

# Green IR Theory and Domestic Wars: Revisiting Environmental Conflicts in Africa

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**Executive Summary:** - Recent outbreak of environmental conflicts in African countries is a threat to peaceful human co-existence. This is opposed to the rather decline in warfare on the international arena. This work therefore explored other possible means of tackling domestic conflicts by employing the Green International Relations (IR) theory in explaining the cause(s) and possible solutions to environmental conflicts in Africa. The methodology used in this study is mainly the analysis of secondary data from journals, literatures, documentaries, while also examining a couple of case studies as an empirical basis. The findings in this study revealed that environmental change is unlikely to be a an independent cause of domestic wars that are related to environmental scarcity in Africa, hence, sought relevance of other factors like economy and politics. It recommended that in order to avoid conflicts arising from environmental change, the state and non-state actors must consider the health of the ecosystem as paramount, adopt legal approaches to protecting the environment, take environmental consciousness as a moral duty, work for improved economy and a make the society relatively prosperous, and most importantly should opt for non-violent alternatives in the face of resource scarcity.

**Keywords:** Conflicts, Environment, International Relations, Domestic Wars, Africa, Climate Change

## I. INTRODUCTION

Albeit, environmental change is a global issue, its effects are felt locally by individual nations as they often manifest in sea level rise, drought, severe weather, and other consequences (Daly and May, 2019). Some violent conflicts in Africa have also been seen as part of the consequences of climate change.

Although Africa has been greatly affected by both climate change and conflict, there have been much controversy and perhaps only a small number of rigorous and systematic academic studies on the relationship between these phenomena. Conversely, the impacts of climate change are increasingly perceived as global security risks, which may have great implications for the dynamics of violent conflict. The immediate impacts of climate change include decreased regional agricultural production due to land degradation and air pollution, increased displacement of people, decreased economic productivity, disruption of institutions (Haug and Ellingson, 1998), low availability of food and fresh water, and general deterioration of livelihood, et cetera. But what is the likelihood of these factors causing violent conflict?

Most available studies on the relationship between global environmental change and violent conflict have rather seen violent conflict as the cause of environmental degradation or change other than vice versa; however, this study fundamentally investigates the later as a causal factor of the former. Levy (1995) avers that environmental change is unlikely to be a major cause of armed conflict independently and may not be an interesting area of research unless seen in conjunction with other causes of armed conflict. Hence, this entry shall take cognizance of possible mediating variables such as political and economic factors.

This study shall undertake a systematic investigation of the environment-conflict nexus with the help of some conceptual analysis, a theoretical study of environment-conflict relationship and a few case studies as empirical evidence. Despite the green theory's preoccupation with international conflicts, this study initiates a novelty into the body of knowledge by employing this Green International Relations (IR) theory in explaining domestic conflicts in Africa.

## II. CONCEPTUAL CLARIFICATION

**Domestic War:** A state of open, armed, often prolonged conflict carried on between nations, states, or parties (Houghton Mifflin Company, 1982). Though categorized as war, most of the what are obtainable in Africa may be otherwise termed low-intensity conflict since some of these skirmishes are below the legal parameters and level of conventional war. Since violent conflict in most African countries are entirely local and exclusively cause by endogenous factors, it does suggests that under certain circumstances climate change increases the risk of domestic wars (Barnett, 2007).

**Conflict:** The struggle over values or claims to status, power, and scarce resources, in which the aims of the groups or individuals involved are to neutralize, injure or eliminate rivals (Coser, 1956).

### *Violent Conflict*

Is a conflict between two or more parties, of which at least one is the government of a state and an anti-state group or groups using weapons on a sustained basis, that often results in at least 25 battle-related deaths per year (Wallenstein and Axel, 1994; Evans, 1993; Schmid 1998).

*Environmental Conflict*

Environmental conflict is a conflict over scarce resources due to climate change or environmental degradation. Scarce resource is not a sufficient condition for an environmental conflict to occur. The scarcity must have been caused by changes in the physical environment. For instance Libiszewski (1992), illustrates that a conflict over a land is an environmental conflict if the land becomes an object of contention as a result of climate change or any natural disaster, but not in the case of an ordinary land dispute aiming at possession or redistribution of land. Gladitsch (2015) opines that Environmental degradation may exacerbate resource conflicts because it reduces the quantity or quality of the resource in question. Pollution of a river, for instance, reduces access to clean water and therefore contributing to increased scarcity.

*Global Environmental Change*

Concepts like ecosystem, green, climate, and environment have gained a synonymous usage in the context of globalization. Climate change refers to a process whereby there is a significant shift in the measures of climate, such as temperature, rainfall, or wind, lasting for an extended period of at least five years. (Burroughs, 2001; Lawson, 2015). Climate change often lead to glacier melting and rise in sea levels as direct consequences of global warming. Global warming is a significant characteristic of changes in the physical environment. This atmospheric warming is caused by greenhouse gas emission which can be both naturally occurring and human-made. However, climate change is fundamentally anthropogenic. With this increased emissions through activities such as deforestation and the burning of fossil fuels, the earth is rapidly losing its ability to absorb gas leading to significant changes in land usage, livestock production and industrial processes (IPCC, 2014).

Human population are ecologically interconnected, hence, climate change cuts across all borders and populations just like air and water pollution can cross a border (Dyer, 2017). In this sense, we can talk of global environmental change. Primarily, Climate change is a macro-driver of environmental change such as coastal erosion, declining precipitation and soil moisture, increased storm intensity, and species migration, floods, droughts, storms and cyclones, fires, heat waves and epidemics (McCarthy, Canziani, Leary, Dokken, & White, 2001 in Barnett, 2007).

Every region experiences the consequences of climate change differently. For instance, Europe may experience higher temperatures while some African countries may experience droughts, changing patterns or general reduction in annual rainfall (Buhaug et al., 2010).

### III. THEORETICAL PERSPECTIVES

This study uses the Green IR theory, a subfield of the International Relations (IR) Theory (Dobson, 1990; Eckersley, 2004; Dyer, 2017), as its major analytical tool.

Green theory has a built-in international orientation. It was fitted to explain the emergence of environmental conflicts, albeit, environmental problems have never been a central preoccupation in the discipline of International Relations (IR) (Eckersley, 2007). The use of green IR theory in drawing on more radical green discourses from outside the discipline of IR has helped to expose what might be called the ecological blindness of IR theory (Eckersley, 2007). From the standpoint of various disciplines there are a variety of perspectives within this theory. Such theoretical schemes include the green social theory and the green political theory (Lumumba-Kasongo, 2017). Fundamentally, the green IR theory advocates an interconnectivity of nature, society, justice and ethics (Vanderheiden, 2008). Whether it is classified as social or political (Lumumba-Kasongo, 2017), radical or reformists, ecologism or environmentalism (Dobson, 2000), prosaic or imaginative (Dryzek, 1997), green IR theory essentially re-examines the standards of political and economic norms of the society in relation to climate change, the environment and violent conflicts and seeks alternatives to these standards (Dryzek, 1997). It radically challenges existing political, social and economic structures (Dobson, 1990; Dyer, 2017).

Humans have distanced themselves from the natural world and no longer see themselves as being intrinsically linked to the world. Hence, the green IR theory aims at closing the gap that has existed between society and the environment (Barry, 2007). Its distinguishing feature is its scheme of value or moral vision which operates independently of political agency. For instance, a green morality might suggest that human material development should be curtailed in the interest of preserving non-human nature. By putting limits on traditional liberties, green theory puts nature before people, hence characteristically ecocentric (Goodin, 1992), as against anthropocentrism. This is because Green theory counts the human population as part of the environment without undermining human needs and welfare. A healthy ecosystem therefore presupposes good health and wellbeing for the human population.

A green IR theory outlook on environmental change sees it as a direct consequence of human collective choices. This is a clear injustice towards posterity and the ecosystem itself. This theory proposes that since there is no discovered technical solution to human-induced environmental change, there should be a change in human values and behaviour through avenues like political innovation and transformative shift in global politics. For its adherents, environmental change is a problem simply because of economic competition and indifference to cooperation. Hence, Green IR theory redefines climate change in terms of long-term ecological values rather than short term political interests. The green IR theory helps us analyze the relationship between the State, the economy and the environment and the resultant effect of this relationship and the necessary actions to alter it (Dyer, 2017).

Green IR theory explains the sources of conflict in terms of dysfunctional capitalist economy, activities of humans related

to domination of nature, developments undermining the environment, poor systems of governance and the State's constraints in addressing environmental issues, poverty, population growth/resource scarcity, et cetera. Holistically, green IR theory emphasizes the key tools of science, moral values and political pragmatism as inseparable factors in environmental conflict (Lumumba-Kasongo, 2017). In the same vein, Homer-Dixon (1991, 1994) recognizes this multivariate dimension of conflict causes and models a perspective where four basic social effects of environmental change may lead to conflicts. These effects in change of climate include decreased regional agricultural production, population displacement, decreased economic productivity, disruption of institutions (Hauge and Ellingsen 1998)

It is also pertinent to note that non-violence principle is at the heart of green IR theory. While it encourages the state or individual to be active in protecting themselves green IR theory advocates recourse to non-violent alternatives where there are risks or warning signs of environmental conflict (Goodin, 1992).

#### IV. ENVIRONMENTAL CHANGE AND DOMESTIC WARS

Relating the green IR theory to the environmental conflicts makes explicit how the human pollution contributes to change in change in the ecosystem, and how it in turn gives rise to domestic armed conflict. Environmental change is mostly attributable to greenhouse gas emissions from the combustion of fossil fuels (Daly and May, 2019). "No climate researcher would argue, however, that human activity is the one and only determinant of global temperature" (Gleditch, 2015). Environmental change have greater impacts on the resourced-based populations by creating scarcity and limiting their access to economic and natural capital.

Conflict over scarce environmental resources such as mineral deposits, raw materials, fish, water, energy supplies, river basins, sea passages and particularly land or territory is a traditional source of armed struggle. Throughout human history, struggles over natural resources have been a root cause of tension and conflict. Wars are often over resources, and control over natural resources has always been important in enabling a country to wage war. This resource competition; due to environmental change has continued to contribute to the onset of wars notably of about twelve armed confrontations in the 20th century including the two World Wars. This has made history a long progression of changing ways of life and changing population often characterized by wars as part of the exchange( Renner et al., 1991; Galtung, 1982; Brock 1991; Westing 1986; Colinvaux, 1980 in Gleditsch,2015). Modern researchers therefore claim that environmental change or degradation is likely to increase resource scarcity thereby giving rise to increased armed conflict (Gleditsch, 2015; Brundtland, 1987).

The fact that despite environmental change, economically highly developed countries rarely fight one another(Muller,

1989) makes resource scarcity an insufficient factor for domestic armed conflict.

Numerous analyses of environmental conflict analysis often overlook the political, economic, and cultural variables (Gleditsch, 2015). However, green IR theory brings the environment into the heart of the society and its cultural, moral and economic systems rather than perceive it as a source of problems outside these systems (Dryzek, 1997). Based on these assumptions, before scarce resources resulting from environmental change are marked as potential sources of conflict there is need to examine the level of poverty, political system and stability, ethnic tensions, et cetera within such territories. Hence, it cannot be explicitly assumed that resource conflicts have a high potential for violence, regardless of the country's political system or economic orientation (Gleditch, 2015).

This suggests that State structure plays important role in mitigating the impacts of environmental change towards armed conflict. The State may act against the outbreak of environmental conflicts through the protection of democratic values and guarantee of human rights, strong and independent judiciary, transparent security personnel, and provision of health care and education (Keen, 2000; Gough, 2002; Kahl, 2006). The provision of education is of utmost importance in this list since it is critical for self-empowerment and increases the opportunity for livelihood improvement, chances of employment and social mobility. (Archibald and Richards, 2002; Keen, 2000 in Barnett, 2007).

States remain critical to providing opportunities and stable environment, for instance, through income support, food aid; economic freedoms and programs that can enable people gain employment; political freedoms such as franchise, freedom of speech, freedom of information, civil liberties, et cetera (Barnett, 2007). However, conflicts are bound to erupt when means of livelihood seem to fail without any mitigating efforts in sight. This happens in States where there is no transparency or accountability. Apart from the freedom status of the State, Kahl (2006) and Reno (2000) outline some important regional and global factors in a weak State that may aid domestic armed violence in times of environmental change as arms trading, use of private security forces, trans-border movements, foreign investors.

Material deprivation is one of the strongest predictors of civil war, hence, a critical variable in the relationship between environmental change and domestic wars. Since the predictor variables of violent conflict in Africa such as material deprivation, scramble for scarce resources are traditionally associated with poverty, it could be deduced that the link between environmental change and violent conflict in Africa is primarily an underdevelopment problem. Underdevelopment is defined (Todaro, 1997), as an economic situation in which there are persistent low levels of living in coupled with absolute poverty, low income per capita, low rates of economic growth, low consumption levels, poor

health services, high birth and death rates, foreign dependency and limited freedom to self-determination. Highly developed countries have environmental problems such as industrial pollution, natural disasters, yet with no evidences that such changes in the environment engender armed conflict (Tir and Diehl 1998, Hauge and Ellingsen 1998 in Gleditsch (2015). Rather, they become resource-friendly by using technology to expand the resources or find cooperative solutions in exploiting them. On the contrary, less industrialized societies grapple with more environmental problems which in turn lead to struggle over scarce resource in bit to survive their poor economic conditions (Gleditsch, 2015). This shows clearly that lack of effective and global climate change policies under weak or poor governance significantly boosts the tendency of environment change resulting in armed conflict. This weakness in policy formulation no doubt has been part of the African polity and leadership structure.

From a different point of view, the green theory also attempts to explain the constraints which environmental change places on State functions in addressing the environmental issues (Lumumba-Kasongo, 2017). This is because the State itself could be vulnerable in certain circumstances to climate change. For instance, Barnett (2007) argues that climate change may undermine the capacity of States to prevent conflict when scarce resources cause migration to urban areas thereby leading to increased demand on urban services with increased pressure on the political structure of the State which should have been the provider of support in terms of education, health care, law and order, grants, et cetera. Climate change may also deflate government revenues.

Barnett (2006) asserts that the socially and economically marginalised people are more vulnerable to environmental change leading a sense of insecurity, which in turn results to violent conflict. The most vulnerable groups to environmental change are those whose means of livelihood are sensitive to that change such as those who depend on agricultural services and other ecosystem resources. Nevertheless, the level of this vulnerability has social determinants such as warfare, corruption, trade dependency, economic policies and access to economic opportunities, and globalisation processes, poverty, state marginalization, effectiveness of decision making processes and the level of social cohesion within and surrounding vulnerable groups.

Environmental change does not undermine or promote peace in isolation from these broader range of social factors. These either enable them to adapt to the environmental change, reduce their vulnerability or worsen it depending on their access to social and economic entitlements (Barnett and Adger, 2007). It is to this degree that individuals choose to or not to engage in armed conflict. Most domestic conflicts are made up of combatants who have no reasonable means of livelihood, hence, people do not often resort to violence if they have or are sure that the society can provide their means of livelihood and social security (Ohlsson, 2000). Gough (2002); Keen (2000), believe that the provision or assurance

of such aid can help reduce the need for people to use violence to provide for their needs. Barnett (2007) adds that in the developed countries established and effective welfare systems perform this pacifying functions which partly explains why they experience relative peace compared to developing countries.

## V. EMPIRICAL FRAMEWORK

Most environmental conflict research has focused on East Africa and Sub-Saharan Africa, hence it is pertinent to draw illustrations of these domestic wars from empirical evidences using a brief case study.

Smith (2017), studied the water scarcity-conflict nexus in Darfur, Sudan. The conflict could be traced back to when the government began favouring the Arab population at the expense of the Africans. There were no development in African communities, lack of funding for scarce resources coupled with policies which stirred up strife between these two groups. The droughts caused by climate change gave rise to more ethnic polarization when large numbers of Arab herders migrated to Darfur in search of water and pastures. This brought about environmental stress and the tension aggravated to pockets of skirmishes. After many decades of neglect, in 2003, two rebel groups emerged to protect the region of Darfur. The government on the other hand was not repentant of nepotism but enlisted the help of the Arab militias who clashed with their rivals in Darfur and escalated to situation to a violent state.

Elmi and Barise (2006) examined the root causes of the Somalia conflict and found out many underlying causes. One factor that stood out in their investigation was climate change owing to the fact that the environmental problem faced by the local population in Somalia has been persistent desertification. Resilience in response to these environmental problems by government and the society was however inadequate. This made a majority of the Somalians to depend on regular climate patterns in order to meet their material needs. Hence, increased migration and struggle for scarce resources became the only means of attaining their goals. Tension and even open disputes between clans intensified.

Somalia has been without a functioning central government since the late dictator General Mohamed Siad Barre was overthrown in 1991. This gave power to war-lords and clan elders who dominated the political system for their selfish interests, intensifying the already severe droughts, disrupting to water access and contributed to disease outbreaks and food insecurity. This invariably led to a polarization of the system and skirmishes between the clans. Hence, the struggle for scarce resources due to environmental change was further exacerbated by competition for power, repression by the military regime, politicised clan identity, the availability of weapons and the presence of a large number of unemployed youths (Elmi and Barise, 2006).

## VI. CONCLUSION AND RECOMMENDATIONS

From our findings, it is indisputable that environmental change does stimulate the incidence of conflict, but remains only a hazard which is further aggravated and made severe by political and economic variables (Hauge and Ellingsen, 1998 in Gleditsch, 2015).

Very few countries have been able to address environmental change constitutionally. Within Africa, it is only Tunisia's constitution that is noted to address climate change, despite the recent advances in international protection against climate change (Daly and May, 2019). However, global environmental change requires a wider network of agents that include non-state actors like communities, and individuals (Dyer, 2017). Hence, this study makes the following recommendations:

- All developmental plans by the state, individuals, multinationals and other organisations but take into consideration the health of the mother earth and the life of future generations and should be ready to be accountable for any violation of the ecosystem. Sustainability should be the hallmark of every developmental project.
- A new legal approach for the protection of the environment must be adopted by all African nations and be enshrined in her constitutions.
- It should be the responsibility and moral obligation of every individual and non-state actors to recognize the environment as a common human heritage
- While making effects to prevent environmental hazards, there should be policies in place to tackle the effects of climate change, such as subsidy for increased food prices. This may include improved economy to mitigate the cases of scarcity where any may erupt, swift humanitarian assistance to regions experiencing scarcity and displacement due to climate change.
- "Environmental destruction and resource scarcity promote war which, when it breaks out, further increases environmental destruction and resource depletion" (McMichael 1993 in Gleditsch 2015)
- Where there are conflicts already or post-war crisis in Africa, efforts must be made at protecting or reviving the ecosystem as continuous environmental degradation can lead to a vicious circle of skirmishes.
- Faced with the dynamics that our environment offers, Africans should always seek for non-violent alternatives.

## REFERENCES

[1]. Barnett, J. (2006). Climate change, insecurity and justice. In W. N. Adger, J. Paavola, M. J. Mace, & S. Huq (Eds.), *Fairness in adaptation to climate change*. Cambridge, MA: MIT Press.

[2]. Barnett J, and Adger WN (2007). Climate Change, Human Security and Violent Conflict. *Political Geography* Vol. 26 No. 6. Pp. 639–655

[3]. Barry, J. 2007. *Environment and Social Theory*. The United States of America: Routledge.

[4]. Brock, Lothar, (1991). "Peace Through Parks: The Environment on the Peace Research Agenda", in: *Journal of Peace Research*, Vol. 28 No. 4. Pp. 407–423

[5]. Brundtland, Gro Harlem et al., 1987: *Our Common Future*. World Commission on Environment and Development. Oxford: Oxford University Press.

[6]. Buhaug, H., Gleditsch, N.P. & Theisen, O. (2010). *Implication of Climate Change for Armed Conflict*. In Mearns, R. & Norton, A. *Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World*. World Bank Publications.

[7]. Burroughs, W.J. (2001). *Climate Change: A Multidisciplinary Approach*. Cambridge: Cambridge University Press.

[8]. Colinvaux, Paul A., (1980). *The Fates of Nations: A Biological Theory of History* New York: Simon & Schuster.

[9]. Coser, Lewis (1956) *The Function of Social Conflict*. New York: Free press.

[10]. Dobson, A (1990). *Green Political Thought* (1<sup>st</sup> Ed.): London: Unwin Hyman.

[11]. Dobson, A. (2000). *Green Political Thought* (3<sup>rd</sup> ed), London, New York, Routledge.

[12]. Dryzek, J. S. (1997). *The Politics of the Earth: Environmental Discourses*, Oxford, New York: Oxford University Press.

[13]. Dyer, Hugh C., (2017) *Green Theory* In McGlinchey, S., Walters, R. & Scheinpflug, C., (eds) *International Relations Theory*. Pp. 84-90. England: E-International Relations Publishing.

[14]. Eckersley, R. (2004). *The Green State: Rethinking Democracy and Sovereignty*. Cambridge, London: MIT Press.

[15]. Eckersley, R. (2007). *Green Theory, International Relations Theories*. Vol. 1, pp. 247-265. <http://hdl.handle.net/11343/32050>.

[16]. Evans, Gareth (1993). "Cooperating for Peace." *The Global Agenda for the 1990's and Beyond*. London: Allen and Unwin.

[17]. Elmi, A. A. and Barise, A., (2006). *The Somali Conflict: Root Causes, Obstacles, and Peace-building Strategies*. Article in *African Security Review*. Vol. 15, no. 1, pp. 32-54.

[18]. Galtung, J. (1982). *Environment, Development and Military Activity: Towards Alternative Security Doctrines*. Oslo: Norwegian University Press.

[19]. Gleditsch N. P., Buhaug, H. and Theisen, O. M. (2008). *Social Dimensions of Climate Change: Implications of Climate Change for Armed Conflict*. Oslo: International Peace Research Institute.

[20]. Goodin, R. E. (1992). *Green political Theory*, Cambridge, Oxford, UK: Polity Press.

[21]. Goodhand, J. (2003). *Enduring disorder and persistent poverty: A Review of Linkages between War and Chronic Poverty*. *World Development*, 31, 629e646.

[22]. Gough, M. (2002). *Human security: The Individual in the Security question: The Case of Bosnia*. *Contemporary Security Policy*. Vol. 23, pp. 145- 191.

[23]. Hauge, Wenche & Tanja Ellingsen, 1998. 'Beyond Environmental Scarcity: Causal Pathways to Conflict', *Journal of Peace Research* 35(3): 299–317.

[24]. Homer-Dixon, T. (1991). *On the threshold: Environmental Changes as Causes of Acute Conflict*. *International Security*, 16, 76e116.

[25]. Homer-Dixon, Thomas, 1994. 'Environmental Scarcities and Violent Conflict: Evidence from Cases', *International Security* Vol. 19 No. 1. Pp. 5–40.

[26]. Houghton Mifflin Company. *The American Heritage Dictionary*. Boston: Houghton Mifflin Company, 1982.

[27]. IPCC. (2014). *Climate Change 2014: Synthesis Report*. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Retrieved online <http://www.mendeley.com/research/climate-change-2014-synthesis-report-contribution-working-groups-i-ii-iii-fifth-assessment-report-in-20> on 14<sup>th</sup> August 2019.

[28]. Kahl, C. (2006). *States, Scarcity, and Civil Strife in the Developing World*. Princeton: Princeton University Press.

- [29]. Keen, D. (2000). Incentives and Disincentives for Violence. In M. Berdal, & D. Malone (Eds.), *Greed and Grievance: Economic agendas and Civil Wars*. pp. 19- 42. Boulder: Lynne Rienner.
- [30]. Lawson, S. (2015). *Theories of International Relations: Contending Approaches to World Politics*. Cambridge: Polity Press.
- [31]. Levy, M. A. (1995). Is The Environment A National Security Issue? *International Security*, 20(2): 35-62.
- [32]. Libiszewski, Stephan, (1992). "What Is an Environmental Conflict?". in: Occasional Paper, no. 1, July. Bern: Swiss Peace Foundation & Zürich: Center for Security Studies and Conflict Research, Swiss Federal Institute of Technology.
- [33]. Lumumba-Kasongo, T. (2017) *Contemporary Theories of Conflict and Their Social and Political Implications*. In Lumumba-Kasongo (ed) *Peace, Security and Post-Conflict Reconstruction in the Great lakes Region of Africa*. Oxford: African Book Collective. Pp. 29-48.
- [34]. May, J. R. and Daly, E.,(2019). *Global Judicial Handbook on Environmental Constitutionalism Third Edition 2019* United Nations Environment Programme (UNEP). Delaware Law School.
- [35]. Mueller, John, (1989). *Retreat from Doomsday. The Obsolescence of Major War* (New York: Basic Books).
- [36]. N.P. Gleditsch,(2015). *Nils Petter Gleditsch: Pioneer in the Analysis of War and Peace*. Switzerland: Springer International Publishing. DOI 10.1007/978-3-319-03820-9\_6.
- [37]. Ohlsson, L. (2000). *Livelihood Conflicts: Linking Poverty and Environment as Causes of Conflict*. Stockholm: Environmental Policy Unit, Swedish International Development Cooperation Agency.
- [38]. Reno, W. (2000). *Shadow States and the Political Economy of Civil Wars*. In M. Berdal, & D. Malone (Eds.). *Greed and Grievance: Economic Agendas and Civil Wars*. pp. 43-68. Boulder: Lynne Rienner.
- [39]. Schmid, Alex P. (1998). "Thesaurus and Glossary of Early Warning and Conflict Prevention Terms." Abridged Version edited by Sanam B. Anderlini for FEWER. Rodderdam: Synthesis Foundation.
- [40]. Smith, Robyn (2017). *The Water Scarcity-Conflict Nexus: The Case of Darfur*. Thesis presented in fulfilment of the requirements for the degree of Master of Arts (Political Science) in the Faculty of Arts and Social Science at Stellenbosch University.
- [41]. Todaro, Michael, (1997). *Economic Development* 6<sup>th</sup> Edition. Reading, MA: Addison-Wesley Publishing Company.
- [42]. Vanderheiden, Steve(ed). (2008) *Political Theory and Global Climate Change*. The MIT Press Cambridge, Massachusetts London, England.
- [43]. Wallensteen, Peter and K. Axell (1994). "Conflict Resolution and the End of the Cold War 1989-1993." *Journal of Peace Research*, Vol. 31, no. 3, pp. 333-349.
- [44]. Westing, Arthur H. (Ed.), (1986). *Global Resources and International Conflict: Environmental Factors in Strategic Policy and Action*. Oxford: Oxford University Press.