UNHCR, International Labor organization
- Military involvement in the African Union Mission to Somalia (AMISOM)
  - Training and deployment of peace keeping troops
  - Civilian-military affairs
- NGOs and CSOs working on humanitarian aid and development to address Somali conflict and/or reduce its impact in Ethiopia and Kenya (refugees and/or direct services in Somalia)
  - Examples: Mercy Corps, Interpeace; Life & Peace Institute, Nairobi Peace Initiative, Oxfam, Save the Children, CARE
- Intergovernmental Authority on Development (IGAD) Offices

### ***Interview and Discussion Questions:***

The questions fall into three broad categories:

- understanding conflict drivers and impact from local and regional perspectives,

- understanding the intended scope and outcomes of interventions, and factors that affect success in achieving those outcomes, and
- relationships between peace operations and humanitarian aid interventions.

Observations of the impact of interventions on resiliency of different actors, challenges and opportunities in those interventions, and unintended consequences are of particular interest.

### ***How Information Will Be Used:***

My dissertation explores how interventions impact conflict outcomes through intervening variables associated with resiliency. Discussions and responses to interviews will inform a model to establish a baseline and examine alternative scenarios for sequencing and layering of interventions to achieve more stable equilibrium at local and regional levels. This model will then be used to test hypotheses and explore future policy options.

### ***Questions***

These questions will derive from (1) the US AID framework for assessing conflict drivers, and (2) theoretical hypotheses regarding different mechanisms that influence the impact of peace operations, humanitarian aid, and development interventions by third parties in conflict settings; how these mechanisms interact among different types of interventions to influence resiliency of different actors in conflict; and how the dynamics of conflict are shaped by the resiliency of these actors in conflict.

### ***Background***

1. What is the primary area of operations/concern for interventions?
2. How long have you been concerned with/active in this area of operations?
3. How do you interact with the local community in the area of operations?
4. What is the local language and how do you deal with any differences?
5. What conflict assessment method, if any, do you employ?

### ***Perspectives of Local Conflict Drivers***

1. What is the primary conflict in the area of operations? What is your understanding of the root causes and conflict drivers? How have those changed over time? What are contributing factors and how do they mitigate or amplify the drivers? How do your activities address these root causes?
2. What is your understanding of who the key stakeholders are in the conflict?
  - a) What are the underlying interests of these stakeholders?
  - b) What are their perceptions of the conflict?
  - c) What actions have the different key stakeholders taken to support (or oppose) peacebuilding? What are their capacities for taking action?

3. What are the primary sources and means of power (physical, military, spiritual, personal ability and skills, identity, social capital) of the key stakeholders and how do they use these resources in conflict?
4. How do sources of power differ among identity groups in the area of operations? Men and women? How do different groups use power over each other? Do some key stakeholders depend on other key stakeholders with more power (e.g., is there a power imbalance) and if so, how?
5. Over time, what have been indicators of conflict escalation or de-escalation in your area of concern/operations? What are potential triggers or windows of opportunity (e.g., key events) remembered by one side or other that lead to conflict escalation?
6. In your experience, are the key stakeholders open to change to reduce conflict in your area of operations, and what do they think is necessary to bring that change about? How do their desired changes relate to your mission for reducing violence and bringing peace and security to their community?
7. In your view, does your presence alter the power dynamics in the local community? If so, in what way(s) and how are conflict drivers affected?
8. In your experience, how do the drivers differ from the local to the regional and national scale?

*Humanitarian aid and development programs*

1. In your experience, what are the greatest immediate barriers and/or threats to human security? How does your mission address those barriers and/or threats?
2. Are other intervention programs addressing these barriers and/or threats? What is your relationship to those?
3. In carrying out your mission, what kind of interactions have you had with local population? What have been the primary social structures through which you have been engaged in implementing humanitarian aid or development programs?
4. Have interventions (peacekeeping, political, humanitarian, development) by other third party actors impacted your operations? If so, which ones and how?
  - a) Have these programs had a positive, negative, or mixed impact in the on your operations in the short, medium, and long term<sup>281</sup>? In your view, what is the likelihood that the humanitarian aid or development operations will be sustainable?
  - b) Who at was the level of local involvement in these programs?
  - c) What is your understanding of the intended goals of these programs? How were those communicated to you?
  - d) Do you know who is accountable for the management of these programs?
  - e) In your experience, were there unintended consequences of these programs (positive or negative)? If so, did they impact your peace operations? If so, in what way(s)?
  - f) How have these programs impacted local capacity building for peace building? Social cohesion? Community level trust? National level trust?

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<sup>281</sup> Short term is 1 month – 1 year; medium term is 1 – 3 years; long term is 3 – 10 years or more.

5. Based on what you know, what is the level of local support for these programs? Is the level of support consistent across the different stakeholders? If not, who is more supportive and why?
6. From what you have seen, what has been the impact (economically and materially) of these programs in the short, medium, and long term with respect to their intended objectives?
7. How have these programs impacted relationships between people and institutions in positions of power at the local, regional, and national levels?
8. From what you have seen, have these programs been perceived as being accountable and inclusive? What is perceived as positive and why? What is perceived as negative and why?
9. How have these programs affected social cohesion, trust
  - a) within the local community
  - b) with the national government

### *Peace Operations*

1. What are the intended outcomes and metrics of success for your mission? Who defines those? Do you have any input? How successful do you consider your mission to be today? In the past?
2. Effective peace operations have been attributed to the mechanisms described below. To what extent are these processes important to the outcomes of your operations? Please be specific with examples.
  - Changing incentives for aggression relative to maintaining peace --especially through economic and political means
    - Peace dividends (e.g., socio/economic/political gains) for rank-and-file soldiers, political elite, and would-be spoilers
    - Influencing the perceptions of others regarding the legitimacy of different parties to the conflict
    - Military deterrence (increase cost of aggression)
    - Trip wire for enforcement missions from additional third parties
    - Condition aid upon compliance with peace operations
  - Alleviate fear and mistrust
    - Monitor compliance with cease-fires and rule of law, facilitate communication among parties in conflict, allow parties to signal intentions for peace
  - Prevent or control accidents or involuntary defection by hard-liners
    - Deter rogue groups, shift power towards moderates, ease communication, provide on-the-spot mediation, provide law and order, provide alternatives to escalation in response to alleged violations
  - Dissuade parties from political abuse and/or excluding the “other” from the political process
    - Monitor and/or train security sectors inclusively, monitor and/or run election processes, provide neutral interim administration, transform military groups into political operations

3. What other factors contribute to the outcome of your operations that are not mentioned above?
4. What factors are impediments to the success of your peace operations? What would be the most effective way to overcome those impediments?
5. Do you interact with groups that deliver humanitarian aid? What is your role in those interactions? Do those interactions significantly impact the outcomes of your peacekeeping mission (positively or negatively)? In what specific ways?
6. How does the involvement of troops from other countries, or of local militia, impact your ability to conduct effective operations?
7. Do the peace operations at the local level in your area of operations have an impact on the larger scale in the region? If so, how? What do you think may be the implications for sustainability of peacebuilding operations?

**Interview Subject Consent Form**

<b>Project Title</b>	<b>Resiliency in Civil Conflict</b>
<b>Purpose of the Study</b>	This academic research is being conducted by Nancy Hayden (PI), a PhD candidate from the Center for International and Security Studies at the University of Maryland, College Park, Maryland, USA. The purpose of this research is to understand how peace operations and humanitarian aid activities combine to affect capacity and security of (i) local communities and (ii) combatants in armed civil conflict situations. The information collected in the study will be used to build a model of interventions and their impact on peace and security.
<b>Procedures</b>	<p>This research involves one-on-one interviews and discussions between you and the PI and regarding your work to reduce armed civil conflict or its impact in Somalia. You will participate in one interview with the PI lasting approximately one hour. The PI will ask you questions of four types: (1) questions to understand your view of local conflict drivers, (2) questions to understand the expected outcomes of your activities (peace operations, humanitarian aid, and/or economic development) and (3) questions to understand your views of the relationship between different types of activities and their outcomes at local and national levels for peace and security.</p> <p>Some sample questions are:</p> <ol style="list-style-type: none"> <li>1) What is the primary focus of your activities and what is your understanding of the main causes of conflict in this area? How have these changed over time? Do your activities try to change these drivers?</li> <li>2) Who are the leaders in the community where you have been active, and what are their sources of power? How do they use these resources for peace or conflict?</li> <li>3) What processes are important to the success of your activities? Specifically, do you find any of the following to be important, and if so, how do you try to make them happen: (i) change incentives for violent behavior to incentives for peaceful, cooperative behaviors; (ii) reduce fear and mistrust; (iii) prevent conflict escalation through accidents; (iv) persuade leaders to be more inclusive in political processes?</li> <li>4) What are the biggest challenges for achieving success in your activities?</li> </ol>



	<p>5) How do you interact with other groups working to reduce conflict and its impact in Somalia? Do these interactions have positive, negative, or neutral affects on your success? If participant agrees, the PI may contact them by email or phone at a later time for clarification of their responses.</p> <p>Discussions will be conducted in English or French, depending your preference. When conducted in French, a translator will be employed. The PI will record your answers with hand written notes and, if you agree, also by audiotaping. You do not have to agree to audiotaping your answers to participate.</p>
<b>Potential Risks and Discomforts</b>	<p>Potential risks and discomfort from participating in this research are expected to be minimal above what you encounter participants in normal day-to-day activities. One potential risk is accidental breach of confidentiality if requested. To mitigate this risk, your personal information will be redacted from tapes and notes if you request confidentiality below. Another is that during recruitment, you may experience discomfort in declining to participate. This risk will be mitigated by not disclosing whether you have agreed to participate unless you give consent to have your identity used in publications. If you perceive additional risk during the course of the interview/discussion, or experiences discomfort, you may end the interview/discussion immediately. Your responses will not be shared you're your employer or supervisor unless your consent is given to use your identity in publications.</p>
<b>Potential Benefits</b>	<p>There are no direct benefits from participation in this research. We hope that, in the future, others might benefit from your answers to this study through improved understanding of how interventions impact resiliency of actors in conflict, and new policy analysis tools for assessing likely conflict outcomes.</p>
<b>Confidentiality</b>	<p>The PI will record information on digital audiotapes and in hand-written notebooks. Digital recordings will be transferred daily to a password-protected laptop backed up to an encrypted, password protected external hard drive. All notebooks, recording equipment, storage disks, and laptop will be kept in a locked room or office when not in the personal possession of the PI. Only the PI and her advisor will access to raw data with personally identifiable information. However, your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if the required to do so by US law. Unpublished,</p>

	<p>personally identifiable data will be kept in a locked office until completion of the dissertation defense, or up to two years, whichever comes first. After completing the dissertation defense, if you do not consent to public release of participation, all of your personally identifiable information will be discarded or redacted from data.</p> <p><b>Request for Confidentiality: Check one of the following:</b>  _____ <b>My identity, participation, and comments are public knowledge and can be used in publications.</b>  _____ <b>I request that my identity and participation be kept confidential and that my comments and observations not be associated with my identify in publications.</b></p>
<b>Right to Withdraw and Questions</b>	<p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:  <b>Nancy Hayden</b>  <b>Van Munching Hall Room 4139, University of Maryland</b>  <b>College Park, Maryland 20742</b>  <b>Email: <a href="mailto:nhayden@umd.edu">nhayden@umd.edu</a>; T: 505-250-6895</b></p>
<b>Participant Rights</b>	<p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p style="text-align: center;"> <b>University of Maryland College Park</b>  <b>Institutional Review Board Office</b>  <b>1204 Marie Mount Hall</b>  <b>College Park, Maryland, 20742</b>  <b>E-mail: <a href="mailto:irb@umd.edu">irb@umd.edu</a></b>  <b>Telephone: 301-405-0678</b> </p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>
<b>Statement of Consent</b>	<p>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</p> <p>If you agree to participate, please sign your name below.</p>

<b>Signature and Date</b>	<b>NAME OF PARTICIPANT</b> <b>[Please Print]</b>	
<b>Statement of Consent</b>	<b>SIGNATURE OF PARTICIPANT</b>	
	<b>DATE</b>	

### Interview Subject Consent Form-French

<b>Project Title</b>	La résilience dans les conflits civils
<b>Purpose of the Study</b>	Cette recherche académique est menée par Nancy Hayden (PI), un candidate au doctorat du Centre d'études internationales et de sécurité à l'Université du Maryland, College Park, Maryland, USA. Le objectif de cette recherche est de comprendre comment les opérations de paix et les activités humanitaires se combinent pour affecter la capacité et la sécurité de (i) les communautés locales et (ii) combattants dans les situations de conflit civil armés. Les informations recueillies dans l'étude sera utilisée pour construire un modèle d'interventions et de leur impact sur la paix et la sécurité.
<b>Procedures</b>	<p>Cette recherche consiste à un-à-un entretiens et des discussions entre vous et le PI au le sujet de votre travail pour réduire les conflits civils armés ou son impact en Somalie. Vous participerez à un entretien avec le PI durée approximative une heure. PI poser questions de quatre types: (1) questions pour comprendre votre point de vue de les facteurs qui causent de conflits locaux, (2) des questions pour comprendre les résultats attendus des vos activités (les opérations de paix, l'aide humanitaire, et / ou développement économique) et (3) des questions pour comprendre votre point de vue de la relation entre les différents types d'activités influent sur les résultats aux niveaux local et national pour la paix et la sécurité.</p> <p>Quelques exemples de questions sont les suivantes:</p> <p>1) Quel est l'objectif principal de vos activités et quelle est votre compréhension des principales causes des conflits dans ce domaine? Comment ont-ils évolué au fil du temps? Vos activités essaient de changer ces principales causes?</p> <p>2) Qui sont les leaders de la communauté et quelles sont leurs ressources pour etre en pouvoir? Comment utilisent-ils ces ressources pour la paix ou de conflit?</p>

	<p>3) Quels sont les processus sont importants pour le succès de vos activités? Plus précisément, trouvez-vous une des actions suivantes pour être important, et si oui, comment essayez-vous de les réaliser: (i) les changements des incitations à un comportement violent à des incitations pour les comportements de coopération pacifiques; (ii) réduire la peur et la méfiance; (iii) d'empêcher l'escalade du conflit par des accidents; (iv) persuader les dirigeants à être plus inclusive dans les processus politiques?</p> <p>4) Quels sont les principaux défis pour atteindre le succès dans vos activités?</p> <p>5) Comment avez-vous interagissez avec d'autres groupes de travail pour réduire les conflits et son impact en Somalie? Ne ces interactions ont positif, négatif, ou neutre effets sur votre succès?</p> <p>Si le participant est d'accord, la PI peut les contacter par email ou par téléphone à un moment plus tard pour la clarification de leurs réponses.</p> <p>Les discussions se tiendront en français ou en anglais, selon la votre préférence. Lorsqu'elle est effectuée en français, un traducteur sera employée. Le PI enregistrer vos réponses avec des notes écrites à la main et, si vous êtes d'accord, aussi par l'enregistrement audio. Vous n'avez pas à accepter l'enregistrement audio de vos réponses à y participer.</p>
<p><b>Potential Risks and Discomforts</b></p>	<p>Les risques potentiels et l'inconfort de participer à cette recherche devraient être minimales dessus de ce que vous rencontrez aux activités normales au jour le jour. Un risque potentiel est la violation accidentelle de la confidentialité à la demand. Pour atténuer ce risque, vos informations personnelles sera expurgé des bandes et des notes si vous demandez la confidentialité ci-dessous. Une autre est que lors du recrutement, vous pouvez ressentir une gêne en refusant de participer. Ce risque sera atténué en ne divulguant pas si vous avez accepté de participer à moins que vous donner son consentement pour que votre identité utilisés dans des publications. Si vous percevez des risques supplémentaire au cours de l'entretien / discussion, ou des expériences inconfort, vous pouvez mettre fin à l'entretien / discussion immédiatement. Vos réponses ne seront pas partagées vous êtes votre employeur ou le superviseur à moins que votre consentement est donné d'utiliser votre identité dans les publications ..</p>

<b>Potential Benefits</b>	Il n'y a pas de bénéfices directs de la participation à cette recherche. Nous espérons que, dans l'avenir, d'autres pourraient bénéficier de cette étude par une meilleure compréhension de la façon dont l'impact des interventions résilience des acteurs en conflit, et de nouveaux outils d'analyse des politiques pour évaluer les résultats de conflit probables.
<b>Confidentiality</b>	<p>La PI enregistrer des informations sur des cassettes audio numériques et les ordinateurs portables manuscrites. Les enregistrements numériques seront transférés tous les jours pour un ordinateur portable protégé par un mot de passe sauvegardé à un, protégé par mot disque dur externe crypté. Tous les ordinateurs portables, le matériel d'enregistrement, des disques de stockage, et un ordinateur portable seront conservés dans une chambre ou bureau verrouillé lorsqu'il n'est pas dans la possession personnelle de la PI. Seule la PI et sa conseiller auront accès aux données brutes des informations personnellement identifiables. Toutefois, votre information peut être partagée avec les représentants de l'Université du Maryland, College Park ou les autorités gouvernementales si vous ou une autre personne est en danger ou si le besoin de le faire par la loi américaine. Données non publiées, personnellement identifiables seront conservés dans un bureau verrouillé jusqu'à la fin de la défense de thèse, ou jusqu'à deux ans, selon la première éventualité. Après avoir terminé la défense de thèse, si vous ne consentez pas à la diffusion publique de la participation, toutes vos informations personnellement identifiables seront rejetées ou expurgée de données.</p> <p><b>Demande de confidentialité: Vérifier une des opérations suivantes:</b></p> <p>_____ <b>Mon identité, la participation et les commentaires sont de notoriété publique et peuvent être utilisés dans des publications.</b></p> <p>_____ <b>Je demande que mon identité et de participation resteront confidentielles et que mes commentaires et observations ne soient pas associés à mon identifier dans les publications.</b></p>
<b>Right to Withdraw and Questions</b>	Votre participation à cette recherche est entièrement volontaire. Vous pouvez choisir de ne pas participer du tout. Si vous décidez de participer à cette recherche, vous pouvez cesser de participer à tout moment. Si vous décidez de ne pas participer à cette étude ou si vous cessez de participer à tout moment, vous ne serez pas pénalisé ou perdre des avantages sociaux auxquels vous êtes admissible autrement. Si vous décidez d'arrêter de prendre part à l'étude, si vous avez des

	<p>questions, des préoccupations ou des plaintes, ou si vous avez besoin de déclarer une blessure liée à la recherche, s'il vous plaît communiquer avec la PI:</p> <p><b>Nancy Hayden</b>  <b>Van Munching Hall Room 4139, University of Maryland</b>  <b>College Park, Maryland 20742</b>  <b>Email: <a href="mailto:nhayden@umd.edu">nhayden@umd.edu</a>; T: 505-250-6895</b></p>
<b>Participant Rights</b>	<p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p style="text-align: center;"><b>University of Maryland College Park</b>  <b>Institutional Review Board Office</b>  <b>1204 Marie Mount Hall</b>  <b>College Park, Maryland, 20742</b>  <b>E-mail: <a href="mailto:irb@umd.edu">irb@umd.edu</a></b>  <b>Telephone: 301-405-0678</b></p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>
<b>Statement of Consent</b>	<p>Votre signature indique que vous êtes au moins 18 ans; vous avez lu ce formulaire de consentement ou avez eu de vous lire; vos questions ont été répondues à votre satisfaction et vous acceptez volontairement de participer à cette étude. Vous recevrez une copie de ce formulaire de consentement signé. Si vous acceptez de participer, s'il vous plaît signer votre nom ci-dessous.</p>
<b>Signature and Date</b>	<b>Nom du PARTICIPANT</b>
	<b>[S'il vous plait imprimer]</b>
<b>Statement of Consent</b>	<b>SIGNATURE du PARTICIPANT</b>
	<b>DATE</b>

**Supporting Document for Hayden IRB Application: Impact of Interventions in Somali Conflict on Resiliency of Local and Regional Actors – Discussion Topics and Semi-structured interview questions**

***Discussion Topics and Semi-Structured Interview Questions***

These questions derive from (1) the US AID framework for assessing conflict drivers, and (2) theoretical hypotheses regarding different mechanisms that influence the impact of peace operations, humanitarian aid, and development interventions by third parties in conflict settings; how mechanisms interact among different types of interventions to influence resiliency of different actors in conflict; and how the dynamics of conflict are shaped by the resiliency of these actors in conflict.

***Background***

1. What was the primary area of operations/concern for interventions?
2. How long have you been/were you concerned with/active in this area?
3. How did you interact with the local community in the area of operations?
4. What was the local language and how do you deal with any differences?
5. What conflict assessment method, if any, did you employ?

***Perspectives of Local Conflict Drivers***

1. What was the primary conflict in the area of operations? What is your understanding of the root causes and conflict drivers? How did those changed over time? What were the contributing factors and how did they mitigate or amplify the drivers? How did your activities address these root causes? Have those changed in the present?
2. What is your understanding of who the key stakeholders have been in the conflict?
  - a) What were the underlying interests of these stakeholders?
  - b) What were their perceptions of the conflict?
  - c) What actions did the different key stakeholders take to support (or oppose) peacebuilding? What were their capacities for taking action?
  - d) What is their current role?
3. What were the primary sources and means of power (physical, military, spiritual, personal ability and skills, identity, social capital) of the key stakeholders and how did they use these resources in conflict? Did your interventions change those? If so, how?
4. How did sources of power differ among identity groups in the area of operations? Men and women? How did different groups use power over each other? Do some key stakeholders depend on other key stakeholders with more power (e.g., is there a power imbalance) and if so, how?

5. Over time, what have been indicators of conflict escalation or de-escalation in your area of concern/operations? What were potential triggers or windows of opportunity (e.g., key events) remembered by one side or other that led to conflict escalation?
6. In your experience, were the key stakeholders open to change to reduce conflict in your area of operations, and what did they think was necessary to bring that change about? How did their desired changes relate to your mission for reducing violence and bringing peace and security to their community?
7. In your view, did your presence alter the power dynamics in the local community? If so, in what way(s) and how were conflict drivers affected?
8. In your experience, how did the drivers differ from the local to the regional and national scale?

### *Peace Operations*

1. What were the intended outcomes and metrics of success for your mission? Who defined those? Did you have any input? How successful do you consider your mission to have been?
2. Effective peace operations have been attributed to the mechanisms described below. To what extent were these processes important to the outcomes of your operations? Please be specific with examples.
  - Changing incentives for aggression relative to maintaining peace --especially through economic and political means
    - Peace dividends (e.g., socio/economic/political gains) for rank-and-file soldiers, political elite, and would-be spoilers
    - Influencing the perceptions of others regarding the legitimacy of different parties to the conflict
    - Military deterrence (increase cost of aggression)
    - Trip wire for enforcement missions from additional third parties
    - Condition aid upon compliance with peace operations
  - Alleviate fear and mistrust
    - Monitor compliance with cease-fires and rule of law, facilitate communication among parties in conflict, allow parties to signal intentions for peace
  - Prevent or control accidents or involuntary defection by hard-liners
    - Deter rogue groups, shift power towards moderates, ease communication, provide on-the-spot mediation, provide law and order, provide alternatives to escalation in response to alleged violations
  - Dissuade parties from political abuse and/or excluding the “other” from the political process
    - Monitor and/or train security sectors inclusively, monitor and/or run election processes, provide neutral interim administration, transform military groups into political operations
3. What other factors contributed to the outcome of your operations that are not mentioned above?



4. What factors were impediments to the success of your peace operations? What would be the most effective way to overcome those impediments?
5. Did you interact with groups that deliver humanitarian aid? What was your role in those interactions? Did those interactions significantly impact the outcomes of your peacekeeping mission (positively or negatively)? In what specific ways?
6. Did the involvement of troops from other countries, or of local militia, impact your ability to conduct effective operations? If so, how and to what extent?
7. Did the peace operations at the local level in your area of operations have an impact on the larger scale in the region? If so, how? What do you think may have been the implications for sustainability of peacebuilding operations?

*Humanitarian aid and development programs*

1. In your experience, what are the greatest immediate barriers and/or threats to human security? How did your mission address those barriers and/or threats?
2. Were other intervention programs addressing these barriers and/or threats in your area? What was your relationship to those?
3. In carrying out your mission, what kind of interactions did you have with local population? What were the primary social structures through which you engaged in implementing humanitarian aid or development programs?
4. Did interventions (peacekeeping, political, humanitarian, development) by other third party actors impact your operations? If so, which ones and how?
  - a) Did these programs had a positive, negative, or mixed impact in the on your operations in the short, medium, and long term<sup>282</sup>? In your view, what is the likelihood that the humanitarian aid or development operations have been sustainable?
  - b) What was the level of local involvement in these programs?
  - c) What is your understanding of the intended goals of these programs? How were those communicated to you?
  - d) Do you know who was accountable for the management of these programs?
  - e) In your experience, were there unintended consequences of these programs (positive or negative)? If so, did they impact your peace operations? If so, in what way(s)?
  - f) Did these programs impact local capacity building for peace building? Social cohesion? Community level trust? National level trust? If so, how?
5. Based on what you know, what was the level of local support for these programs? Was the level of support consistent across the different stakeholders? If not, who was more supportive and why?
6. From what you have seen, what has been the impact (economically and materially) of these programs in the short, medium, and long term with respect to their intended objectives?

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<sup>282</sup> Short term is 1 month – 1 year; medium term is 1 – 3 years; long term is 3 – 10 years or more.

7. How have these programs impacted relationships between people and institutions in positions of power at the local, regional, and national levels?
8. From what you have seen, have these programs been perceived as being accountable and inclusive at the local level? What was perceived as positive and why? What was perceived as negative and why?
9. How did these programs affected social cohesion, trust
  - a) within the local community
  - b) with the national government

## **Supporting Document for Hayden IRB Application: Simplified Peacekeeping Questions**

### **Background Information and Questions**

#### **Interview Subjects:**

This research requires two different levels of understanding: (1) what is happening on the ground at the local level and (2) how the local level and higher-level structures affect each other. The case study interviews will provide information from the viewpoint of peacekeeping troops and officers supporting AMISOM, from the viewpoint of program managers in Non-Governmental Organizations who provide humanitarian relief, and from the viewpoint of organizations who provide economic development aid.

#### **Interview Questions:**

The following questions fall into three broad categories: (1) understanding the subject's perspective of local conflict drivers, (2) understanding the intended outcomes of activities (peace operations, humanitarian aid, and/or economic development) and (3) understanding how the relationship between different types of activities affect outcomes at local and national levels for peace and security.

### **I. Local Conflict Drivers**

- 1) Where is the primary focus of your activities?
- 2) What is your understanding of the main cause of conflict in this area? How have those changed over time? Are your activities intended to change these conflict drivers?
- 3) What is your understanding of who the key stakeholders are in the conflict?
- 4) What are the primary sources of power of the key stakeholders and how do they use these resources in conflict?
- 5) How do sources of power differ among groups in the area of your activities?
- 6) What have been indicators of conflict escalation or de-escalation in your area?
- 7) Are the key stakeholders open to change to reduce conflict, and what do they think is necessary to bring that change about?
- 8) Does your presence change the relationships of power in the local community? If so, in what way and how are conflict drivers affected?
- 9) How do the drivers differ from the local to the regional and national levels? Where do your activities have the most impact?

### **II. Peace Operations**

- 1) What are the expected outcomes for your activities and how do you measure success? Who defines these measures of success? How successful do you consider your activities to be in the past and in the present?
- 2) Have the following processes been important to the achieving successful outcomes in your activities? If they have been important, please describe how.
  - Change motivation for aggressive behavior to motivation for peaceful and cooperative activities
  - Reduce fear and mistrust

- Prevent accidental escalation of conflict
  - Persuade leaders to be more inclusive in political processes
- 3) Are there other processes or factors that you use to create successful outcomes for your activities?
  - 4) What factors create problems for your activities? What is the best way to overcome these factors?
  - 5) Do you have contact with any of these other groups working in Somalia? If yes, what is your role? Does this contact change how you carry out your activities and the outcome of your activities? In what ways?
    - (1) Peace keeping troops from other countries,
    - (2) Organizations that deliver humanitarian aid?
    - (3) Organizations that provide economic development aid?
  - 6) Do the peace operations at the local level in your area of operations have an impact on the larger scale in the region? If so, how? What do you think may be the implications for sustainability of peacebuilding operations?

### **III. Interactions with Local Population**

- 1) How do you interact with the local population?
- 2) What is the level of local involvement in your programs? What is the level of popular local support for these programs? Is the level of support the same for all people? If not, who is more supportive and why?
- 3) Do you think your activities have changed relationships between different people in positions of power at the local level?
- 4) Do you think the local people believe that these programs are well managed, fair, and open to everyone? If your answer is yes, what do you think is the most important reason why? If no, what are the problems?
- 5) Do your activities change the level of trust and helpfulness between local people
  - a. and others within the local community
  - b. with the national government?
 If your answer is yes, is the change positive or negative? How does this change happen?
- 6) What are the greatest challenges to human security? Are the activities helping to overcome these challenges? If your answer is yes, how do they help? If your answer is no, do the activities make it harder to overcome challenges? How?

### **IV. General question**

- 1) What is the local language and how do you deal with any differences?

## Introduction Letter

Dear XXXXX,

I am a PhD Candidate at the University of Maryland School of Public Policy in College Park, Maryland, USA. I am conducting academic research on how peace operations, humanitarian aid and economic development interventions affect armed civil conflict. My case study is the Somalia conflict and interventions of regional and international actors.

I will be in XXXX from XXXXX conducting field research. I request a meeting during that time-frame with you or other individuals in XXXXXXXX Office who can discuss your views of XXXX policy and intervention actions, as well as the roles of other actors and their impacts on resiliency and stabilizing parts of Somalia, the Somali region of Ethiopia, and borders with neighboring countries. I expect the interview to last approximately one hour. The meeting may be conducted in your office or in a public location acceptable to you such as my hotel, the local university, or a convenient coffee shop.

For background, you can read about me and my research on my blog:<http://civilconflictstudies.net/research/> I have also attached a short abstract.

Can you please advise if it would be possible to arrange meetings? I will be happy to provide additional background information on my research or myself if that would be helpful.

I have coordinated this research and meetings with relevant US Embassies abroad, and in the DC area with the US State Department's Bureau of Conflict and Stabilization Operations and will be relating my dissertation to their conflict assessment framework, using concepts of system dynamics and resiliency.

Thank you very much for your help. Please let me know when you have received this email and who might be the most appropriate person to follow up with.

### ***Nancy K. Hayden***

Graduate Fellow, Center for International and Security Studies at Maryland (CISSM)  
PhD Candidate, International Security and Economics  
Asst. Director, Morocco Education Abroad  
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595-238-6072 (cell)

### **Script for recruiting military officers and personnel as interview subjects**

The Burundi military forces are committed to advancing education and training initiatives in support of development and regional stability. In that spirit, you are requested to consider participating in academic research on the role of peacekeeping operations in Somalia being conducted by Ms. Nancy Hayden. Ms. Hayden is pursuing this research to complete her doctoral dissertation at the Center for International and Security Studies at the University of Maryland in the USA. Her research promises to provide important insights of interest on the connections between security, humanitarian aid, and development activities for reducing armed civil conflict.

A research abstract is attached. You can also read more about Ms. Hayden's research on her blog site: [www.civilconflictstudies.net](http://www.civilconflictstudies.net)

Interviews are expected to last no more than an hour and take place in a mutually agreed upon place between XXX and XXX in Bujumbura. Ms Hayden speaks French but will also employ a translator fluent in both French and Kirundi.

Your involvement is completely voluntary. If you are willing to participate please contact Ms. Hayden directly to arrange for the time and location. At that time she will provide you with more background and sample questions, as well as a consent form.

Her contact information is:

Nancy Hayden  
[nhayden@umd.edu](mailto:nhayden@umd.edu)  
+1 505 250 6895

## IRB Approval Letter



UNIVERSITY OF  
MARYLAND

INSTITUTIONAL REVIEW BOARD

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DATE: August 6, 2014

TO: Nancy Hayden  
FROM: University of Maryland College Park (UMCP) IRB

PROJECT TITLE: [621968-1] Resiliency in Civil Conflict: Mixed Methods Research on Dynamics of Past Interventions

REFERENCE #:  
SUBMISSION TYPE: New Project

ACTION: APPROVED  
APPROVAL DATE: August 6, 2014  
EXPIRATION DATE: August 5, 2015  
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 6 and 7

Thank you for your submission of New Project materials for this project. The University of Maryland College Park (UMCP) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure which are found on the IRBNet Forms and Templates Page.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of August 5, 2015.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

## Appendix D: Model Specifications for Simulating System Dynamics

The correlation between risk factors and reference behaviors are incorporated into a dynamic system model of the underlying structures to simulate conflict behavior, measured as frequency of events, in response to different intervention strategies, and to test the strength of hypothesized mechanisms for generating the reference behaviors. Sensitivity studies using the model examine the plausibility of the proposed causal mechanisms to obtain the different reference behaviors, and assesses the likely resiliency of belligerents under a variety of initial conditions and intervention strategies involving aid and military peace operations. This model is tested on micro level data of the Somalia conflict that exhibits variations between the four reference behaviors seen at country levels. These strategies are evaluated in terms of their potential to create balancing or amplifying feedback loops for conflict violence and human insecurity.

The system dynamic model is built using VENSIM 6.3G PLE simulation software developed by Ventana Systems, Inc. in collaboration with Massachusetts Institute of Technology for causal tracing in complex systems and analyzing dynamic feedback models.<sup>283</sup> There are three primary steps in building the model: developing the structure, formulating equations to describe interactions between components in the structure, and verification of the model logic. The model builds on the basic conflict structures in the literature discussed in Chapter 1, developing new feedback structures to

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<sup>283</sup> VENSIM PLE is system dynamics software that is free for educational use, downloadable at <http://vensim.com/vensim-personal-learning-edition/>. VENSIM is one of two standard modeling packages recommended by the System Dynamics Society. Documentation for VENSIM is online at <http://www.vensim.com/documentation/index.html>.



incorporate insights from the econometric analysis and field research, and to test for the effects of peacekeeping operations, foreign aid, and displacements. Equations to describe interactions between structural components are inferred from theoretical considerations and hypothesized mechanisms. In most cases, some type of beta function, Weibull hazard function, or growth function is used. In some cases, where no convenient mathematical representation exists, normalized tables are constructed from data. These tables are used by VENSIM to interpolate relational functions. Verification tests of model coherency are conducted using the software tool, SDM-DOC.<sup>284</sup>

First, the model is tested for ability to replicate the basic reference behaviors associated with the conflict risk factors without interventions. Sensitivity to different staging and interactions between interventions is then assessed through simulation experiments that allow risk factors to co-evolve. These results are compared to evidence from different stages of the Somalia conflict at different levels of granularity. Insights from the model suggest intervention strategies most likely to be successful at generating balancing feedback loops that result in sustained collapse of conflict and transformation of conflict actors, and what combination of factors are most likely to lead to feedback loops that increase resiliency of conflict actors and result in either exponential conflict growth or indefinitely sustained adaptive behaviors and prolonged conflict.

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<sup>284</sup> SDM-DOC is verification software developed at Argonne National Laboratories to provide documentation of all equations and graphical data in VENSIM models, and test model quality and robustness. <http://vensim.com/new-sdm-doc-version/>.

## Glossary of Technical Terms

Carrying Capacity: the population that a system can support, as determined by the amount of resources available in the environment and the resource requirements of the population.

Damped impulse: is a reference behavior arising from a type of oscillatory structure characterized by a system that, when perturbed by an impulse, is locally stable: the perturbation will cause the system to oscillate but it will eventually return to the same equilibrium.

Expanding oscillations: is a reference behavior in which small disturbances tend to create instability, moving the system farther away from equilibrium with large oscillations, often constrained within some type of limits.

Exponential growth: a system reference behavior arising from positive, self-reinforcing feedback, in which larger quantity results in greater net increase, further augmenting quantity and leading to ever-faster growth rates. In pure exponential growth, the doubling time is constant.

Feedback loop: a closed chain of causal influences within a system that may be either amplifying (causing positive growth in a variable) or balancing (negative growth in a variable). Feedback loops are the basic unit of analysis of a dynamic system structure.

Goal-seeking: a system reference behavior arising from a combination of positive growth feedback loops counteracted by negative loops that seek balance, equilibrium, or stasis in line with a goal or desired state. Goal-seeking behavior in which corrective action is exactly proportional to the goal-gap results in exponential decay.

Latitude: the maximum amount a system (or its subsystems) can be changed before crossing a threshold, which, if breached, makes recovery difficult or impossible.

Oscillatory: a reference behavior arising from structure characterized by both amplifying (positive) and balancing (negative) feedback loops, in which state of system constantly overshoots its goal or equilibrium state, reverses, then undershoots, and so on. Overshoot and undershoot are caused by delays in perceptions, decisions, actions, information.

Overshoot and collapse: a system reference behavior characterized by initial exponential growth in which the carrying capacity of the system is eroded by unsustainable growth rates, resulting in eventual population decline and extinction if capacity resources are not renewed.

Panarchy: the degree to which cross-scale interactions among interdependent elements affect nested adaptive cycles of growth, accumulation, restructuring, and renewal, accounting for different timescales of dynamics. This heuristic emphasizes that disturbance is part of development of resilient systems, and that periods of gradual change and rapid transition coexist and complement one another.

Precariousness: how close the current state of the system is to a threshold

Reference Behavior (or mode): an archetypal pattern of the change in a system state variable or output over time. The three most fundamental reference behavior types are exponential, goal seeking, and oscillation. Each is generated by a characteristic feedback structure. These feedback structures can be combined and interact to yield additional, common reference behaviors (e.g., growth with overshoot, overshoot and collapse, damped impulse, and S-shaped growth).

Resiliency: The original socio-ecological definition of resilience introduced by Holling (1973) is the capacity for relationships within systems to persist within a particular stability domain (where there are multiple possible stable equilibrium domains) in the face of change due to ecological processes, random events, or heterogeneities of scale. Folke (2011) discusses expanded definitions for resiliency that now include the capacity for self-organization and adaptive learning for renewal, re-organization, innovation and development to discover and reach new, higher performing equilibrium states (domains) as a result of changes in the environment.

Resistance: the ease or difficulty of changing a system

S-Shaped growth: a reference behavior characterized at first by exponential growth followed by growth rates that slow to an equilibrium level as carrying capacity is reached and that information is communicated through balancing feedback loops to control growth rates. S-Shaped growth requires that there be no delays and that carrying capacity is fixed; this implies nonlinear interaction between positive and negative feedback loops.

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