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Articles

Drought and Flood (Climate Change) – Social-Ecological System Destabilization – Conflict – Nexus in East Africa:

Climate Change-induced Environmental Degradation, Food Insecurity, Migration and Violence around Mt. Kilimanjaro

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I. Introduction

Climate change leads to environmental degradation and destruction which have an impact not only on natural resources but also human beings. Competing livelihood systems are subject to stiff competition, leading to social tensions and violence. In other incidences, environmentally induced migration has contributed to competition over shrinking resources in host communities, and is a recipe for violence. Droughts and/or floods are examples of extreme weather events, which are categorized under climate variability and characterized by their severe effects on people's livelihoods, especially on agricultural production and associated food security. The current drought situation in the Horn of Africa is worryingly familiar, and the situation is deteriorating faster than expected. Severely erratic and below average rainfall has resulted in widespread food insecurity and malnutrition, deteriorating livestock conditions, and the mass movement of populations within and across borders.

In this article, focusing on the region around Mt. Kilimanjaro, Kenya, the following questions are cleared; first, how climate change over a period of time disrupts the normal functioning of the ecosystem that interacts with humans, and affects how they access certain vital resources for their survival; second, how climate change hazards create imbalances in the socio-ecological system that have the potential to exacerbate or even trigger violence in some contexts.

II. Africa: Climate Change, Conflict/ Violence and Migration/Refugee

1. Climate Change, Conflict/Violence and Continental Migration/Refugee

Greenpeace Germany mentions that the extent of the drought in the Horn of Africa, which currently threatens the lives of some 20 million people in Yemen, Somalia, Kenya, South Sudan und Ethiopia, is reminiscent of the famine in the Sahel region in the 1970s and 1980s. More recently, the Horn of Africa experienced a prolonged drought in 2010 and 2011. The climate in this region is influenced by fluctuating sea surface temperatures

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in the Indian Ocean. Similarly to El Niño and La Niña in the Pacific, sea surface temperatures off the coast of East Africa and Indonesia also oscillate between a warm and a cold side. When sea surface temperatures off the coast of East Africa are cold, less water evaporates and the northeast trade winds, which bring rain to the interior of the region, are weakened or completely absent (Greenpeace Germany: 26–27).

Droughts on the African continent in recent decades have not only become more frequent, but also lasted longer. When the intervals between recurring droughts become shorter, the ability of the population to recover from the most recent drought and prepare for new droughts diminishes. If extreme climatic events are accompanied by violent conflict, as in Yemen, Somalia, and South Sudan, then people try to reach refugee camps to obtain some degree of protection for themselves and their families and to ensure survival through food aid (Greenpeace Germany: 26–27; Besada *et al*.; Afifi *et al*. 2012; Tsuma; Leroy *et al*.; Cervigni *et al*.).

2. Climate Change, Migration and Human Rights

Since the 1960's, according to ICCA (Institute for Climate Change and Adaptation, hereafter ICCA), Africa has experienced a general warming trend with certain regions experiencing more warming than others. Kenya has experienced general rise in temperatures. Moreover, high evapotranspiration rate reduces surface water especially in the northern Kenya where pastoral system is dominant. Despite the fact that pastoralists have been migrating in the past in search of water and pastures, conditions have become much tougher as the region is prone to frequent episodes of droughts forcing them to venture beyond their original migration zones. During migration, they encounter hostile communities who resist invasion in order to protect resources within their borders. This has led to incessant conflicts and migrations in the arid and semi-arid lands (ASALs) (ICCA: 2).

Repeated reporting of these conflicts in these communities indicates either the absence of suitable conflict resolution mechanisms and approaches, or their ineffective implementation, ICCA continues. Many communities resort to violence as a way of managing their conflicts without sustainably resolving them. Use of violence increases tension between the involved communities, causing fear among community members and inevitably forcing people in particular women, children and other vulnerable groups to leave their homeland (ICCA: 2).

Considering that the environment is already stressed, ICCA explains, it is most likely that the number of conflicts and casualties will increase, causing more people to take refuge. However, there is still a lot of hesitation by the international community to acknowledge the existence of 'climate refugees' and their eligibility to seek asylum. Kenya like many other Africa countries is yet to ratify the Kampala Convention on Internally Displaced Persons (IDPs). This framework may address displacement caused by natural disasters that influence human life, peace, stability, security and development. Thus, the implementation of such frameworks is essential to improving the government's response to the protection needs of IDPs (ICCA: 2).

As such, UNFCCC (United Nations Framework Convention on Climate Change) recognizes climate change as one of the greatest human rights challenge of our time (Human Rights Watch, 2015). Similarly, Stockholm and the Rio Declaration have acknowledged the link between environmental quality and the human rights (ICCA: 2).

III. Kenya: Climate Change-Induced Conflicts and Migration

1. General Remarks

According to the analysis of ICCA, only 20 percent of the land in Kenya is arable whilst the rest of the country in the northern, north eastern and much of the southern areas are arid and semi-arid lands (ASALs) which constantly experience incessant conflicts especially over pasture and water resources. These areas experience unpredictable, non-equilibrium weather conditions. Against this background, nomadic pastoralism is the dominant livelihood system. Migration as an adaptation and coping mechanism leads to competition over the dwindling natural resource base. The scarcity results in violent inter-community conflicts leading to migration. Lately, there has been an increase in migration trends both in space and time among pastoralists causing severe competition resulting into conflicts which hinder accessibility to critical resources. Inter-communal conflicts have been exacerbated by dwindling land and water resources as well as socio-political, economic and cultural factors alongside institutional oversights such as drawing communal boundaries without consideration to pastoralist's mobility needs (ICCA: ix; Afifi *et al*. 2014).

There is an emerging correlation between climate variability and violent conflict in Northern Kenya, where most conflicts were resource based, ICCA continues. Thus, up scaling the findings from the two case studies to regional, national or elsewhere will be insightful for forward perspective in the future. It was evident that land use had changed significantly as reflected in the species composition in both counties' shrinking forests. In addition, precipitation was associated with increased variability as witnessed in the increased frequency of droughts over the last 10 year with shorter cycles of about 3–5 years. Moreover, we can note a correlation between droughts and conflicts; these conflicts have led to displacement of communities, loss of livelihood and migration. Moreover, migration is influenced by the search for opportunities and in other instances; there has been forced migration due to incessant cycles of conflicts (ICCA: ix–x; Masih *et al*.).

2. Climate Change and Natural Resource Conflicts

The competition for natural resources is the root cause of conflicts, ICCA explains. The current conflicts and displacements have been reinforced by a number of factors and key among them are the changing climate regimes. For instance, in Wajir and Garissa Counties, climate change has dramatically increased the region's vulnerability to droughts and floods. This has imperiled the rather fragile livestock based livelihoods and ruled out possibilities of sedentary agriculture. Conflicts over resources (pasture and water) are on the rise as influx of refugees from Somalia intensifies population pressures in the County (ICCA: 13).

On displacement and migrations, in Turkana 1,730 people were displaced, in Mandera 125,107 people were displaced; in Wajir, 84,980 people were displaced between January and November 2014, ICCA mentions. Displacement figures have sharply increased due to increase in number and frequency of droughts leading to resource based clashes. Mandera County has particularly suffered from struggle from political representation and its proximity to both the Somali and Ethiopian borders. Although the causes of conflicts differ according to the report, a good number of the reported cases include struggles for control and use of dwindling resources, in particular water and land for pastures. Figures for 2013/14 show that almost 500 people in Mandera were killed and more than 55,000 people were displaced as a result of inter-communal violent conflicts. That means the number of people displaced by conflicts in the first half of 2014 was almost four times the number of people displaced in the entire previous year 2013 (ICCA: 14–15).

Areas most affected by inter-communal con-

flicts in Kenya include semi-arid districts of Turkana, Isiolo, Samburu, Wajir, Moyale and Mandera in the north of the country, ICCA continues. While the traditional causes of conflicts in these areas which have mainly been cattle rustling and clan or tribal conflicts over political representation, recent conflicts are either caused or exacerbated by the effects of climate changes which include scarcity of water and pastures for pastoral communities who make the majority of the resident communities in these areas. The Kenyan climatic land condition leaves the majority of ASALs' residents susceptible to weather disasters as the climate changes over time. In the last decade, frequency and severity of natural disasters in Kenya have affected larger numbers of people (ICCA: 15).

In addition, natural resources (grazing land and water) account for a sizeable share in fueling conflict, ICCA insists. Therefore, clear policy guide lines on issues to do with management and utilization of water resources are required. Despite government taking proactive steps to protect pastoralists by deploying more security personnel, its effectiveness is not clear (ICCA: 70; Mutimba *et al*.; Agrawala *et al*.).

IV. 'Environmental Refugee', International Human Rights Law, and Critical Explanation of Non-Linear Relationship

1. Environmental Refugee in International Human Rights Law

1) Impact of climate change on people's lives

Whereas it has been demonstrated that phenomena linked to climate change are among the main causes of population movement, according to Piasentin, it is also true that these people do not belong to any well-defined category of subjects of international law that can guarantee their protection. In 2013, people obliged to flee their habitat by disasters were almost three times as many as those forced to flee their homes by conflicts. In 2015, 98.6 million people were affected by disasters and, according to UNISDR (United Nations International Strategy for Disaster Reduction), whose name was changed to UNDRR (United Nations Office for Disaster Risk Reduction) from 9th May 2019, "Climate was a factor in 92% of those events." The natural disasters producing the greatest impact were droughts. In comparison to the ten-year annual average, drought rates have more than doubled in number, affecting 50.5 million people, particularly in Africa. Floods were the phenomenon that had the second greatest impact in 2015 (Piasentin: 33).

Scientists agree that climate change in combination with other factors, will cause an increase of people displacement in the future, he continues. Moreover, according to the IPCC (Intergovernmental Panel on Climate Change) report, "Displacement risk increases when populations that lack the resources for planned migration experience higher exposure to extreme weather events, in both rural and urban areas, particularly in developing countries with low income." It has been reported that 97% of disaster-related displacement, between 2008 and 2013, occurred within developing countries. In addition, climate change is also expected to have an indirect impact on increased risk of violent conflicts, such as civil war and inter-group violence (Piasentin: 34).

2) Protection of people on the move in international law

While it is clear that climate change produces a serious impact on migration and displacement, he analyzes, it is also true that it is quite difficult to identify a direct link between the two phenomena. The reason is that different communities perceive the impacts of climate change differently, depending on their political, economic and social conditions. Their ability to cope with the same type of sudden or slow-onset disaster and their resilience are therefore different. This obviously affects peo-

ple's mobility decisions. It is more common that displaced people affected by a sudden or slow-onset disaster stay within the borders of their home country. In this case, the state has the obligation, under national and international law, to respect their rights and to protect them. On the other hand, when they move to a foreign country, there is no specific legal instrument that regulates how these migrants have to be treated for what concerns their permission to stay and their protection (Piacentin: 34–35).

He continues that refugees are a very precise legally-defined category of people including anyone who, "Owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country." When a sudden or slow-onset disaster happens, only if the state discriminates against some specific group of people in giving assistance, those people who do not receive protection can be considered as persecuted and therefore entitled to international protection. In the same way, if the disaster is caused by some action or inaction imputable to a discriminatory attitude by the state towards a particular group of people, these people could fall into the refugee category (Piacentin: 35).

However, he adds, migrants who cross borders for reasons connected to climate change and cannot demonstrate persecution by the criteria defined in the Convention cannot be considered refugees. Even if some decide to live and work in a foreign country as a consequence of the impact of climate change on their country of origin, it does not mean that they are entitled to international protection. In addition, the Convention does not guarantee the right to be admitted to or stay in a foreign country (Piacentin: 35–36).

Although climate change has divided societies, it also generated avenues to unify them. Mihr mentions that a human rights-based approach to climate migration can support the most affected communities. 'Climate justice' is about how resources, wealth and access to a good quality of life are guaranteed under dramatically changing conditions that do not stop at borders of any kind. It endorses the human rights of people to development, freedom and a healthy and sustainable environment, and reflects the full spectrum of international human rights law (Mihr: 47; The Government Office for Science).

2. Critical Explorations of the Non-linear Relationship among Climate Change, Migration and Conflict, and Catastrophe, and Insecurity

Problems of climate change and environmental damage may be approaching a 'tipping point' (Higgins *et al*.).

Agnue explains that climate change will contribute to conflict through several mechanisms, with perhaps the most important being increased competition between groups over scarce resources. Such conflict will increase crime and harmful acts in a variety of ways (Agnew 34–35).

White insists that the nation-state remains an essential platform for concerted action to deal with the causes of environmental harm, as well as mitigating the worst symptoms of such harm. But the global nature of the problem — climate change — means that inevitably our collective survival will require planetary cooperation and worldwide action. For eco-global criminology, this is best undertaken under the guidance of an eco-justice framework, rather than protection of existing privilege or might makes right strategies. For the latter only lead to further violation of rights, and the downward spiral to our mutual destruction (White 2009: 35; White 2018).

South mentions that the concept of environmental security is simply stretching the 'security' umbrella too far because it encompasses and blurs

with many other and well-understood aspects of security — political, economic and social. Inevitably, it is also entwined with social injustice, poverty, differential vulnerability, weak political structures, population growth, unsustainable economies, industrialization and resource demand. It would be good if we could begin to characterize the twenty-first century as one in which we strive to preserve both human rights and human security but also recognize that such goals cannot be fully realized unless we demonstrate similar regard for environmental rights and environmental security — both now and into the future which subsequent generations will inherit (South 2012: 109–111; South 2009).

Burrows and Kinney analyzes that the potential link between climate change, migration, and conflict has been discussed in the academic for several decades. However, despite this growing concern and focus on climate change and conflict, 'uncertainty' remains regarding the pathways linking climate change to migration to conflict. This uncertainty is partly brought about by the inherent 'complexity' of climate change projections. It is furthered by the challenges of accurately projecting population growth and movements, identifying the outbreak of conflict, and determining the significance of climate and migration as drivers of conflict relative to other stabilizing or destabilizing forces. Despite these challenges and inherent uncertainty, the potential consequences are so severe that it is essential that further research be conducted to better understand the possible linkages between climate change, migration, and conflict (Burrows *et al*.: 1).

Finally, Baldwin insists that the knowledge of climate change, migration and human rights is not universal but situated. While climate change is a matter of pressing concern, to manage its migration effects through human rights law is a very particular and thus political undertaking. Acknowledging the 'contingent' nature of this knowledge is important because it allows us to widen the terms of responsible action. It allows us to pose questions about whether this form of knowledge is indeed best suited for managing the migration effects of climate change or whether other forms of knowledge, such as indigenous knowledge, might equally be up to the task. Indeed, if climate change demands that we ask fundamental questions about what it means to live in the world today or about what kind of life is possible as we stand on the threshold of profound global environmental change, then perhaps answers to these questions can be found in the experiences of human life and living that are not synonymous with what we understand to be modernity today (Baldwin: 224; Crank *et al*.: 89–114).

V. Conclusions

Displacement and migration should be understood as a signal to finally take seriously the fight against climate change, to promptly implement the goals of the Paris Climate Agreement, and expedite the phaseout of fossil fuels. There are no reliable figures on how many people are suffering from long-term displacement and have been living, often for years, in the slums of growing cities, makeshift camps and emergency shelters. The major share of environmental migration takes place in the Global South and within national boundaries. However, it is difficult to predict how migration flows would change if global warming progresses.

In addition to a further increase in migration, the forced immobility of trapped populations is likely to increase considerably. These include populations whose livelihoods have been destroyed, or who are exposed to tremendous risks, but who lack the resources to migrate, or have no access to escape routes and places of refuge. The current humanitarian crisis in the Horn of Africa and Yemen is a frightening example of helplessly trapped

populations. The precarious living conditions of people who are particular affected by the consequences of climate change and environmental degradation show that great efforts must be made to better protect them.

Kenya is already vulnerable to existing climate variability because of its high-dependency on natural resources and low-adaptive capacity to cope with climate-related impacts. Building resilience to the impacts of climate change such as frequent or prolonged droughts and flash flooding in the arid and semi-arid areas of Kenya should have been given priority (ICCA: 7).

At last, we should insist that the real problem of international migration and refugee policy is not the lack of international statements of intent, but rather the behavior of key players. As long as the challenge posed by the major transition to a post-fossil economy and society has not been recognized and accepted by everyone, and as long as the corresponding changes in behavior of all those involved — individuals, groups and states — are not addressed more seriously, the planet will continue to experience natural disasters which do not (yet) affect some of us, but bring great suffering to the poorest of the poor who are the least to blame for their occurrence. We can simply no longer afford to continue to underestimate and ignore these catastrophic events.

[Notes]

1) This article is based on the paper titled "Drought or Flood (Climate Change) – Social-ecological System Destabilization – Conflict Nexus in East Africa: Rainfall-induced Environmental Degradation, Food Insecurity, Migration and Violence around and near Mt. Kilimanjaro" and presented at the 18th Annual Conference of the European Society of Criminology, 29 August – 1 September 2018, Sarajevo, Bosnia and Herzegovina
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3) In order to make a research on 'current situation of climate change-induced environmental degradation, food insecurity, migration and violence around and near Mt. Kilimanjaro', the author visited the relevant places: Masai Mara National Reserve, Amboseli National Park, The Institute for Climate Change and Adaptation at University of Nairobi, *etc*. in August 2018.
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