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THE UN AGENDA 2030 AND THE CLIMATE-SECURITY NEXUS IN AFRICA

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Abstract

There is a growing bulk of studies on global climate changes and conflicts. It has been argued that climate change may be a triggering factor to conflicts and wars, especially in societies with poor governance. This study explores the climate-security nexus in Africa. It is argued that the global climate change provides profound state and human security challenges to African governments and people. Scarcity of vital resources in food, water, sanitation and health has challenged political and economic structures, infrastructure and integration. This has also been due to poorly governed states with authoritarianism, corruption, ethnic divisions and fragile, dysfunctional institutions. The war in Darfur is a tragic, but illustrative example of the climate change-security nexus of our time.

Key words

climate change, security, poor governance, Africa.

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1. Introduction

In 2019, the United Nations (UN) declared that the world was to end the warmest decade (2010–2019) ever recorded. The UN stressed that the levels of carbon dioxide (CO₂) and other greenhouse gases in the atmosphere had increased to new records. On September 25–27, 2015, a UN Summit, including 193 member states, adopted *Transforming Our World: The 2030 Agenda for Sustainable Development* (United Nations, 2015). The Agenda came into effect in 2016, contextualized by the Paris Climate Agreement (COP21), the Addis Ababa Action Agenda and the Sendai Framework for Disaster Risk Reduction

(Karlsson & Silander, 2020). The 2030 Agenda included 17 sustainable development goals (United Nations, 2015). Goal 13 focuses on climate action and its impact on humanity. It stresses how an increasing global temperature erupts in wildfires, hurricanes, droughts, rising sea levels and floods affecting countries all over the world and foremost developing societies. It also acknowledges how climate change may promote conflict. “Already, we are seeing how climate change can exacerbate storms and disasters, and threats such as food and water scarcity, which can lead to conflict.” (UN Goal 13, 2015, p. 1). This article discusses climate change addressed in Goal 13 in relation to Goal 16 in the UN agenda on just,

peaceful and inclusive societies by highlighting the urgent climate-security nexus in Africa.

Africa is the lowest carbon emitter in the world (The World Bank, 2016), but the continent is extremely vulnerable to climate changes. Although less than 3 percent of the global emissions of greenhouse gases come from Africa (Hope, 2010), many African states are among the top 10 states most affected by climate change. Climate change has an extremely negative impact on states and societies, including socioeconomic despair in societies with political instability and poor governance. Therefore, climate change may cause severe stress on African societies that have limited capacities to protect state and human security (Mohamoud et al., 2014; Hausler, McCorquodale, 2011).

Climate change challenges the African continent in many ways: with a rise of temperature, escalation of droughts, storms, rising sea levels and floods, with climate hot spots, and foremost the desertification of the Sahara and Sahel regions, but also with the rapid and massive melting of snow on Mt. Kenya and Mt. Kilimanjaro. Such changes are causing social tensions over natural resources in many African societies, such as Kenya, the northern parts of Nigeria, Sudan, etc. Also, for decades, political tension, conflicts and wars have had serious consequences for African security, both state and human. A growing bulk of studies has indicated different explanations for war-torn African states in colonial legacies, limited economic development, fragile political institutions, corruption, ethnic tension and poverty. In addition, a growing number of scholarly studies have also pointed out global climate change as a driving engine or triggering factor for conflicts. Global climate change may be seen as one factor adding stress to societies and state governments already in political crisis (Scheffran et al. (eds.), 2012; Scheffran, Battaglini, 2011). This study explores the climate-security nexus in the most challenged African states and sets out links between climate change, insecurity and fragile and weakened states in Sub-Saharan Africa. It is argued how climate change and political fragility is a dangerous combination for state and human security, which is highlighted by a case-study analysis on the developments in Darfur.

2. Global Climate Change in Africa

There is a growing bulk of scholarly studies on climate change using environmental, economic, social, and political perspectives (Canter (ed.), 2016; Birnbacher, Thorseth (eds.), 2015). In politics, there seem to exist a growing consensus among most state

leaders and international and non-governmental organizations pointing out how climate change embeds aggravating conditions for life and safety around the world. At the same time, there has been disagreement, foremost between the developed and less developed states, on how to approach climate change regarding mitigation and adjusting to climate change consequences (Hickmann, 2016; Urry, 2015).

Different geographical regions around the world face different levels of vulnerability due to climate change. In addition, state governments have different levels of capacities to mitigate such challenges. Africa is a large continent with states that pursue different levels of capacities to approach climate change (Roessler, 2016; Busby et al., 2014). Overall, however, Africa is under severe climate change challenges; this is due to high exposure to climate change and low level of capacities to mitigate climate challenges.

Although many African societies have seen substantial development over recent decades, some African states are facing socioeconomic and political challenges. The limited political capacities include continual lack of democracy and good governance, rule of law, counter-corruption measures, democratic legacy and ethnic and political unity (see Freedom House, 2020). The limited economic capacities refer to a recent stalemate of economic growth and an increasing population throughout the continent (Rodrik, 2016; The World Bank, 2016). This has led to a greater need for resources, such as food, water, energy and infrastructure as well as policies on poverty reduction, education and healthcare. The importance of promoting development and politically initiated policies to favor prosperity and wealth in African societies have led to further pressure on the environment. Developing African states are increasing energy consumption, including fossil fuels, to favor the economies, which have resulted in negative consequences on the climate. However, a political halt to decrease carbon emissions could result in limited economic development, social tension, poverty, and eventually growing political instability. The alternative way, to promote a transformation from fossil resources to low-carbon energy sources, would come with immediate transitional costs for most African economies (Silander, 2020).

Despite the fact that many African states have acknowledged global climate change and politically declared the importance of new policies on mitigation and adaption in order to protect and promote state and human security, the overall reactions to climate change have been late and rather unstructured. Most political activities on climate change

have been institutionalized within the Group of 77 and China (G77/China), the Alliance of Small Island States (AOSIS), the Organization of Petroleum Exporting Countries (OPEC) and the Least Developed Countries (LDC-Group) (Roger, Belliethathan, 2016; OPEC, 2016; LDC, 2013). The first step for African political collaboration on climate change happened in 1991 at the First Regional African Ministerial Preparatory Conference of the United Nations Conference on Environment and Development (UNCED) in Egypt. The political talks ended up in a coherent African stand on development and environmental concerns. Preparatory negotiations for the Earth Summit in 1992 were another strategic step on the climate challenge. These talks concerned unifying African interests and speaking with one voice on environmental issues. The third step was the eighth African Union (AU) Summit meeting in 2007, where it was decided that the AU would become a strategic political platform for approaching climate change challenges. In addition, the establishment of the African Group of Negotiators (AGN) in the early 1990s also institutionalized the idea of “One Continent, One Voice”. The AGN identified that a common proactive political stand and presence at negotiations with one African voice was crucial in order to become influential on the international scene. However, despite such acknowledgement, a common African stand on addressing climate change has continued to be challenged by traditional political notions of state sovereignty and national economic and political self-interests (Silander, 2018, pp. 88–89; see also Chin-Yee, 2016; CAP, 2015).

African societies are challenged by climate change in many different ways. *First*, climate change has led to food and water scarcity. Volatile weather conditions, mainly major changes in rainfall and temperature, have resulted in pressure on the productive landscape in African societies (Hope (ed.), 2017; Wheeler, von Braum, 2013). The majority of African people make their living through agriculture and fisheries. Agriculture and fisheries comprise about 40 percent of all exports and over 30 percent of the GDP in sub-Saharan Africa (Hope, 2010), but are very vulnerable to climate change. Food shortages and scarcity of fresh water are major concerns for security for the people in many African societies (Nagothu (ed.), 2015). Scarcity of water includes both the lack of drinking water and water for hygiene and sanitation, and about 33% of the African population faces water-stress (Reig et al., 2013). Scarcity of water also leads to desertification and land degradation resulting in challenges to the production of food leaving African societies with food shortages. Many African states, such as Cameroon, Chad, Ethiopia, Nigeria,

Sudan, South Africa, and Zimbabwe, have occasionally faced food shortages due to reduced production of cereal and crops (Hope, 2010). In addition, scientific studies have predicted an increase in the average temperature in Africa by 2050 of about 1.5–3°C, leading to a decrease in annual rainfall and further stress on food production (IPCC, 2007). Both Malawi and Uganda, among other African states, have faced less rain over time, jeopardizing farmers’ capacities to survive leading to further malnutrition, poverty, and diseases (Magrath, 2010). The scarcity of food is further alarming with the overall trend in Africa of increasing populations. For example, Burkina-Faso and Ghana have seen growing populations, while being heavily dependent on agriculture. Studies set out how the African continent’s population of 1.1 billion in 2013 will increase to about 2.4 billion in 2050 (Population Reference Bureau, 2013; Mohamoud et al., 2014). Population growth demands greater need to cultivate arable land, but estimations from the 1950s and forward show how about 65% of the agricultural land in Africa has faced soil degradation. In addition, about two-thirds of Africa is arid or desert and about 35–40% of African land will soon become useless for cultivation due to climate change (Mohamoud et al., 2014; UN Convention to Combat Desertification, 2017).

Second, climate change has also resulted in forced migration and displaced people. One major explanation to migration and displaced people is desertification and deforestation (Manou et al. (eds.), 2017). The scarcity of farmland has forced farmers to migrate often resulting in socioeconomic despair among this group of citizens, competition and tension among farmers for farmland, but also political instability caused by increased populations in cities and tension between urban and rural areas (Mohamoud et al., 2014; Mcadam, 2012). The fast trend of African urbanization has led to urban poverty as a new and increasing problem in states such as Gambia, Kenya, Madagascar, Malawi, Mozambique, Sierra Leone, and Zambia with the poverty rate at over 50 percent (Hope, 2010). Often migrating farmers also have too limited educational background leaving them without chances of finding jobs in companies and factories, resulting in a livelihood in poverty and slums outside city centers.

Forced migration has also been a result of rising sea levels in many coastal areas in Africa forcing people into inland areas and creating social tension. Migration into inland areas creates competition for food, water and farmland, but may also result in tension, conflict and violence when such migration crosses borders and contributes to preexisting tensions based on ethnic and political divisions.

Cross-border migration has led to political tension and inter-state conflicts in for example Chad-Sudan, Uganda-Sudan, Democratic Republic of Congo-Central African Republic, Rwanda-Burundi and Rwanda-Democratic Republic of Congo leaving fragile states further weakened (Messer, 2010; Mazo, 2009a, 2009b).

3. Climate Change in Dysfunctional African States

There is growing scholarly interest in the climate-security nexus (Bretthauer, 2016; Hentz (ed.), 2014). The scholarly debate on climate change and security began in early 2000. The IPCC report in 2007 declared serious human security concerns with climate change. The UN Security Council (UNSC) also stated the climate-security nexus and the Secretary-General Ban Ki-moon argued how climate change could be a serious risk comparable to war (Scheffran, Battaglini, 2011). Over the last decade, there has been a growing bulk of academic work on the potential climate-security nexus. Research has shown how climate change may be a triggering factor for violence and conflicts. The dominating scholarly perspective on climate change and security seems to be that although there is no empirical evidence demonstrating a causal relationship, climate change may be a triggering factor for conflict and violence and especially so in states in political and socioeconomic instability. In such states, climate change may become a serious burden for societies already under stress and without greater capacity to act. This is what the UN General Assembly has conceptualized as “risk-multiplier” (Salehyan, 2008; UN General Assembly, 2009) or as stated by the UN Development Programme. “Weak responses further reinforce climate vulnerability, and if governments or institutions cannot meet the needs of communities as climate impacts occur, this may exacerbate grievances, undermine government legitimacy, and aggravate intercommunal tensions between affected groups, particularly over access to natural capital. Hence an indirect impact of climate change is an increased risk of tensions and insecurity, particularly in areas where there are already concerns about government and institutional capacity or a perceived lack of institutional legitimacy” (UNDP, 2020, p. 3).

Since many African states’ economies are dependent on agriculture and about 95% of Africa’s farming is rain-fed, climate change may be an important driver toward conflict. While some groups of people may feel deprived of resources, other groups may be in control of key resources creating

societal tension. Social tension and conflicts between pastoralists and farmers have occurred in many African states, but especially so in southern Ethiopia, in northern Nigeria, in Chad and Mali as well as in southern Sudan. In these areas, climate change has led to scarcity of resources and has, in the long run, provided social tension and political instability. It must, however, be stated that global climate change does not always result in conflicts and wars, but could be a possible driver of violence and conflict due to the negative impact climate change has on the living conditions for people (Bretthauer, 2016; Hentz (ed.), 2014). A dominant perspective in academic studies on global climate change and security has stated a nexus between the two, but studies have also, surprisingly, stated that competition over scarcity of resources may favor cooperation to promote common security (Bretthauer, 2016). State institutions, seeking technological innovations and financial instruments, have launched such cooperation and social policies to adapt to climate change impact, but also through bottom-up initiatives taken by local authorities or civil society organizations seeking common solutions to common challenges.

More recently, there has been an interest in exploring the role of political institutions to handle global climate change and conflicts (Bulkeley, Newell, 2015; Azim, 2013). Poor governance has been associated with a scarcity of resources and measures to be used to mitigate climate change. The many studies on weakened and failing states have shed light on states with poor governance and limited state capacities to promote societal functions vital to wealth, health, and development (Scheffran, Battaglini, 2011). While scholars have argued that climate change is a root cause of violent conflicts, most scholars would rather stress that climate change could be a driving engine depending on the functionality of the state. As a consequence, climate change and poor governance may both be important explanatory factors to violent conflicts and the combination of the two is often seen in African states. As argued, “Conflict and state failure make adaptation to and mitigation of climate change more difficult, as state institutions become less able to implement adaptation measures...” (Mazo, 2009c, p. 104).

Many African states are politically fragile with limited resources to mitigate climate change (Harbeson, Rothchild, 2016). This has resulted in added pressure on African societies as political institutions have had limited capacities to protect citizens from human insecurity. While scholars on climate change have stressed the importance of good governance in Africa to mitigate climate change consequences on state and human security, scholars on security

studies have identified a high number of weak, fragile African states deeply vulnerable to climate change (Harbeson, Rothchild, 2016; The World Bank, 2007; Rotberg (ed.), 2003).

Based on the Fragile State Index (The Fund for Peace, 2020), consisting of annual measurements on the level of weakness among 178 states in the world, the African continent includes weakened and failed states. The Fragile State Index assesses the vulnerability of states to collapse based on 12 conflict risk indicators within the areas of Cohesion, Economic, Political and Social. The indicators used are cohesion indicators: 1. Security Apparatus (SA); 2. Factionalized Elites (FE); 3. Group Grievance (GG); economic indicators: 1. Economic Decline (EC); 2. Uneven Economic Development (UD); 3. Human Flight and Brain Drain (HF); political indicators: 1. State Legitimacy (SL); 2. Public Services (PS); 3. Human Rights and Rule of Law (HR) and social indicators: 1. Demographic Pressures (DP); 2. Refugees and Internally Displaced People (RD); 3. External Intervention (EX).

Based on the wide range of indicators on vulnerability, the Fragile State Index sets out numerous African states at the top of the risk analysis. Among the most vulnerable and fragile states in the world, we may find Somalia, South Sudan, Congo Democratic Republic, Central African Republic, Chad, Sudan, Zimbabwe, Burundi, Cameroon and Nigeria (The Fund for Peace, 2020).

In addition, using the Freedom House Index, measuring the range of political rights and civil liberties in countries around the world, it is shown how the on-going global decline in democratic governance and respect of human rights embeds sub-Saharan Africa that is overall backsliding. In 2020, the Freedom House Index showed how 22 African states saw declining scores. Although many African states also saw progress in rights and liberties, 15 states, sub-Saharan Africa had seven states among twelve that saw the most serious setbacks in freedom scores (Temin, 2020). The most obvious cases of setbacks in 2020 on the African continent was Benin, Guinea, Nigeria, Senegal, Tanzania, Zimbabwe and Uganda (Freedom House, 2020). Corruption, lack of transparency, concentration of power, limited freedom of expression and association, deficient civil society and military influence are some of the major challenges in many African states. This has left many African societies and populations with very weak political institutions and poor relations between those who govern and those who are governed (Freedom House, 2020; The Fund for Peace, 2016).

4. Darfur, Climate Change and State and Human Insecurity

The combination of malfunctioning governance and climate change challenges is a contemporary and

Tab. 1. Top-Ranked Fragile States in 2020

Country	Rank	Total (120)	Cohesion (max 30)			Economic (max 30)			Political (mx 30)			Social (max 30)		
			SA	FE	GG	EC	UD	HF	SL	PS	HR	DP	RD	EX
Yemen	1st	112.4	9.7	10.0	9.7	9.4	7.8	7.0	9.9	9.5	10.0	9.8	9.7	10.0
Somalia	2nd	110.9	9.8	10.0	8.6	9.1	9.4	8.9	8.9	9.1	9.0	10.0	9.1	9.0
South Sudan	3rd	110.8	9.4	9.7	9.1	9.5	9.2	6.8	9.9	9.5	9.0	9.5	9.7	9.5
Syria	4th	110.7	9.9	9.9	10.0	8.7	7.2	8.4	10.0	9.1	10.0	7.6	10.0	10.0
Congo Democratic Republic	5th	109.4	8.5	9.8	9.7	8.0	8.6	6.9	9.7	9.5	9.5	9.8	10.0	9.4
Central African Republic	6th	107.5	8.3	9.7	8.0	8.4	9.9	6.8	8.9	10.0	9.2	8.8	10.0	9.5
Chad	7th	106.4	9.2	9.5	8.3	8.5	8.9	8.4	9.3	9.4	8.5	9.6	9.2	7.7
Sudan	8th	104.8	8.4	9.4	9.4	8.1	8.0	8.0	9.3	8.3	8.9	9.1	9.3	8.6
Afghanistan	9th	102.9	9.9	8.9	7.5	8.3	7.7	7.5	9.0	9.5	7.6	9.0	9.3	8.6
Zimbabwe	10th	99.2	8.5	10.0	6.4	8.6	7.6	7.0	9.1	8.7	8.3	9.3	8.5	7.2
Burundi	11th	97.9	8.2	9.3	8.6	6.8	7.7	7.6	8.9	8.3	7.8	8.8	8.6	7.3
Cameroon	11th	97.9	8.3	7.9	7.6	8.5	7.3	5.9	9.1	7.9	9.1	9.2	8.5	8.5
Haiti	13th	97.7	6.9	9.6	5.6	8.5	9.1	8.1	9.1	9.3	6.9	8.2	7.1	9.3
Nigeria	14th	97.3	8.7	9.9	9.1	7.9	7.8	6.6	8.1	8.9	8.4	9.3	6.9	5.7

Source: The Fund for Peace, 2020.

highly dangerous reality in many African societies. The UN has addressed the climate change-security nexus pointing out how climate change may become a serious security challenge in fragile states.

“Climate change worsens existing social, economic and environmental risks that can fuel unrest and potentially result in conflict. Security concerns aggravated by climate change include impacts on food and water supply, increased competition over natural resources, loss of livelihoods, climate-related disasters, migration and displacement. Crisis-affected countries are more susceptible to being overwhelmed by the security risks posed by climate change. Stabilization efforts often do not consider the impacts of climate change. At the same time, state fragility hinders climate change adaptation efforts, particularly among the most vulnerable communities” (UNEP, p. 1).

Sub-Saharan Africa and especially the Sahel region has the dangerous combination of fragile states and high vulnerability to climate change (Mazo, 2010). Sudan is one of the most fragile states in the world. Based on the above-mentioned Fragile State Index, Sudan is assessed as number 8 in the world and South-Sudan as number 3. In addition, since its independence in 1955, Sudan has systematically faced minor and major conflicts and been ruled by an economically, politically and militarily dominated small elite. Although in 2019 Sudan saw how the 30-year dictatorship of Omar al-Bashir and the National Congress Party (NCP) ended after popular unrest and call for political change, the Freedom House Index sets out Sudan and South-Sudan as Not Free and with very limited rights and liberties for the people. The transitional government is to be replaced through elections in 2022, but serious challenges remains to be handled to see a transition to democracy (Freedom House, 2020).

Geographically, Sudan constitutes one of the largest African states. Darfur is a region within western Sudan, consisting of about 6 million people. In February 2003, a brutal civil war started in Darfur. It began when para-military groups, in the Sudan Liberation Movement (SLM) and the Justice and Equality Movement (JEM), based on non-Arab Muslim Fur, Zaghawa and Masalit ethnic groups, criticized the government of conducting political and economic repression of non-Arabs in Darfur. In a short period, both para-military groups and government forces engaged in violence, and government forces initiated a systematic ethnic cleansing of non-Arabs in the region, ending up in several hundreds of thousands of civilians killed, including casualties in combat and by war-related starvation and diseases. The escalation of warfare in Darfur resulted in forced

migration of over 2 million people both within and across Sudanese borders. The aggressiveness from the government forces with support by militias, foremost against three ethnic tribes, led to a massive humanitarian catastrophe by many defined as genocide (Mazo, 2010; Ki-moon, 2007).

The escalation of violence and cruelty received international attention. In late 2003, the Sudanese government and rebel forces signed a peace agreement after international pressure and diplomatic mediated talks with representatives from Norway, Italy, the UK and the US. However, the peace agreement was soon undermined, foremost by international interferences and interests over existing oil resources in Darfur. In a short period, the peace agreement turned into further violence between rebel forces from the western Darfur and government forces. In mid-2004, the UNSC supported the African Union (AU) in its efforts to monitor the new ceasefire and to protect civilians from further harm. As a result, in 2006, a new peace agreement was signed based on new UNSC resolutions now monitoring the peace accord in addition to allowing peacekeeping forces and using the International Criminal Court (ICC) to prosecute war crimes. The Peace Agreement was the result of many diplomatic talks in Nigeria, but as previously, the new agreement was soon challenged when only one rebel group was interested to sign the agreement. The remaining rebel groups questioned the agreement that they saw missed assuring progress for Darfur regarding compensation for victims, protection of displaced people and political representation. While the Sudanese government was willing to sign the agreement, many rebel groups and international observers questioned the government's interest to implement the peace agreements (Dagne, 2010; Mohamed, 2009).

In a few years of civil war, the situation in Darfur turned even worse with armed conflicts between the central government and rebel forces, between different opposition factions and between the government and Arab groups dissatisfied with the central authority's inability to protect their safety. In late 2008, President Omar Hassan Al-Bashir initiated peace talks, but was challenged by rebel factions that accused him of using systematic violence against civilians. In 2010, the Sudan government signed numerous peace agreements with different opposition forces, but without creating any signs of de-escalation of violence or increased stability. In 2011, the Doha Document for Peace in Darfur was decided on by the government and the umbrella organization, the Liberation and Justice Movement (LJM), but as in previous years, many rebel forces continued to refuse to participate and sign any

treaty. Instead, in early 2011, South Sudan voted in a referendum for its independence from Sudan leading to a new sovereign state in the Republic of South Sudan. However, in 2013–2015, another civil war began resulting in about 2.2 million displaced people jeopardizing both the state and region to such an extent that Sudan and South-Sudan were under threat of collapse (BBC, 2018). While the conflict faded from the international and media spotlight, the civil war continued with growing number of displaced, injured and killed people. The state and human security situation deteriorated with millions displaced, hundreds of thousands living as refugees and millions in need of food and other vital aid. In addition, the discovery of gold in Darfur resulted in further violence and displacement with an escalating conflict. Today, in 2021, Darfur continues to be challenged by insecurity and violence although there are UN/AU (Unamid) peacekeeping forces in the region. There are minor signs of improvements in the recent arrest of the former dictator in Omar al-Bashir and the Sudanese militia leader Ali Kushayb and his extradition to the ICC in the city of Hague in the Netherlands. Bashir is also wanted by the ICC accused of conducting war crimes and atrocities in Darfur (Beaumont, 2019, 2020).

Many scholarly studies have explored the root causes to the many problems in Darfur (Akasha, 2014). In 2007, the UN Secretary, General Ban Ki-moon declared the civil war in the Darfur region of Sudan to be the first climate change conflict in the world. He pointed out climate change as an important explanatory factor. On June 16th, 2007, Ki-moon stated: "Amid the diverse social and political causes, the Darfur conflict began as an ecological crisis, arising at least in part from climate change" (Ki-moon, 2007, p. 1). Since the civil war began, Darfur and Sudan have become an illustrative case on the climate change-security nexus. Although climate change should not be seen as the only factor or perhaps even not one of the most important ones to the conflict, climate change did provide for growing state and human insecurity in scarcity of water and food triggering for tension and conflict. The United Nations Environment Programme (UNEP) has stated how decreasing rainfalls for decades resulted in sincere desertification and an expanded Sahara, leading to growing tensions between farmers and herders in Sudan (UNEP, 2007). The drier weather put severe stress on settled farmers in the region and led to increased social tension between local farmers and migrating Arab nomadic herders over farmland and water (Ki-moon, 2007). As in many African regions, Darfur's economy is based on agriculture with crop farming as the dominant activity. Due

to long-term droughts, farming has become very problematic, with scarcity of food and water as well as competition over fertile land and land ownership. With climate change continuing, many local farmers changed their activities from harvesting crops to raising animals, creating a situation of social tension over access to grazing land between pastoralists and farmers. One of the important causes of the Darfur war could be argued to be declining rainfall in southern Sudan leading to escalation of tension and at the end violence among societal groups. Overall, studies have identified how summer rains, particularly in western and southern Sudan, have declined by about 10–20% since the mid-1970s challenging Sudan's food production at the same time as a rapidly population growth has been identified. In 2010, about 8 million people faced food insecurity in northern and southern Sudan and with declining levels of rainfall, the number of people challenged by food insecurity will dramatically increase as the crop production, foremost in the south-eastern areas of Sudan, will decrease. South Darfur has seen the largest decline of rainfall; estimations of about 20% lower throughout the 20th century at the same time as the air temperature has increased by more than 1°C throughout central and southern areas of Sudan and towards Darfur. Focusing on the Darfur region and southern Sudan, "Since 1980, decreasing rainfall has been accompanied by rapid increases in air temperature on the order of more than 1°C. This warming, which is two and a half times greater than global warming, is reducing evapotranspiration and making normal years effectively drier, especially in the extended Darfur and southern Sudan regions" (USGS, 2011, 4).

Another important factor in the armed conflicts, besides climate change, was poor governance of the Sudanese authorities in Khartoum, for supporting Arab networks in Darfur by arming paramilitary groups (Baltrop, 2010). Based on an Arab-dominated government since the late 1980s, non-Arab citizens and farmers felt increasingly socioeconomically and politically marginalized from societal support and resources. The government policies were perceived as strongly supporting Arabs and separating non-Arabs from Arabs and other non-Arab tribes. Therefore, in the early 2000s, the Fur and Zaghawa tribes armed themselves and formed the JEM and the SLA, leading to the ensuing civil war in Darfur. Poor governance contributed to years of conflicts and war, both between Arabs and non-Arab tribes in Darfur as well as between former government-supported paramilitary groups and the government. Poor governance in Sudan also resulted in ongoing competition over resources such as farmland and water, but also over

oil reserves where international interests have been involved, all together destabilizing Sudan and Darfur to become further weakened.

To sum up, there have been many identified explanatory factors to the Darfur conflict; poor governance, militarization, ethnic tension and climate change are some of the most important ones. It is important to acknowledge how climate change has been a threat multiplier in Darfur as an exacerbating factor that adds stress on an already weakened society due to political, economic, and social factors. As argued, "The current Darfur conflict is a product of an explosive combination of environmental, political, and economic factors. It is well known that environmental degradation and competition over shrinking resources have played, and continue to play, a critical role in communal conflicts in the Sahelian countries, such as Mali, Niger, and Chad. In this regard, Darfur is no exception" (Sikainga, 2009, p. 1).

5. Conclusion

The growing bulk of studies on global climate change and conflicts has provided mixed results on explanatory factors to violence in African societies. While some scholars have stressed that climate change has been the most important explanatory factor for war, other scholars have rather argued that political and economic challenges are primary reasons for political instability and conflicts. An intermediate perspective has set out how both climate change and poor governance are drivers of conflicts. This study has explored how global climate change provides serious state and human security challenges to African governments and people. Climate change has resulted in scarcity of vital resources in food, water, sanitation, and health and come to undermine political and economic structures, infrastructure and integration. Scarcity of food and water has also forced people to migrate resulting in further marginalization and without essential resources to survive.

In addition, climate change challenges have been met with very limited mitigation efforts in most African societies. Poorly governed states with major challenges in authoritarianism, corruption, ethnic divisions and fragile, dysfunctional institutions has left state institutions without capacity to find counter-measures to climate change consequences. Undemocratic and dysfunctional governments are a major challenge for Africa to provide for state and human security. Africa is the most vulnerable geographical area in the world due to climate change consequences and with a combination of limited

state capacities to address the effects. The civil war in Darfur, Sudan has been a long-term humanitarian catastrophe and an illustrative example of the climate change-security nexus of our time.

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