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Climate Variability and Conflicts:

The Number Conflicts in the Horn of Africa significantly correlated with the El Niño-Southern Oscillation (ENSO)

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Capstone Bachelor Thesis

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Abbreviations

HOA	Horn of Africa - Djibouti, Ethiopia, Somalia, Sudan and Kenya
ENSO	El Niño-Southern Oscillation
SST(A)	Sea Surface Temperature (Anomalies)
FAO	Food Agriculture Organization
WFP	World Food Program
UCDP	UPPSALA Conflict Data Program
GED	Georeferenced Event Dataset
NWS	National Weather Station
NOAA	National Oceanic and Atmospheric Administration
ONI	Oceanic Niño Index
CPC	Climate Prediction Center
NCEP	National Centers of Environmental Prediction

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Abstract

The Horn of Africa (HOA) – comprising Djibouti, Ethiopia, Somalia, Sudan and Kenya – is an environmentally vulnerable and geostrategic region, characterized by ethnic diversity and recurring inter- and intrastate conflicts. According to Thomas Homer-Dixon's Environmental Scarcity Theory, such conflicts may be driven by environmental stressors like droughts, which exacerbate resource scarcity and social tensions. Historic droughts in HOA have partially linked to La Niña events. El Niño and La Niña are phases of the El Niño-Southern Oscillation (ENSO), a natural fluctuation in SST(s) in the tropical Pacific Ocean's Nino 3.4 region. During La Niña events, SSTs are below average, while El Niño events are associated with above average SSTs. By analyzing SST data from the National Oceanic and Atmospheric Administration (NOAA) and conflict data from the UPPSALA Conflict Data Program (UCDP) over the last two decades, this thesis found a statistically significant negative correlation (p-value < 0.05) between SST anomalies in the Niño3.4 region and the number of conflicts in the HOA. In other words, it was found that conflicts on HOA tend to be more frequent during periods of relatively low SSTs (i.e., during La Niña events). This finding lends support to Homer-Dixon's theory, suggesting in particular that La Niña can be considered a risk factor for conflict in HOA. Future research could investigate other regions highly sensitive to ENSO-related climate variability, such as Chile or China, to further examine the relationship between climate and conflict.

Keywords: El Niño-Southern Oscillation (ENSO), Niño3.4, Horn of Africa (HOA), conflict, Sea Surface Temperature

Introduction

The Horn of Africa (38°–53°E, 5°S–8°N, from now on HOA), consisting of Djibouti, Ethiopia, Somalia, Sudan and Kenya, has long been a region of interest for political and environmental scientists (Figure 1.). There are many internal and external factors that contribute to the violent conflicts that have been and still are ongoing in this region (Bereketeab, 2015; Williams, 2016).

Moreover, HOA is highly vulnerable for climate extremes including those that result from natural oscillations such as the El Niño-Southern Oscillation (ENSO). The interannual variability and the anomalies lead to a variety of environmental conditions such as cross-cutting environmental scarcities. These scarcities in for example water, food and energy have profound consequences for ecosystems and human livelihoods (Restuccia, 2024). In the last two decades these fields have been integrated through interdisciplinary literature, the climate-conflict nexus is one of the biggest challenges discussed in the research field of environmental security (Schwartz et al., 2000).

While there is no concrete causality that ENSO leads to more conflicts, it is meaningful to explore if there is a correlation between the interannual variability of ENSO and the number and/or intensity of conflicts. Roy (2022) discussed *the role of ENSO on Conflicts in the Global South* and found that overall there were more conflicts during El Niño years than La Niña years (Roy, 2022). Another study by Ko et al. (2024) on 'war and warming', found that climate-driven scarcity fosters small-scale conflicts within nations. Geopolitics and environmental scarcity additionally led to internationalized intrastate war (Ko et al., 2024). Both studies included research done by Burke et al. (2009) on how *warming increases the risk of civil war in Africa*. They found strong historical linkages between civil war and temperature in Africa; warmer years lead to significant increase in the likelihood of war (Burke et al., 2009).

Recent studies have also indicated that climate change has the possibility to intensify the swings of the ENSO (Cai et al., 2023; Yang et al., 2018). In particular Cai et al. (2023) found a positive correlation, specifically impacting the tropical regions, however the research field is yet to be developed, therefore no conclusion can be made, neither has conclusive evidence been further provided (Cai et al., 2023).

Figure 1. Map of the Horn of Africa (ar.inspiredpencil, 2021)

ENSO and its Climate Impacts on the Horn of Africa

Large-scale climate modes, such as El Niño-Southern Oscillation (ENSO), play a big role in the interannual variability of global climate. ENSO is a recurring climate pattern which involves changes in the sea surface temperature (SST) in the central and eastern tropical Pacific Ocean (US Department of Commerce, NOAA, National Weather Service, 2019). During periods ranging from three to seven years the surface waters across the Pacific warm or cool down, this can vary from 1 to 3 °C, compared to normal. This oscillating warming results in two contrasting phases (i.e., El Niño and La Niña) that are driven by the strength of the trade winds. During El Niño events, trade winds weaken, and warm water accumulates off the South American west coast. During La Niña events, trade winds strengthen, increasing upwelling and bringing cold, nutrient rich water to the surface (NOAA, 2024). Through atmospheric teleconnections, ENSO, with its two distinct phases, El Niño and La Niña, significantly influences global temperature and precipitation patterns around the world, directly impacting rainfall

distribution (US Department of Commerce, NOAA, National Weather Service, 2019). Global weather patterns are disrupted by alteration of SSTs, changing it to either warmer or cooler than average temperatures.

There are several ways to measure and monitor ENSO. The National Oceanic and Atmospheric Administration (NOAA) officially uses the Oceanic Niño Index (ONI) as their ENSO indicator, based on the SST in the east-central tropical Pacific Ocean. Different regions were defined for measurements (Niño1 - Niño4), however as there is more data available for Niño3.4 most researchers and papers are based off of Niño3.4 (a combination of Niño3 and Niño4), spanning from 120°W to 170°W longitude (Barnston, 2015).

Globally there has been a rise in SST, as the anomalies in the upper time series in Figure 2. presents an upward trend. The lower time series is specifically on the SST in the Niño3.4 region, where no significant trend can be found (Copernicus, 2025; McPhaden, 2023). Despite the fact that no trend was found, global SST rise would greatly impact the HOA and other countries less resilient to changes in climate and its modes.

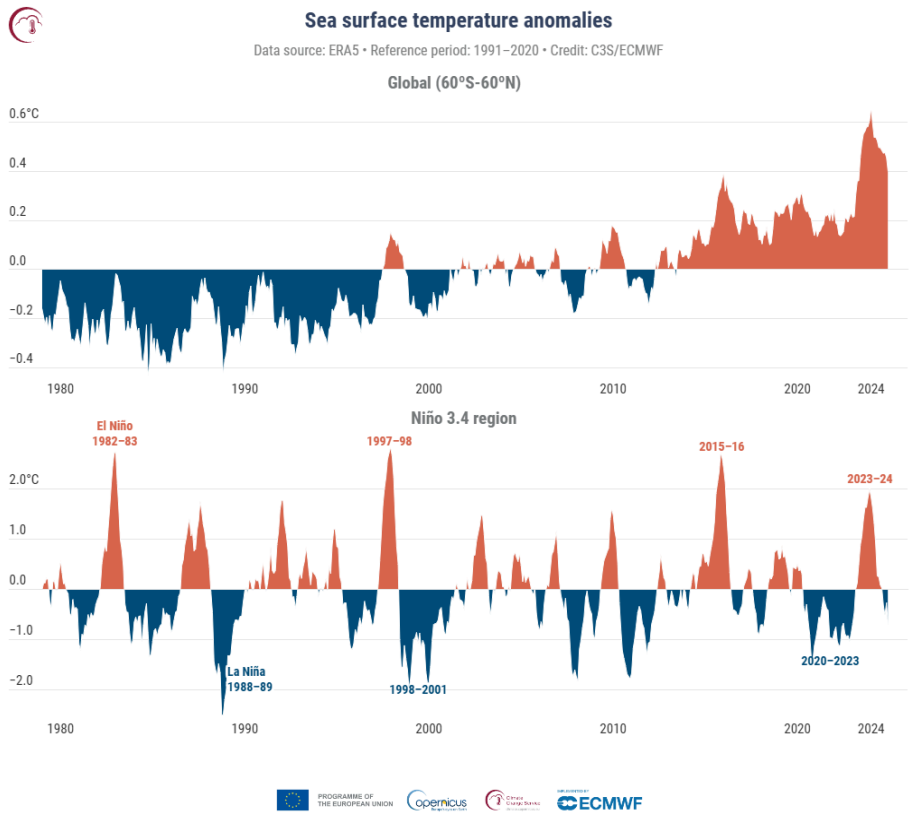

Figure 2. Monthly sea surface temperature (SST) anomalies averaged over the extra-polar (60°S - 60 °N; top) and over the Niño3.4 region (5° N- 5° S, 170°W - 120° W; bottom). Anomalies are relative to the average for the 1991-2020 reference period for the corresponding month. Data ERA5. Credit C3S/ECMWF. (Copernicus, 2025)

Historically El Niño has led to floods, destroying infrastructure, leading to the perishing of livestock and increased risk of crop failures (CARE International, 2023). La Niña brings dryer conditions to the region during the short rains period. This leaves the region, depending on the short rain period, without drinking water nor water used for irrigation (Paddison, 2023). Agricultural goods are a large part of the exported goods of many African countries, the Horn of Africa is no exception, making their economic system vulnerable to ENSO. Degradation of arable land due to ENSO, further enhances the risk of famine and lowering the states resilience (Messer & Cohen, 2007).

The FAO-WFP report (2024) warns that the projection of the upcoming La Niña is expected to intensify drought conditions from late 2024 to mid-2025, posing risks to vulnerable food systems in 22 designated “hunger spots”. These regions, encompassing 15 countries and two regional clusters, are expected to face worsening food security due to a combination of climate shocks, conflict and economic instability (Shikanda; World Food Programme, 2024). In the HOA region, Somalia, Ethiopia, and Kenya are all at risk, Sudan and South Sudan are at the highest concern levels and are already facing catastrophic (Phase 5) food insecurity - heightening risks of conflict over dwindling resources. The report (2024), further warns that an increase in food insecurity is likely to cause severe access constraints in all identified “hunger spots”, especially Somalia and Ethiopia. Intercommunal conflict will continue to restrict market access, livelihood opportunities and humanitarian access in South Sudan. Chad is at risk of conflict and insecurity, due to the influx of refugees from Sudan (World Food Programme, 2024). Widespread famine has further been exacerbated by geopolitical tensions. Over 40% of Africa’s wheat supply is provided by Ukraine and Russia (Burrier, 2022).

Societal Relevance and Importance

Climate modes affect the whole globe, and not all states have the means to mitigate or data to anticipate their effects. Often regions, such as HOA, that, are dependent on the short rainy season for their own agriculture and global breadbaskets[1] (located in e.g. the United States or China), are disproportionately affected by ENSO (Caparas et al., 2021; Qu et al., 2019). If climate variability fuels conflict, the cascading effects of growing numbers of refugees and asylum-seekers will result in further instability in neighboring regions, countries or the Global North (UNHCR., n.d; World Food Programme, 2024). In addition, in a state of internationalized conflict the war costs and burdens will be shared among all countries involved. It is therefore of importance to explore the potential relationship between ENSO and conflict. This Capstone bachelor thesis explores the relationship between ENSO and conflicts, particularly in the Horn of Africa.

Research Question

Are the sea surface temperature in the El Niño Region and the number of conflicts in the Horn of Africa significantly correlated?

This study focuses on conflict as defined by the UPPSALA Conflict Data Program (UCDP).

Theoretical framework

Homer-Dixon's Environmental Scarcity Theory

While there is yet to be literature on the direct correlation between ENSO and conflict, the food-conflict nexus has long been discussed and documented. Homer-Dixon (1994), argues that environmental stress, in other words 'scarcities', can lead to social tensions and violent conflict,

[1] Breadbaskets regions where highly arable land is available for large amounts of food production, particular grains to feed their people as well for export to other places, such as HOA (Caparas et al., 2021;WorldAtlas, 2017)

especially in fragile states. In his book *Environmental, Scarcities and Violence*, he proposed the Environmental Scarcity Theory (Homer-Dixon, 1994). This theory highlights how scarcity exacerbates poverty, drives migration, sharpens social divides and weakens institutions; erupting in insurrections, ethnic clashes, urban unrest, and civil violence. The scarcities stem from resource degradation ('decrease in quality and quantity of renewable resources'), increased demand, and unequal distribution (Homer-Dixon, 1994; Appendix A).

When applied to this research with ENSO and Horn of Africa as its focus, the following causal mechanism in Figure 3. can be derived; *ENSO* either leading to *floods or droughts* depending on the SST, resulting in *resource scarcity*, such as water depletion, crop failure and livestock mortality. The *livelihoods disruptions* are triggered by collapse of farming/pastoralism, forced migration and market price shocks, following competition/grievances, and eventually issuing conflict. This can take form in communal violence over water/land. *Unequal distribution* acts as a mediator in this model. Depending on the state fragility and economic desperation among citizens, recruitment into armed groups can drive the conflict into a more violent direction (Cribb, 2010). There is a positive correlation drawn between conflict and the cascading mechanism since conflict drives itself as well. Indicating that there is a positive feedback loop once the mechanism is triggered and conflict has occurred (Cribb, 2010).

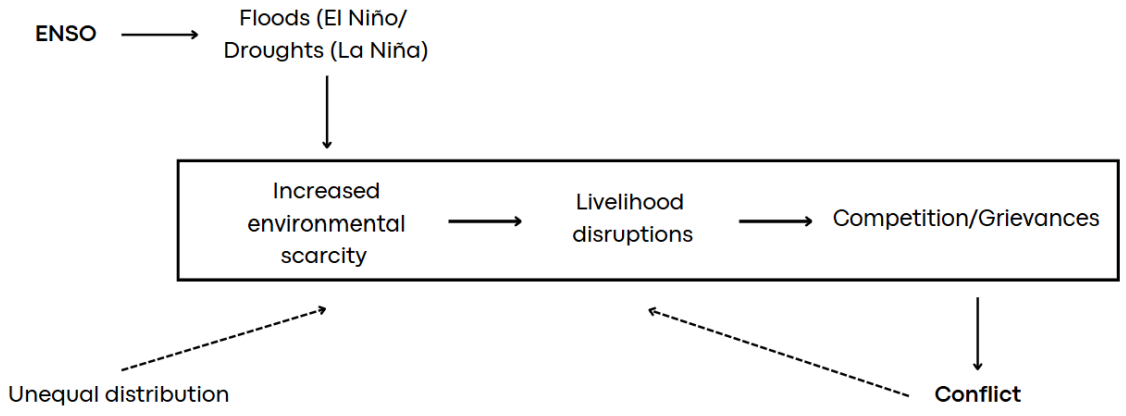

Figure 3. Modified Environmental Scarcity Theory framework proposing a causal mechanism, with ENSO being a risk factor of conflict. Dotted arrows indicate relations that can be present. (Modified

framework by thesis author)

Food Insecurity, Unequal Distribution and Conflict

There is much literature supporting and applying the Environmental Scarcity Theory, as Jimmy Carter (1999) puts it, *"There can be no peace until people have enough to eat. Hungry people are not peaceful people"* (Carter, 1999). Specifically looking at food insecurity as environmental scarcity, it is often classified using the Integrated Food Security Classification (IPC), this metric classification is also used in the FAO-WFP report. It ranges from Phase 1 (minimal stress) to Phase 5 (famine/catastrophe). Phase 5 denotes that households and citizens, regardless of full employment of coping mechanisms, cope with an extreme lack of food and/or other basic needs, acute malnutrition, and mortality rates exceeding thresholds, requiring urgent intervention to prevent mass starvation and total collapse of livelihood (IPC, 2024; World Food Programme, 2024).

Comprehensive research by Buhaung et al. (2015) provides a nuanced perspective on the relation between food insecurity and conflict. Their empirical assessment on the indirect relationship on climate variability, food production, and political violence across Sub-Saharan Africa found a robust link between weather patterns and food production but only weak and inconsistent connections between agricultural output and violent conflict, suggesting that the wider socioeconomic and political context is more significant than drought and violent conflict in contemporary Africa (Buhaug et al., 2015). This finding does not disprove the Environmental Scarcity Theory; on the contrary, it highlights that *unequal distribution* is a crucial mediating factor that, if addressed, could reduce the impacts of floods and droughts and the risk of conflict as seen in Figure 3.. When agricultural output declines, but the distribution remains equitable, then it does not always lead to significant disruption of livelihoods, nor competition or grievances. These risks must be contextualized. In settings where unequal access intersects with structural violence – chronic poverty, youth unemployment, and gender inequality – alternative surviving strategies often emerge, such as joining rebellions or insurgent groups. In these cases, violence is used primarily for economic gain rather than political revolution, and presence or absence of opportunity structures determines whether environmental stress escalates in armed conflicts (Cribb, 2010; Mekonnen Mengistu, 2015). Thus, context should be considered, and structural violence

should be understood as both a precondition and amplifier of environmentally driven conflict.

Definition of conflict

As discussed above, resource scarcity caused by climate variability (e.g., ENSO-driven droughts and floods) can lead to social tensions and violent conflict. There are several ways to define and categorize the different types of conflicts. In his book *War and Conflict in Africa,* Paul D. Williams (2016) uses the definition by Zartman (Government , p.1.). Here conflict is referred to as;

> "*the pursuit of incompatible goals by different groups with a focus on the subset of conflict, namely, warfare; the use of organized violence by collectivities for political purposes which result in casualties. Warfare is not characterized solely by violence but is a social and political condition which affects the lives of those touched by it in many different ways, not all of which relate directly to acts of violence*" (Williams, 2016; Zartman, government, p.1.).

Another way to categorize conflicts used by Bereketeab (2015), is based on Axt et el. (2006), they make distinctions based on whether the conflicts are violent or non-violent and inter- or intra state. For the first categorization there are five subsections based on the severity of the violence, which are: (1) latent conflict, (2) manifest conflict, (3) crisis, (4) severe crisis, (5) war. The first two are perceived to be non-violent (Axt et el. 2006). For the second categorization inter-state is perceived to be fought between two or more state members of the inter-state system. Conflict fought within the center of one of the member states of the system by forces of the regime against an insurgent group will be categorized differently depending on the political status of combatants. If they are recognized members of the international state system, then it is still an inter-state conflict. If the opposite is the case, the conflict is defined as intra-state or civil. To elaborate intra-state conflict are those between or among two or more groups within the internationally recognized territory of the state. They include civil wars and intercommunal conflicts (Bereketeab, 2017). Traditional views in political science link conflicts to forms of political instability, de Soysa et al. (1999) from the International Peace Research Institute of Oslo challenges this idea by stating that "*the new internal wars, extremely bloody in terms of civilian*

casualties, reflect subsistence crises and are largely apolitical" (de Soysa et al. 1999).

While at baseline the definition by Zartman will be used, this research diverts from the assumption that political purposes are the mere driver of organized violence, conflict and warfare. Given the scope of this research the focus will be on violent conflicts, thus armed and either a crisis, severe crisis or war, in the latter categorization of interstate and intrastate war. This aligns with the types of conflicts defined and integrated in the UCDP codebook and their data on armed conflict. Those being; state-based conflict, non-state conflict and one-sided violence. State-based conflict, or armed conflict, concerns government and/or territory where the use of armed force between two parties, of which one at least is the government of a state. This is the opposite of non-state conflict, since while armed force is used between the two organized armed groups, neither of the warring parties is a government of a state. The third group is one-sided violence, there is a deliberate use of armed force by the government of a state or by a formally organised group against civilians. All three types result in at least 25 battle-related deaths in one year (UCDP, 2024).

Drivers of conflict in the HOA

Many scholars have argued that the persistent conflicts and civil wars in the Horn of Africa (HOA) have created a state of political instability and widespread human suffering (Williams, 2016). Although the fact that socio-economic and political dynamics are not the primary focus of this study, understanding the prevalence of conflict in HOA requires consideration of the historical, cultural and international drivers – both internal and external — that often overlap. As Hamdy A. Hassan (2021) explains, this overlap is largely due to the framing of HOA as a geopolitical concept, whose definition geostrategically transforms in accordance to the interest of the dominant global and regional actors (Hassan, 2021). This view opposes that of de Soysa et al. (1999) that contemporary internal wars are largely apolitical (de Soysa et al., 1999). In the context of HOA, political motives remain deeply ingrained. The following section unpacks the historical, cultural and international dimensions of conflict in the region.

Ethnic and Cultural Diversity & Colonialism

Prior to colonization, various ethnic and cultural groups coexisted within informal agreements on territorial boundaries, which minimized friction conflicts over the resources (FEYISSA & HOEHNE, 2010). However colonial interventions – particularly the redistribution of Africa and HOA through the lines of demarcations established at the Berlin Conference (1884-85) – disrupted these arrangements, separated whole regions and tribes into two or more countries (Winn, 2024). The Somali people, for instance, were divided among Somalia, Ethiopia, Kenya, and Djibouti, creating cross-border tensions that persist today. Colonial legacies also introduced racial and religious hierarchies. Mekonnen Mengistu (2015) argues that people's social relationships suffered as a result of the spread of colonial sentiment; ranking religions, and skin color. This racial ranking amongst the people in HOA is seen as a major factor of interstate conflicts within countries that spill over its borders. This aligns with Fanon's (1963) theory of psychological colonization, arguing that; not only land was colonized, but also the mind, restructuring identities and social relations (Fanon, 1963). Post-colonial political elites have often used the fostered hatred – caused by a belief that ethnic groups are favoured by the former systems, and therefore dominant in post-independence regimes – to manipulate ethnic and regional sentiments for their own political gain fueling polarization and interethnic hostility (Mekonnen Mengistu, 2015).

These dynamics are visible in Eritrea, colonized by both Italy and Britain up until 1952 and gained independence from Ethiopia in 1991, over half the population is Bihar-Tigringy and Christian (incl. its other forms), with some of them practicing Islam. The second most prominent group is Tigre (28%), they also practice Christianity and Islam. The other five ethnic groups are each 2-3% of the Eritrean population (WorldAtlas, 2019). The ethnic divisions have intersected with religious identities, contributing to interstate conflicts like the Eritrea-Ethiopia war (1998-2000), which contributed to the Ethiopian-Tigray war (2020-2022) over the disputed Tigray region, as illustrated in Figure 4. (Bereketeab, 2015; Dubale, 2024).

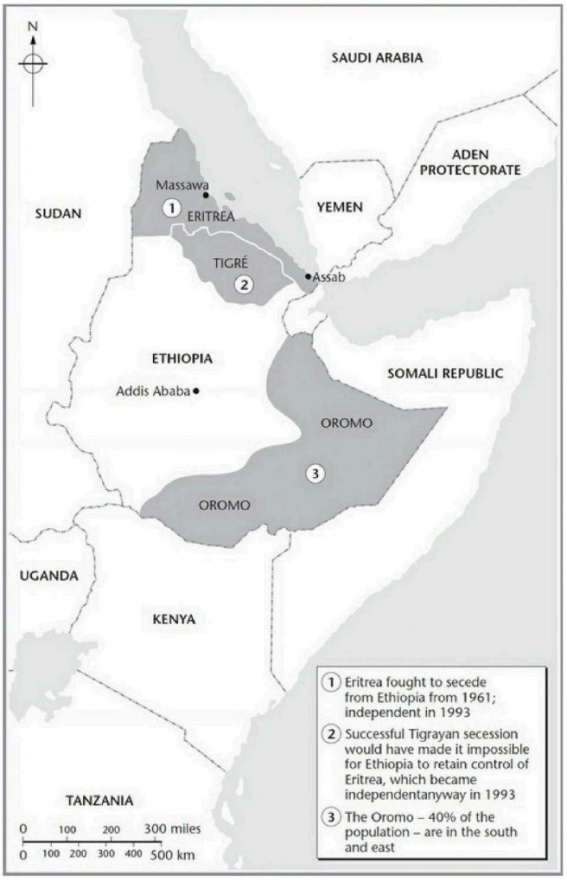

Figure 4. Map Horn of Africa before establishment of Djibouti and South Sudan by *War in the Horn of Africa, chapter nineteen* (Arnold, 2005)

Religious cleavages also play a role in Sudan, similar to Somalia 90% of the population practices Islam. Similar to the Middle Eastern (ME) countries, there are constant tensions embedded in religion, between the Sunni and Shi'te (Abbink, 2020; Ghattas,2020). The marginalization of the non-Arab Christian populations in the south of Sudan was a key driver of the Darfur crisis (2003-2020) and South Sudan's eventual secession (2005) (Abbink, 2020; Mekonnen Mengistu, 2015). These examples portray why racial divergence groups are one of the key factors leading to conflict in HOA (Agyeman-Duah, 1996; Mekonnen Mengistu, 2015).

Finally ethnic and cultural fragmentation often leads to a ripple effect of cultural detachment with oneself but also often creates a "we vs them" mentality between social groups, eroding national unity and invites manipulation by actors that benefit from this polarization (Cikara et al., 2011; Mekonnen Mengistu, 2015). Enhancing the competition element of the cascading effects in the causal mechanism seen in the modified framework (Figure 3.).

The Cold War and 9/11 Militarization

During and after the Cold War (1947-1991) the nation-state model based on post-colonial political and economic unity was installed. Instead of achieving the expected stability and security in the region, rivalry between the then superpowers in this bipolar world, the United States (US) and the former Soviet Union (SU), gave the perfect breeding ground to militarization in the Horn and other African states, changing the map of regional alliances. This was most evident in the subregions of the HOA, namely Ethiopia, Somalia and Djibouti (Agyeman-Duah, 1996, see Appendix B for a detailed case study). Violent conflicts became more prevalent as countries with opposing ideologies and disputed common borders, such as Tigre or Ogaden (partially former Oromo, Figure 4.) were now given a chance to team up with one of the superpowers that would supply them with atinitary. Regional elites benefited from the bipolar competition, unsettled domestic politics were settled by use of force and there were more means to maintain power. Prime examples of militarized conflict in this time period are the Ethiopia-Somalia war (1977-78) and the Djiboutian Civil War (1994-99) (Agyeman-Duah, 1996; Mekonnen Mengistu, 2015).

All conflicts and tensions eventually led to the rise of nationalism all over HOA during the 1990s (Mekonnen Mengistu, 2015). Nationalism is an issue as e.g. Somali nationalists claim self-determination for former parts of the Somali nation that remain outside of the Somali state (FEYISSA & HOEHNE, 2010). Essential to note that while the legacy of colonialism and ethnic tensions were already evident, the scope of casualties and violence would have been restrained without the militarization during the Cold War (Agyeman-Duah, 1996).

A second wave of militarization emerged after the 9/11 (11 September 2001) terrorist attack by Al Qaeda on the US. This had international implications for US security and foreign policies, resulting in a counter-terrorist focus. Wekesa and Rikhotso (2021) analysed what the implementations were for HOA and found that change in security policies resulted in further moving away from humanitarian aid, and moving towards military aid[2]. This meant focussing on assisting nations in combating violent extremism, primarily terrorism, in forms of training and supplying weapons. African issues, such as poverty, poor

[2] After the failed military intervention amidst the Battle of Mogadishu (1993) the United States has been disengaging from the Horn (Wekesa & Rikhotso, 2021).

governance, incapable militaries, civil war and corruption, were seen as national security risks to the US (Dubale, 2024; Wekesa & Rikhotso, 2021). This second wave of militarization further enhanced the degree of violence in conflicts.

Political and Economic causes: Geostrategic 21st century hotspot

Beyond European powers and Cold War superpowers, actors like China, Israel, The Gulf states and Middle Eastern (ME) countries have become major players. Separated by only the Red Sea, ME states share cultural ties and economic interests with HOA, particularly regarding oil transit and Arab-Israeli politics (Dubale, 2024). Djibouti, for instance, maintains a pro-Palestian stance and refuses to establish diplomatic ties with Israel, similar to other Arab dominated nations (Back, 2021).

Israel's involvement began during the Cold War in line with the US against the Soviets. Post-9/11 they exploited African states' needs in providing arms and military training (for armies and security forces) to counter Islamist movements. They did this from the same standpoint as the US, positioning themselves against Arab-aligned actors in the regions (de Waal, 2023).

Following the 2008 financial crisis, Gulf states and ME increased investment in HOA as a stable alternative to Western markets. As US disengagement in many fields left spots open, ME was slowly able to dominate niche fields, such as humanitarian aid, peacekeeping and e.g. maritime logistics to have a positive visibility and low political costs (Donelli, 2020).

The increased interest in HOA and the Red Sea also brought its challenges as regional competition among Saudi Arabia, the United Arab Emirates and Turkey moved alongside (Dubale, 2024). This newly formed security complex also includes China, Russia and other international powers aspiring to control and have influence in HOA (Hassan, 2021, see Figure 5). In addition to tensions among external parties that could lead to a new series of proxy wars, there are also environmental risks involved. The Gulf states view Africa's 60% of uncultivated arable lands as a strategic opportunity to build food security. The asymmetrical power relations of the regions, due to the influx of migrants and refugees makes this relation another risk for conflict (Donelli, 2020). Particularly Ethiopia's agricultural potential has peaked the interest of corporations, states and individuals, leading to misuse of land, modern land grabbing, without benefitting the nation itself (Mekonnen Mengistu, 2015).

Figure 5. Map involvement Gulf states and other actors in Horn of Africa (Larsen & Stepputat, 2019)

China has also emerged as a key power in HOA, reflecting a broader shift from unipolar to multipolar world order. By many they are seen as a security risk as they were able to set up a military base in Djibouti, other sources regard it as a logistical base (Dubale, 2024; Muss'id, 2023). Through its Initiative of Peaceful Development in HOA (2022) and the Belt and Road Initiative (BRI) investments in infrastructure, China has promoted South-South[3] cooperation and development partnerships (Jie, 2024). This soft power strategy is controversial: with scholars questioning whether China's economic penetration is a form of neo-colonialism in the region or strategic balancing against US influence. Interestingly, the aims of the collaboration are to promote security, development and governance, thus maintain peace and work towards a sustainable future, with resistant economies (Kyirewiah & Attah, 2024). Aligning with the clear pattern emerging of China becoming one of the biggest producers of green

[3] China categorizes itself as part of the Southern Hemisphere, hence South-South cooperation (Muss'id, 2023).

energy, through distributing electric vehicles and solar panels, making them a reliable partner with mutual benefit (Gebru, 2020; Kyirewiah & Attah, 2024). Paradoxically, China's success in bilateral cooperation created a new front outside the Asia-Pacific region challenging both the remaining power of the US in the region, and lingering European colonial legacies. Raising the risk of renewed proxy conflicts and broader security concerns leading to further global security risks (Antonopoulos, 2018). Today, the US, China and Gulf states all hold significant economic influence in the region (Donelli, 2020).

Methods

Research Design

A quantitative research approach was chosen to answer the research question. A Pearson linear correlation will be tested between the number of conflicts in the HOA and the SSTA values of the Niño3.4 region. The latter characterizes ENSO and its phases (El Niño and La Niña). In order to assess the significance of the correlation, two metrics will be used: the Pearson correlation (R) and the p-value. A correlation with a p-value lower than 0.05 is considered statistically significant.

It is firstly important to obtain robust data on conflict occurrences over a time period that has multiple El Niño and La Niña events, ideally over a period longer than 30 years. A second dataset with the SST and SSTA values of the Niño3.4 region is necessary.

Data collection

In this study, conflicts and ENSO data were accessed from the UPPSALA Conflict Data Program (UCDP) Georeferenced Event Dataset (GED) Global version 24.1 (from now on UCDP data), and the National Weather Service of the National Oceanic and Atmospheric Administration (NWS-NOAA), specifically their Climate Prediction Center (CPC, NOAA's Climate Prediction Center, 2017).

The UCDP data is UPPSALA's latest dataset on armed conflict, consisting of individual events of organized violence that occurred from 1989 - 2024 (Davis et al., 2024; Sundberg et al., 2013). The different types consist of the prior named conflicts; 1) state-based conflict, 2) non-state conflict, and 3) one-sided violence at the level of individual villages (UCDP, 2024). The UCDP is one of the oldest

ongoing data collections for civil war, and one of the world's main providers of data on organized violence (UPPSALA University, 2024). By using this dataset it is possible to retrieve the number of conflicts per year in the Horn of Africa.

The second dataset (from now on ENSO data) containing data on SST from 1981-2025 came from the CPC and is made by the National Centers of Environmental Prediction (NCEP), part of NOAA. The dataset is available through this link: https://www.cpc.ncep.noaa.gov/data/indices/wksst9120.for. More information was found on the official NWS-NOAA website, here the data was called the Oceanic Niño Index (ONI) and is NOAA's primary index for tracking the ocean part of ENSO. The ONI data is updated automatically on the first Thursday of every month, providing up to date accurate information on cold and warm episodes by season, through the high frequency filter applied to the ERRSTv5 data (Huang et al. 2017, J.Climate). The ONI values, and thus the SST values in the ENSO dataset, are the continuous 3-month average temperature anomaly on the SSTs of the east-central tropical Pacific, near the International Dateline. Values of +0.5 above normal SSTs or higher indicate El Niño, and are colored in red. Values of -0.5 or lower indicate La Niña and are colored in blue. The threshold is met for a minimum of 5 consecutive overlapping seasons (Lindsey, 2009).

The data processing and analysis was made possible by the use of RStudio.version(2024) for the UCDP data, for the ENSO data a combination of Excel and Google Sheets was used. The correlation between the two variables was done through RStudio.version(2024) as well.

Data cleaning

In order to study the relation between the ENSO and armed conflict in the Horn of Africa, the UCDP data had to be firstly cleaned. The dataset contains data on all conflicts that happened around the globe, which is why it firstly was filtered to the countries in the Horn of Africa, "Djibouti, Ethiopia, Somalia, Sudan and Kenya". A second round of cleaning left out repeating conflict indicators by taking only unique conflict identification numbers (assigned as conflict_new_id in the dataset), this however did not account for the property if the conflicts were singular or consecutive events, since only the first occurrence of their unique conflict identification number was mentioned would be kept, a new dataset was created.

As for the ENSO data, it contained the SST and the SSTA of multiple Niño regions, the study region resides in the Niño 3.4 region, which is why only this data was kept and used in the analysis. The data was noted per month, therefore a column with the yearly average of the SST and SSTA had to be made. To get the most accurate correlation, firstly, seasonality had to be taken into account, which is why the following different categories were made based on the meteorological seasons; DJF (Dec-Feb), MAM (May-Mar), JJA (June-Apr) and SON (Sep-Oct). Additionally, both an annual average and an April–June (AMJ) average were used. The AMJ period was chosen because it corresponds to the rainiest three-month season in Djibouti (climatestotravel, 2004).Secondly, as El Niño and La Niña events follow up on each other every 3 to 7 years it was taken to get a more evident trend (climate.gov, 2016).

Prior to making a linear correlation between the two variables (number of conflict and SST(A)), inaccurate outliers had to be filtered out as much as possible, because the analysed UCDP data covers 1989-2023, this time period inherently assumes two things; 1) that there were no existing conflicts prior to 1989 and 2) that all conflicts recorded from 1989 inwards were new. If these were left, computed data would have given an even more stark increase in the first few years. This would be historically incorrect, therefore the data compared is from 1994-2023 to ensure accurate plots to analyze. This will be further discussed in the limitations section.

Data analysis

A barchart was generated by using the newly created dataset with only the unique conflict identification numbers (Figure 6.) in order to identify trends in the conflict initiation. To analyze conflict type distribution, a stacked barchart was generated (Figure 7.) using the same filtered data as Figure 6. This visualization distinguishes between three types of violent conflict categories: non-state (mid-blue), one-sided (light-blue) and lastly state-based (dark blue). A third visualization (Figure 8.) was created as a stacked barchart with the original cleaned UCDP data that had all the unique identification numbers, displaying the cumulative total number of conflicts, separating the single (blue) and consecutive events (red). Single events were defined as a conflict where the unique identifier was mentioned only during the period of one-year, while the unique identifier of consecutive events came back in multiple years.

The following figures were computed by using both the results of Figure 4., which gave the

number of new conflicts per year, and the cleaned ENSO data. To get a better idea on if the SSTA of Niño 3.4 and the number of conflicts aligned, it was both plotted in a time series (Figure 9.). The SSTA was averaged to AMJ per year, as this would be the most representative and valuable to plot. Moreover a three year moving average made for variables. This figure however does not directly investigate the relationship between climate variability and conflict incidence, which is why a scatterplot (Figure 10.) was created to compare the adjusted ENSO data (same as for Figure 9.) to the annual number of new conflicts. A logarithmic scale was applied to the conflict count to better visualize variance across orders of magnitude. After which a trend line was fitted to the scatterplot to visualize the direction and strength of the correlation (/association).

To quantify the relationship between SST variability and conflict frequency, statistical tests such as the Pearson correlation coefficient (R) and their associated p-value were calculated. A table was made for all the correlations between SST in the Niño 3.4 region and the filtered UCDP data, as used in Figures 6, 7, 9 and 10. The analysis had the ENSO data further adjusted, to only hold data from the past three decades (1994-2023) to account for outliers. SST values were averaged over the different categories, annual, AMJ, DFJ, MAM, JJA and SON. Statistical significance was set at $p < 0.05$ with significant correlations bolded in the table (see Figure 11.).

Results

UCDP data: Conflicts

The timeseries of new conflicts per year by only taking the unique conflict identifiers (Figure 6.) reveals four peaks; early 1990s, early 2000s, ~2007 and ~2020. Here the first, second and fourth peaks correspond with La Niña events (Copernicus, 2025, see Figure 2.). No new conflicts are noted in 2014. In total 283 new conflicts started in the period 1989-2023.

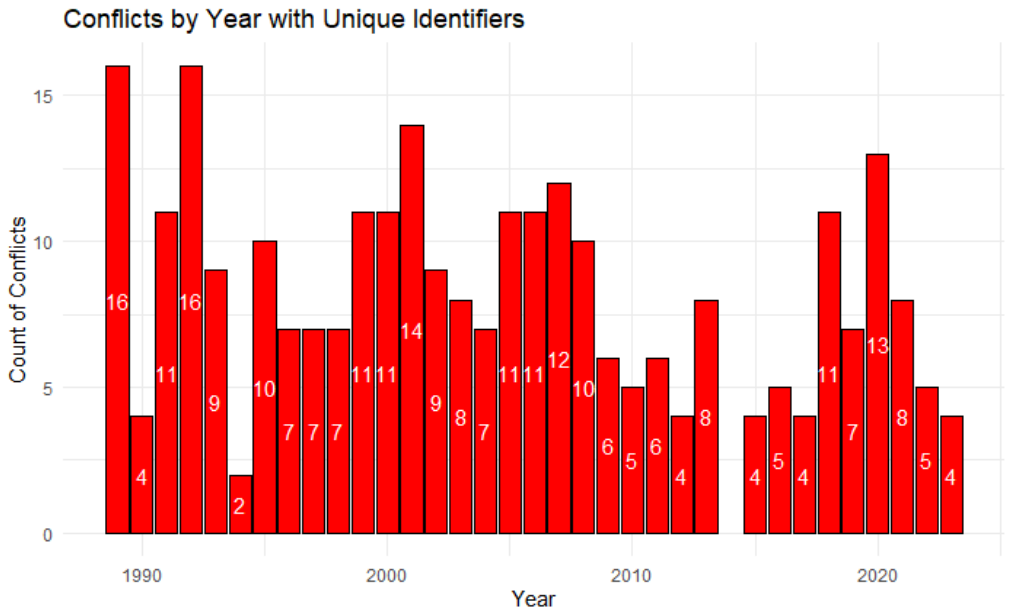

Figure 6. Conflict by Year with Unique Identifiers by Count of Conflict on the y-axis and Year on the x-axis. The filtered data does not distinguish between single events and consecutive events.

The stacked barchart (Figure 7.) shows us that the non-state conflicts (mid-blue) are the most prevalent, accounting for 230 out of the 283 new conflicts (81,3%). This is followed by one-sided violence (light-blue, 30 conflicts, 10,6%) and least prevalent being the state-based conflict (dark-blue, 23 conflicts, 8.1%).

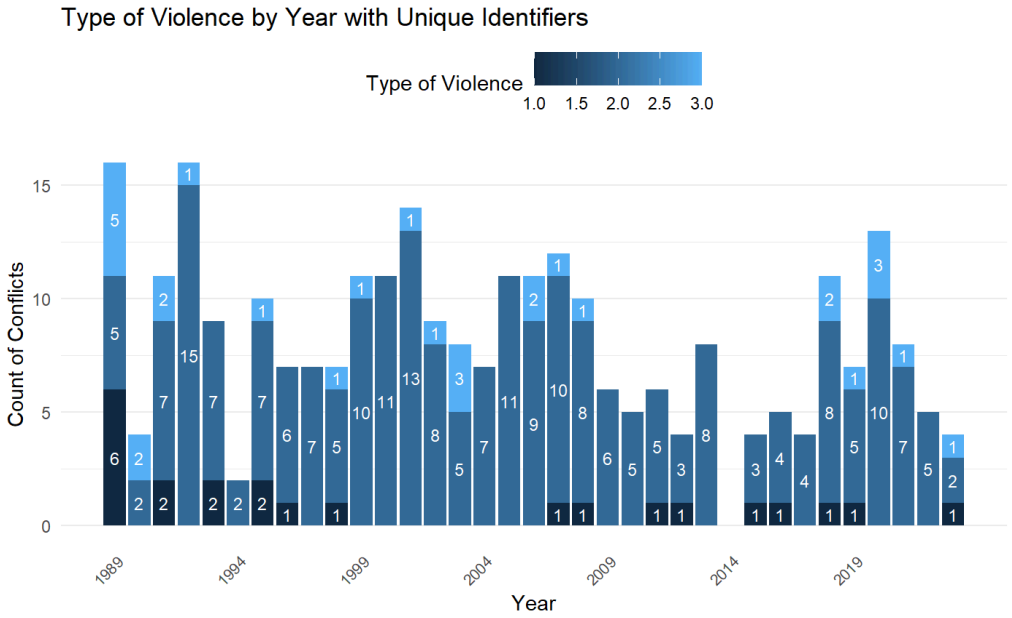

Figure 7. Stacked barchart Type of Violence conflict counted by year with Unique conflict Identifiers. The filtered data does not distinguish between single events and consecutive events.

Figure 8. Shows the cumulative conflict trends from 1989-2023 as a stacked barchart. An increase occurred from 1989-2001, with a slight increase in the early 1900s, peaking at 2001 (early 2000s), followed with a slight decline and subsequent rise until peaking in 2008. After 2008, a sustained decrease in total conflicts is evident. The total there are 1948 conflicts from 1989-2023, of which 1832 are consecutive and 116 are singular.

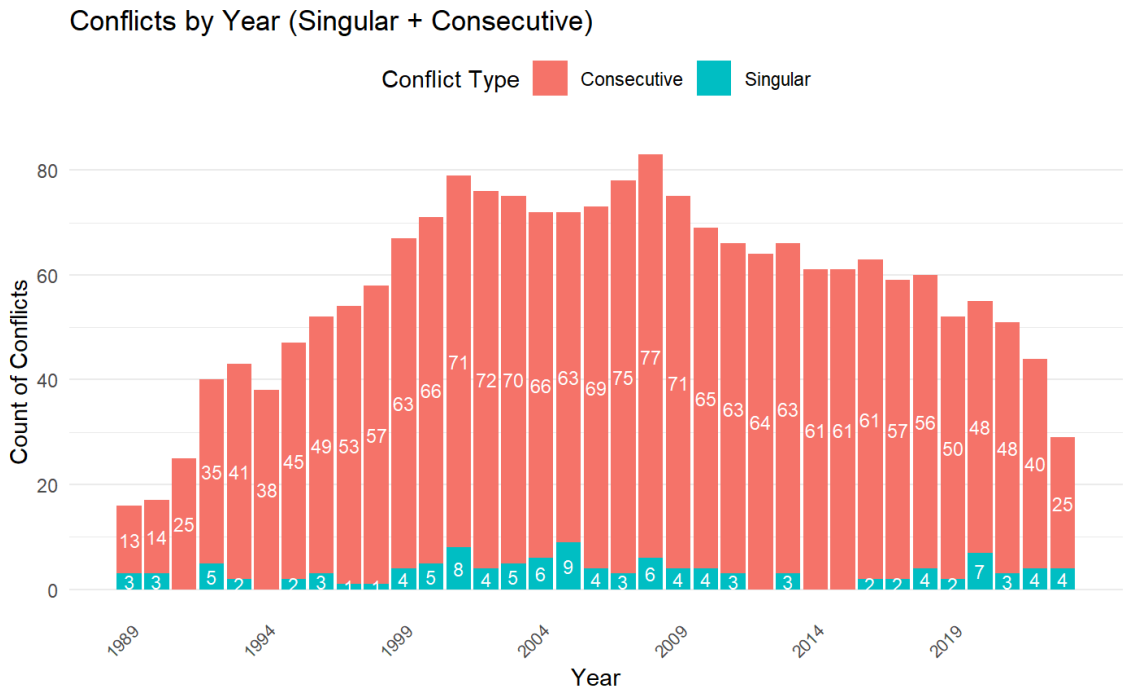

Figure 8. Stacked barchart with the cumulative amount of conflicts (1989-2023), with the singular conflicts in blue and consecutive conflicts in red.

UCDP and ENSO data: Conflicts and Sea Surface Temperature

In the time-series (Figure 9.) conflicts in the Horn of Africa tend to be more frequent when SSTA in the Niño3.4 region are below average (i.e., during La Niña events). The two bolded lines represent the moving 3-year moving averages of AMJ SSTA (red) and number of conflicts (blue). The 3-year averaged

SSTA is under 0 degrees from 1994-2010.

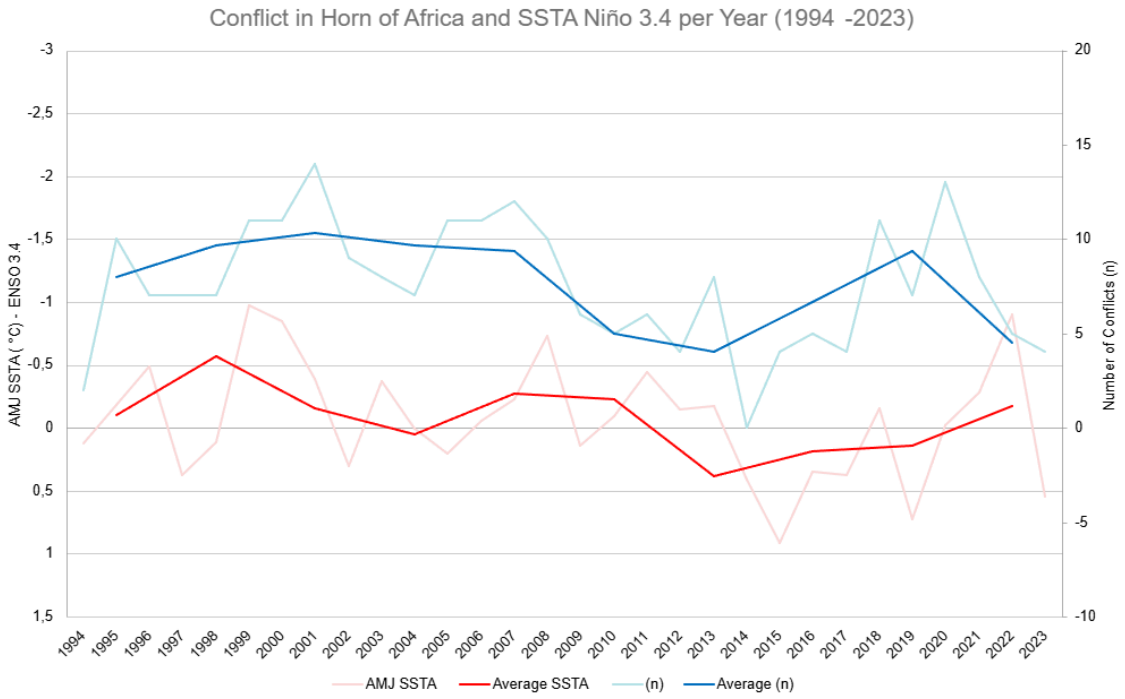

Figure 9. Time series of Sea Surface Temperature (SST) in the Niño 3.4 region. SSTA averaged from April, March and June (AMJ) each year (pink), with the 3-year moving average AMJ SSTA in red. The annual number of conflicts ((n), light blue line) with its 3-year moving average in dark blue. The left y-axis contains the SSTA in degrees from 1.5 to -3 degrees. The secondary y-axis is from -10 to 20, to align the two axes. On the x-axis corresponds to the time frame.

The results of the scatterplot (Figure 10.) show that the number of new conflicts in the Horn of Africa is anticorrelated with sea surface temperature in the tropical Pacific, specifically HOA during the April-June. As the SST values increase, the number of conflicts decrease. Most of the higher conflict years occurred when SSTs were below approximately 27.5 °C whereas lower conflict levels appeared to be more frequent at higher SSTs up to around 28.5 °C.

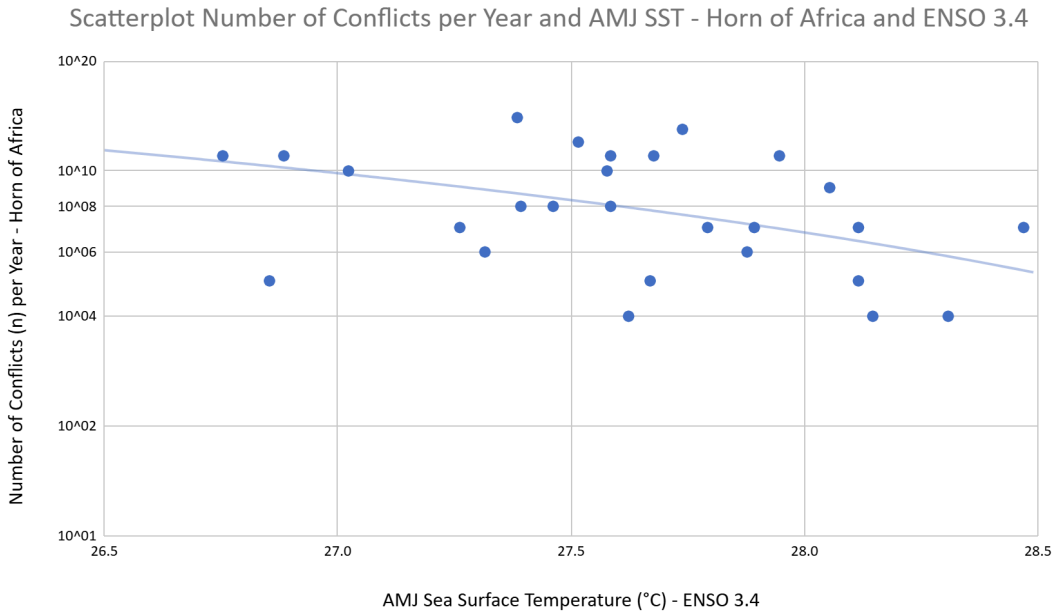

Figure 10. Scatterplot of Sea Surface Temperature (SST) in the Niño 3.4 region (yearly average April-June (AMJ)) versus the annual number of conflicts in the study region. Straight line representing the line of the best fit.

The table with the Pearson correlation analysis (Figure 11.) revealed two statistical significant ($p < 0.05$) relationships between Niño 3.4 SST and the conflict counts. Those being the Annual SST ($R = -0.40$, p-value = 0.03) and the AMJ (rainy season) SST ($R = -0.44$ and p-value = 0.01). No significant correlation was found for the meteorological seasons (DJF, MAM, JJA, SON were all with a p-value > 0.05).

	R	**p-value**
Annual	**-0.4**	**0.03**
AMJ	**-0.44**	**0.01**
DJF	-0.32	0.08
MAM	-0.35	0.06
JJA	-0.29	0.11
SON	-0.33	0.08

Figure 11. Table with Pearson correlation coefficient (R) and the p-value (<0.05) of the relation between Sea Surface Temperature (SST) in the Niño3.4 region and the filtered UCDP conflict data, also used for Figures 6, 7, 9 and 10. SST values are averaged for the different meteorological seasons (DFJ, MAMA, JJA and SON), annually, and for the rainy season in Djibouti (AMJ).

Discussion

Interpretation results

A significant correlation (p-values <0.05) was found between the annual number of conflicts in HOA and the annual SST values in Niño3.4 region. The same is true when testing the correlation between the annual number of conflicts in HOA and the SST values in Niño3.4 region averaged for the months AMJ (Figure 11.).

These findings suggest that when there is a decrease in sea surface temperature, there is an increase in the number of conflicts in the Horn of Africa Figure 9. and 10.). This suggests that ENSO is related to the occurrence of conflicts in the Horn of Africa. It is important to emphasize however that a correlation was found and not a causation. As the modified theoretical framework of Environmental Scarcity Theory (Figure 3.) suggests; ENSO is a risk factor enhancing the likelihood of a causal mechanism to be instigated which then can lead to conflict.

The results agree with the FAO-WFP report (2024), which warns that La Niña events intensify drought conditions, posing risks to vulnerable food systems in the region (World Food Programme, 2024). This is concerning as the findings of this study indicate that the majority of new conflicts are non-state (Figure 7.). From applying the altered version of the framework, through backward reasoning it can be said that this kind of conflict is highly dependent on membership, which is possible when individuals are triggered to join these organized groups as it provides other resolutions for their economic grievances, mentioned by Cribb (2010). These economic grievances come from scarcity and as the findings suggest those derive from droughts caused by ENSO's La Niña. It can not be fully determined if unequal distribution is present, however as the two sides fight over the same resource, e.g. food and disputed territory, as presented in the section of the 'drivers of conflict', the likelihood will be increased.

Even though the number of one-sided conflicts is lower (10,6%, Figure 7.), as it involves civilians and less artillery, the power imbalance present should not be overlooked. If the droughts did not already affect the agricultural output, armed organizations or military/armed intervention by state-actors (government/state) can cause instability (Mekonnen Mengistu, 2015). For example the berating of pastoral communities, leaving them without cattle, or civil resistance due a policy disadvantageous to

citizens based on their beliefs, where the state-actor decides to intervene by using force and violence (FEYISSA & HOEHNE, 2010). The scale of state-based conflict, while small in numbers (8.1%, Figure 7.), can have major repercussions, as the spillover effect destabilizes neighboring nations and tightens tensions among the opposing parties and their partners, potentially internationalizing the conflict.

In total there were 1948 conflicts from 1989-2023 in the Horn, from the 283 new conflicts 59% (167 conflicts, Figure 6.) resulted in continuous conflicts, counted as a total of 1832 conflicts (Figure 8.). In the same figure an increase and decline in total number of conflicts can be witnessed. The increase seems to be fueled by the stark switch between a big La Niña event and a big El Niño event during the mid-1990s and early 2000 (Figure 2.), the decline can be explained by an overall averaged increase of SSTA seen in Figure 10.. Yet it is important to mention that there is only a decline of conflicts that are consecutive. There is no significant decline in new singular conflicts. It can therefore not be suggested that the overall decline of the number of conflicts will persist. As seen in Figure 9. over the last decade (2013-2023) the conflict trend (averaged and unaveraged) follows the SSTA trend (averaged and unaveraged). This aligns with the increase of the number of new conflicts in Figure 6.. While there were El Niño events during this decade, the anomalies of La Niña are also greater (Figure 2.), which could explain the persistence of new conflict occurrences.

Abnormalities and outliers

In Figure 6. (and 7.) there are no new conflicts noted for 2014, strikingly Figure 8. indicates that there were in fact 61 conflicts ongoing from previous years. Answers to this abnormality can be found in Figures 2. and 9., before the El Niño event of 2015-2016 the SSTA, while positive, was lower than previous events. When averaged for the rainy season (AMJ), SSTA was above 0 from 2011 onwards, meaning that the potential rainfall could have mitigated food scarcity by allowing crop growth. Furthermore, there was no strong La Niña event before the El Niño event, suggesting that there were less drought related risks which could have instigated cascading effects leading to conflicts. It is difficult to determine however solely from an environmental science perspective, since scarcities, disturbance of livelihoods, and economic grievances were already present, which is why ongoing conflicts persisted.

Another outlier found in the results was in the scatterplot (Figure 10.), the number of conflicts in

2022 have a corresponding AMJ SSTA of 26.9°C (averaged), indicating that 2022 was during a La Niña event. This is contrary to the main finding; the lower the SST(A), the higher the likelihood of an increased number of conflicts there are. It is important to identify mechanisms and confounding factors, in addition to the environmental science lense, that have contributed to the lowering of consecutive conflicts as found in Figure 10. and conflicts in HOA.

Climate and Conflicts: future perspective

A significant correlation (p-values <0.05) was found between the number of conflicts on HOA and the SST values in the Niño3.4 region, which characterize ENSO. While this confirms La Niña as a risk factor for further conflicts in the region, it is unlikely it is the main or only driver of conflicts in HOA as explained in the 'drivers of conflict in the HOA' section.

For example the timeline of the mentioned Eritrea-Ethiopia war (1998-2000) and the Ethiopian-Tigray war (2020-2020) overlap with the found peaks (early 2000s and ~2020) found in Figure 6., and contribute to the overall number of conflicts in Figure 8. Moreover the 2008 financial crisis aligns with the decline of the total number of conflicts after 2008 (Figure 8.). Interestingly one's intuition might be that the number of conflicts would rise due to the decrease of incoming aid as was witnessed by Allen and Giovannetti (2011) and Wekesa and Rikhotso (2021), regarding Sub-Saharan Africa. However as Allen and Giovannetti (2011) research presents, trade is an important aspect, diversification of trade partners can actually result in economic opportunities. This was what the majority of HOA experienced, some of them bounced back and others were able to maintain their GDP, overall enhancing their economic resilience by the interest of ME and Gulf States (Allen & Giovannetti, 2011).

Having further highlighted the drivers of conflict, it is timely to discuss recent warnings about potential warfare in HOA. These are either fueled by the cascading effects of drought, incl. famine, others due to geopolitical tensions, or both. Firstly, within HOA the interstate Ethiopia-Eritrea tensions are flaring up again, these fresh clashes involve the TPLF in Ethopia's Tigray region (see Appendix B.). Distrust is entrenched as it has only been three years since the Tigray War (2020-2022) and Eritrea's interests were not discussed during the peace talks. This renewed warfare is expected to destabilize

HOA, and the predicted famine in accordance to the upcoming La Niña could only worsen the situations for citizens and parties involved (Ethiopian Tribune, 2025; World Food Programme, 2024).

Internationally the Israel-Palestine war further leads to instability among the states, as Islamic extremist groups such as Al Shabaab in Somalia, perceive Hamas's boldness as encouragement, and are expected to intensify their operations (de Waal, 2023). Prior to the conflict a potential collaboration between the Intergovernmental Authority on Development (IGAD, including all of HOA) and Israel was perceived as beneficial, since Israel is a pioneer and innovative force in areas such as renewable energy, argo-tech and water management, which could contribute to elevating environmental crisis. Siding with Israel in any form is highly controversial, because of the Arab/palestinian cause, therefore it could inevitably lead to more conflicts, which is why its collaboration has been limited (Back, 2021).

Limitations

While this study offers valuable insights into the role of ENSO on conflicts in the HOA, several limitations should be acknowledged. First the geographical definition of HOA varies across the literature. Some sources exclude Kenya or Sudan, while others include Uganda and Tanzania. This inconsistency inevitably affects the data section, and consequently, the results. It is important to note that no fixed or universally accepted geographical boundary exists for HOA, often influenced by the geostrategic interests of different actors.

Second, regarding the conflict data from the UCDP. While comprehensive and complete, it started counting conflicts in 1989. This means conflicts occuring before this date are not accounted for, potentially skewing the observed trends in conflict frequency. While considered it still particallary has influence on the findings of e.g. Figure 8..

Third, the study uses a yearly average of SSTA for the rainy season in Djibouti to compare with conflict data. While this approach is justifiable, the region's changing rainfall patterns might suggest alternative or more nuanced methods could be more appropriate. However, a detailed technical assessment of such alternatives is beyond the scope of this thesis.

Recommendations for Future Research

This study contributes to the growing literature on the climate-conflict nexus, emphasizing the importance of making connections between the two using empirical approaches. Climate factors are often under-recognized as risk factors in conflict settings, so further exploration is critical.

One way to further enhance our understanding of the relationship between ENSO and conflicts would be to replicate studies in other regions affected by El Niño and La Niña. For instance Chile, in South America, generally benefits from La Niña, while El Niño events tend to cause environmental scarcities that could contribute to the number of conflicts or influence conflict dynamics (Cai et al., 2020). Likewise, in Eastern China, Zhang et al. (2007) found that temperature and precipitation changes impacted war frequency, contributing to the fall of several empires over the last millennium (Zhang et al., 2007).

Another way to advance research is to deepen existing research by focusing on specific types of environmental scarcity. While this study highlighted food scarcity, future research could examine water scarcity, which Cribb (2010) identifies as a major factor fueling terrorism, particularly in the Middle East (Cribb, 2010). Additionally, a few root causes for conflict in HOA were not covered due to the scope of this paper. These were identified by Williams (2016) as, for example; dysfunctional governance – including the absence of democracy and weak legitimacy (Williams, 2016). In particular, examining how state autonomy and legitimacy interact with unequal access to food and other environmental sources could advance understanding of the Environmental Scarcity Theory. By broadening and deepening research in these ways, future studies can better capture the complex and multi-faceted relationship between environmental factors and conflict.

Conclusion

The Horn of Africa (HOA), comprising Djibouti, Ethiopia, Somalia, Sudan and Kenya remains an environmentally vulnerable and geostrategic significant region, characterized by ethnic diversity and recurring inter- and intrastate conflicts. Thomas Homer-Dixon's Environmental Scarcity Theory, used as a theoretical framework, suggested that such conflicts may be driven by environmental stressors like droughts, exacerbating resource scarcity and social tensions. Importantly, unequal distribution emerged

as a mediating factor, underscoring the socio-political complexity behind these conflicts. Historically droughts in HOA have partially been linked to La Niña events. El Niño and La Niña are phases of the El Niño-Southern Oscillation (ENSO), a natural fluctuation in Sea Surface Temperature in the tropical Pacific Ocean's Niño 3.4 region. During La Niña events, SSTs are below average, while El Niño events are associated with above average SSTs. By analyzing SST data from the National Oceanic and Atmospheric Administration (NOAA) and conflict data from the UPPSALA Conflict Data Program (UCDP) over the last two decades, this thesis found a statistically significant negative correlation (p-value < 0.05) by use of Pearson correlation coefficient, between SST anomalies in the Niño3.4 region and the number of conflicts in the HOA for both the annual average ($R = -0.44$, $p < 0.01$) and the April-June (AMJ) selected average ($R = -0.40$, $p < 0.03$). In other words, it was found that conflicts on HOA tend to be more frequent during periods of relatively low SSTs (i.e., during La Niña events). These findings lend support to Homer-Dixon's theory, suggesting in particular that La Niña can be considered a risk factor for conflict in HOA. In addition a grander socio-political complexity was shown, highlighting how the historical, cultural and international influences enhanced the number of violent conflicts by 1) polarization of ethnic and racial divergent groups and 2) the militarization of the newly formed nation states, simultaneously supporting the opposing insurgent groups in the region. In the discussion the findings are further analysed with mentioning the future direction of conflicts and ENSO as an environmental risk. Future research could either deepen or widen what was investigated in this study by e.g. researching other regions highly sensitive to ENSO-related climate variability, such as Chile or China, to further examine the relationship between climate and conflict.

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Images

Ar.inspiredpencil (2021) Horn of Africa Map [image] ar.incipiredpencil.com

Appendix A: Additional figures

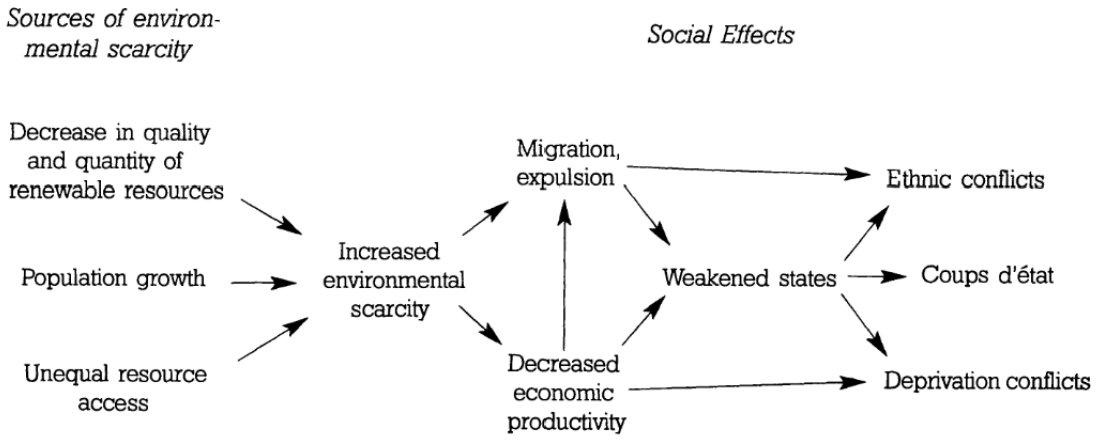

Figure 1. Homer-Dixon's Environmental Scarcity Theory (1994) (Homer-Dixon, 1994)

Appendix B: Case study

Case study: Cold War Militarization in Ethiopia, Somalia and Djibouti
Researchers indicate that elites benefited from the bipolar competition, as it gave them more means to maintain themselves in power through threat or actual use of force. In 1953 the Ethiopian monarch Haile Selassie made a mutual defense agreement with the US. Giving the latter responsibility over the development and expansion of imperial forces. In the 1950s Eritrea and the Tigre region were incorporated through aid and abetment by the US. Somalia gained independence from its colonial powers, Britain, France, Italy in 1960, yet there were still postcolonial traces unlike Ethiopia which was able to withstand colonial assault (BBC News, 2018; FEYISSA & HOEHNE, 2010). With their policy "Greater Somalia" Somalia's ruling elite, with help from the SU, aimed to quickly further militarize and regain full power. Neighboring countries, now backed by rival superpowers, quickly escalated tensions into full-scale military confrontations over disputed regions, i.e. the Ogaden region (partially former Oromo in Figure 4.). This destructive war between Ethiopia and Somalia in 1977-1978, is relevant up until this day since there are still several tensions, with the domestic

conflagration engulfing these two countries in subsequent years. Where one state in the HOA was supported by one superpower, the rebels or opponents would be supported by the other. Both the SU and Cuba supported the military junta of Ethiopia, Derg. And the US supports the Tigray People's Liberation front (TPLF, 1989-2018) (Mekonnen Mengistu, 2015). Djibouti gained independence in 1977 and had been subjected to spilled over violence, while having its own fair share of domestic politics and ethnic conflicts. Whereas the French were the main patrons since their independence with a strong military presence, Americans obtained access to air and navy further establishing themselves in the area and power overseeing part of the Red Sea. This tension heightened with the security pressure by the Front pour de l'Unite et la Democratie (FRUD) in 1991 to overthrow the former president Hassan Gouled Aptiidon. Resulting in the Djiboutian Civil War (or First Afar insurgency), lasting till 1994. Other important events are the Ethiopian reconstitution and the independence of Eritrea (Agyeman-Duah, 1996).