

Prometheus

Climate Change, Conflict and Crisis: A Symbiotic Perspective



Nnaemeka E. Enemchukwu

Brazil has long struggled to preserve the Amazon, sometimes called the “lungs of the world” because it produces 20% of the world’s oxygen. Despite the increasingly strict environmental protections of recent decades, about a quarter of this massive rainforest is already gone – an area the size of Texas.

Climate Change, Conflict and Crisis: A Symbiotic Perspective

Nnaemeka E. Enemchukwu



Prometheus Scholar Series
Special Research Unit
The Prometheus Article Series
November 2019

Prometheus Scholar Series®

©Nnaemeka E. Enemchukwu, 2019

University of Nigeria, Nsukka
Department of History and International Studies
nnaemeka.enemchukwu.197155@unn.edu.ng
nnaemekaclassic@gmail.com

All rights reserved. Except as permitted under current legislation, no part of this work may be photocopied, stored in a retrieval system, published, performed in public, adapted, broadcast, transmitted, recorded, or reproduced in any form or by any means, without the prior permission of the copyright owner.

Telephone: +2348145090546

Internet: www.prometheusscholarseries.org

G-mail: prometheus.scholarseries@gmail.com

Lagos. Enugu. Ogun

How to cite:

Nnaemeka Enemchukw, *Climate Change, Conflict and Crisis: A Symbiotic Perspective* (Lagos: Prometheus Scholar Series, 2019).



...Igniting Your Fire for Excellence!

This page is intentionally left blank

Abstract

This paper addresses the complex terrains that leads to conflicts in our twenty-first century world. It argues that conflict in the international system cannot be studied, catalogued and addressed without first considering the role climate change and global warming plays. To this aspect, this research adopted the library research method. Secondary data were analysed in narrative and descriptive methods. Findings showed that conflicts are environmentally induced. As humans strive to access better living standards, the environment is the first point of call. In the course of exploiting these resources, there are several implications such as degradation, depletion, and destruction of earth's resources. The effect therefore affects mankind in all aspects. Among these effects, such as failing health, poverty, and migration, conflict remains the most daunting. And whether conflict situations are anchored on resources curse or resources wars, environmental resources creates an illusion of plenty-scarcity phenomena, easy accessibility and wealth generation. It is these illusions that spark conflicts among competing ends especially among corrupt and fragile states because resources determines the political economy of states, especially in wealth distribution and political governance.

Keywords: Climate, Conflict, Environment, Resources, Scarcity

INTRODUCTION

Terms such as “climate change”, “environmental degradation”, and “greenhouse effect” and many more environment-structured terms are today commonplace in global politics, as political actors, academics, and as such pragmatic analysts sought to identify the paradigm shift in the international system. There is a nexus between environment and scarcity, when identifying pressing issues of conflict in the global space. Natural resources and other environmental factors are linked to violent conflict in a variety of ways that are often obscured by more visible drivers such as ethnic tensions, political exclusion and poor governance. Specifically, competition to control or gain access to natural resources can contribute to the outbreak of violent conflict. Natural resources can be exploited by armed groups to fund war. During conflict, individuals and groups may be able to exploit natural resources as part of the conflict economy creating incentives to undermine efforts to build peace. Also, there is another notion to this: when climate change takes a toll on natural resources, there is a creation of scarcity, which in turn might breed conflicts. In the context of escalating geopolitical and environmental theories of International relations between states, this present research attempts to underscore how there is a complex linkage between environment, scarcity and conflict.

RECONCEPTUALIZING THE LINKAGES OF ENVIROMENT, SCARCITY AND CONFLICT

Environmental issues cut across a range of topics, namely security and economics, two areas of major importance to the state, and that is why, especially since 2007, they have come to play an important role in the international political agenda. The 2007 UN Security Council Meeting to discuss, for the first time, the climate change issue and the fact that this is

a recurrent theme in the G20 Summits of the last years¹; major public panel sessions dedicated to the discussion of future natural resources extraction in a sustainable world, global food security, resilience to natural disasters, climate change, etc. at the 2014 Davos World Economic Forum (World Economic Forum 2014); and the China-US Climate Agreement announced in November 2014 are some of the many examples which demonstrate that environmental issues have played a prominent role on the international stage.²

Environmental change is only one of three main sources of scarcity of renewable resources; the others are population growth and unequal social distribution of resources. The concept “environmental scarcity” encompasses all three sources.

Analysts often usefully characterize environmental problems as resource scarcities. Resources can be roughly divided into two groups: non-renewable, like oil and iron ore, and renewables, like fresh water, forests, fertile soils, and the earth's ozone layer. The latter category includes renewable “goods” such as fisheries and timber, and renewable “services” such as regional hydrological cycles and a benign climate. The commonly used term “environmental change” refers to a human-induced decline in the quantity or quality of a renewable resource that occurs faster than it is renewed by natural processes. But this concept limits the scope of environment-conflict research. Environmental change is only one of three main sources of renewable-resource scarcity. The second, population

¹ Viola, Eduardo, Matías Franchini and Thais Lemos Ribeiro, *Sistema Internacional de Hegemonia Conservadora. Governança Global e Democracia na Era da Crise Climática* (São Paulo: Annablume, 2013). See also Joana C. Pereira “Environmental issues and international relations, a new global (dis)order - the role of International Relations in promoting a concerted international system,” *Rev. bras. polít. int.* 58 no.1 (June 2015): 4.

² Pereira “Environmental issues,” 4.

growth, reduces a resource's per-capita availability by dividing it among more and more people.³

The third, unequal resource distribution, concentrates resource in the hands of a few people and subjects the rest to greater scarcity. The property rights that govern resource distribution often change as a result of large-scale development projects or new technologies that alter the relative values of resources.⁴ In other words, reduction in the quantity or quality of a resource shrinks the resource pie, while population growth divides the pie into smaller slices for each individual, and unequal resource distribution means that some groups get disproportionately large slices.⁵

Water wars, drug wars, diamond wars, oil wars – given the proliferation of resource wars in an era of scarcity-climate change, deforestation or pollution are now widely used expressions in international relations. The environment, in general, and natural resources, in particular, are deeply linked with security, which is one of the most controversial concepts of international politics. Although difficult to define, it seems fair to say that it involves in an objective sense the absence of threats to acquired values, in a subjective sense the absence of fear that such values will be attacked,⁶ especially those which, if left unchecked, threaten the survival of a particular referent object. In general terms, and according to Soroos cited by Barnett, the concept of security can be defined as the assurance people

³ Thomas F. Homer-Dixon, "Environmental Scarcities and Violent Conflict: Evidence from Cases," *International Security* 19, no. 1 (1994): 9

⁴ Homer-Dixon, "Environmental Scarcities," 10.

⁵ Homer-Dixon, "Environmental Scarcities," 10.

⁶ Collins, Alan. "Introduction: What is Security Studies?" in *Contemporary Security Studies*, edited by Alan Collins, (New York: Oxford University Press, 2010), 5.

have that they will continue to enjoy the things which are most important to their survival and well-being.⁷

In a changing world, environmental issues are now framed in the security concept, because traditional notions of security, focused on military security, lack relevance in a world of transnational phenomena capable of affecting a wide variety of human referent objects.⁸ Environmental security extends the concept of security by considering risks posed by environmental change to the things that people value.⁹ Such risks include climate change, deforestation, soil erosion and desertification, loss of biodiversity, air, land and water pollution, ocean acidification, depletion of the ozone layer, disruption of the nitrogen and phosphorus cycles, among others.

Environmental protection, in other words, environmental security, covers food security, energy security, economic security and the access to fundamental natural resources, which leads us immediately to the concept of human security and reflects the fact that the environment is a multidimensional phenomenon. Human security involves environmental, economic, food, health, community, political and personal aspects, a concept that suggests security should also focus on individuals and not only on state-centric threats and national defense, and on the analysis of processes susceptible to undermine security, such as poverty, malnutrition, health, human rights, justice and access to goods and services. By this point of view, one can think of environmental insecurity

⁷ Jon Barnett, "Environmental Security," in *Contemporary Security Studies*, ed., Alan Collins (New York: Oxford, 2010), 219.

⁸ Greaves, Wilfrid. "Insecurities of non-dominance: re-theorizing human security and environmental change in developed states." In *Natural Resources and Social Conflict. Towards Critical Environmental Security*, edited by Matthew A. Schnurr and Larry A. Swatuk, 63-82. London: Palgrave Macmillan, 2012.

⁹ Barnett, "Environmental Security," 219.

as something associated with social injustice and inequality, which makes one think about the enhanced inequalities of globalization and, more specifically, of the overall economic policy,¹⁰ something that reveals globalization is indeed a "double-edged sword." Violence derived from environmental problems involves exploitation, discrimination, unequal social and economic structures¹¹, problems that create an atmosphere of political, cultural or religious violence, so that an approach to the environment by the human rights perspective seeks to ensure that the natural world does not deteriorate to the point in which internationally accepted rights, such as life, property, health, having a family, a private life, access to culture and drinking water are at risk. In this sense, environmental protection is, at heart, an instrument to ensure all these rights. In other words, the question is founded on global environmental justice, which is not merely related to the mitigation of the anthropomorphic causes of climate change, biodiversity loss or toxic pollution of the ocean crisis. It also demands that adaptation measures do not further marginalize already vulnerable groups, because poverty kills.¹²

Homer-Dixon distinguishes between three kinds of environmental scarcity that can increase the risk of violent conflict:

- i.) *Environmental change*, which refers to "a human-induced decline in the quantity or quality of a renewable resource that occurs faster than it is renewed by natural processes";

¹⁰ A. Schnurr, Matthew and Larry A. Swatuk. "Towards critical environmental security," in *Natural Resources and Social Conflict. Towards Critical Environmental Security*, eds. Matthew A. Schnurr and Larry A. Swatuk, (London: Palgrave Macmillan, 2012), 10.

¹¹ Syed Mansoob Murshed, "New directions in conflict research from an economics perspective," in *Conflicts Over Natural Resources in the Global South. Conceptual Approaches*, eds., Maarten Bavinck and Lorenzo Pellegrini (London: Taylor & Francis Group, 2014), 34.

¹² Peter Stoett, "What are we really looking for? From eco-violence to environmental injustice," in *Natural Resources and Social Conflict. Towards Critical Environmental Security*, eds., A. Matthew Schnurr and Larry A. Swatuk (London: Palgrave Macmillan, 2012), 17.

ii.) *Population growth*, which “reduces a resource's per-capita availability by dividing it among more and more people”; and

iii.) *Unequal resource distributions*, which “concentrates resource in the hands of a few people and subjects the rest to greater scarcity”, and which often results when “property rights that govern resource distribution ... change as a result of large-scale development projects or new technologies that alter the relative values of resources”.¹³

Homer-Dixon also highlights two distinct kinds of interaction between these dimensions of environmental scarcity, which he terms “resource capture” and “ecological marginalization”. In the former, decreased quality and/or quantity of renewable resources combines with population growth to create unequal resource access, which then leads to increased environmental scarcity (and risk of conflict). In the latter, by contrast, unequal resource access is a cause rather than an effect; combined with population growth, it leads to decreased quality and/or quantity of renewable resources, and hence once again to increased environmental scarcity and risk of violent conflict.

As an example of resource capture, Homer-Dixon cites events in the Senegal River valley in 1989. In this case, he argues, population pressure and land degradation led to agricultural shortfalls, which the Mauritanian government decided to tackle through constructing a new dam, which would provide hydropower and expanded irrigation. However, anticipation of the dam led to a sharp increase in land values along the riverbank. According to Homer-Dixon, “the elite in Mauritania, which consists mainly of white Moors, then rewrote legislation governing land ownership, effectively abrogating the rights of black Africans to continue

¹³ Homer-Dixon, “Environmental Scarcities,” 13.

farming, herding, and fishing along the Mauritanian riverbank”; this in turn triggered ethnic conflict in both Mauritania and neighbouring Senegal.¹⁴

SAMPLE EVENTS OF ENVIRONMENTAL-SCARCITY INDUCED CONFLICTS

Events in the Senegal River valley in 1989 illustrate resource capture. The valley demarcates the border between Senegal and Mauritania in West Africa. Senegal has fairly abundant agricultural land, but much of it suffers from high to severe wind and water erosion, loss of nutrients, salinization because of over-irrigation, and soil compaction caused by intensification of agriculture. The country has an overall population density of 38 people per square kilometer and a population growth rate of 2.8 per cent; in 25 years the population will double. In contrast, except for the Senegal Valley along its southern border and a few oases, Mauritania is largely arid desert and semiarid grassland. Its population density is very low at about 2 people per square kilometer, but the growth rate is 2.9 percent. This combination of factors led the Food and Agriculture Organization (FAO) and two other organizations in a 1982 study to include both Mauritania and Senegal in their list of “critical” countries whose croplands cannot support their current and projected populations without a large increase in agricultural inputs, such as fertilizer and irrigation.¹⁵

Normally, the broad floodplains fringing the Senegal River support productive farming, herding, and fishing based on the river’s annual floods. During the 1970s, however, the prospect of chronic food shortages and a serious drought encouraged the region’s governments to seek international financing for the Manantali Dam on the Bafing River

¹⁴ Homer-Dixon, “Environmental Scarcities,” 6.

¹⁵ Homer-Dixon, “Environmental Scarcities,” 6.

tributary in Mali, and the Diama salt-intrusion barrage near the mouth of the Senegal River between Senegal and Mauritania. These dams were designed to regulate the river's flow to produce hydropower, expand irrigated agriculture, and provide river transport from the Atlantic Ocean to landlocked Mali, which lies to the east of Senegal and Mauritania. But the plan had unfortunate and unforeseen consequences. Anticipation of the new dams sharply increased land values along the river in areas where high-intensity agriculture would become feasible. The elite in Mauritania, which consists mainly of white Moors, then rewrote legislation governing land ownership, effectively abrogating the rights of black Africans to continue farming, herding, and fishing along the Mauritanian riverbank. There has been a long history of racism by white Moors in Mauritania towards their non-Arab, black compatriots. In the spring of 1989, the killing of Senegalese farmers by Mauritians in the river basin triggered explosions of ethnic violence in the two countries. In Senegal, almost all of the 17,000 shops owned by Moors were destroyed, and their owners were deported to Mauritania. In both countries several hundred people were killed and the two nations nearly came to war. The Mauritanian regime used this occasion to activate the new land legislation, declaring the Mauritians who lived alongside the river to be "Senegalese," thereby stripping them of their citizenship; their property was seized. Some 70,000 of the black Mauritians were forcibly expelled to Senegal, from where some launched raids to retrieve expropriated cattle.

Diplomatic relations between the two countries have now been restored, but neither has agreed to allow the expelled population to return or to compensate them for their losses. We see here the interaction of two sources of human-induced environmental scarcity: degradation of the land resource and population pressures helped precipitate agricultural

shortfalls, which in turn encouraged a large development scheme. These factors together raised land values in one of the few areas in either country that offered the potential for a rapid move to high-intensity agriculture. A powerful elite then changed property rights and resource distribution in its own favor, which produced a sudden increase in resource scarcity for an ethnic minority, expulsion of the minority, and ethnic violence.

More so, in the Middle East, the water shortage on the occupied West Bank of the Jordan River offers a similar example of how population growth and excessive resource consumption can promote resource capture. While figures vary, Israel's average annual supply of renewable fresh water is about 1,950 million cubic meters (mcm). Current Israeli demand, including that of settlements in the occupied territories and Golan Heights, exceeds this supply by about ten percent. The deficit is covered by overpumping aquifers. As a result, water tables in some parts of Israel and the West Bank have dropped. This can cause the exhaustion of wells and the infiltration of sea water from the Mediterranean. Israel's population growth in the next thirty years, even without major immigration from the former Soviet Union, will probably cause the country's water demand to outstrip supply by at least forty percent.¹⁶

Over half of Israel's water comes from aquifers, and the rest from river flow, floodwater, and waste-water recycling. Two of the three main aquifers on which Israel depends lie principally underneath the West Bank, although their waters drain into Israel. About forty percent of the groundwater Israel uses (and therefore about a quarter of its sustainable supply) originates in occupied territory. To protect this important source, the Israeli government strictly limits water use by Jewish settlers and Arabs

¹⁶ Homer-Dixon, "Environmental Scarcities," 12.

on the West Bank. But there is a stark differential in water access between the groups: on a per capita basis, settlers consume about four times as much as Arabs. Israel restricts the number of wells Arabs can drill in the territory, the amount of water Arabs are allowed to pump, and the times at which they can draw irrigation water.

Since 1967, Arabs have not been permitted to drill new wells for agricultural purposes, although the Mekorot (the Israeli water company) has drilled more than thirty wells for settlers' irrigation. Arab agriculture in the region has also suffered because some Arab wells have become dry or saline as a result of deeper Israeli wells drilled nearby.¹⁷ These Israeli water policies, combined with the confiscation of agricultural land for settlers as well as other Israeli restrictions on Palestinian agriculture, have encouraged many West Bank Arabs to abandon farming and move to towns. Those who have done so have mostly become either unemployed or day laborers within Israel. The links between these processes and the recent unrest in the occupied territories are unclear; many political, economic, and ideological factors operate. But it seems reasonable to conclude that water scarcity and its consequent economic effects contributed to the grievances behind the intifada both on the West Bank and in Gaza.¹⁸

Thirdly, the case of copper mining in Bougainville illustrates the role that resource degradation from pollution can play in the destabilization of a community, resulting in conflict. The copper-rich island came under exploitation in the 1960s, by the international company Bougainville Copper Ltd, which operated the Panguna mine. The operation of this mine became central to the violent uprising and civil conflict that took

¹⁷ Homer-Dixon, "Environmental Scarcities," 12.

¹⁸ Homer-Dixon, "Environmental Scarcities," 12.

place between 1988-1997, which left 70,000 people displaced and led to the island receiving a degree of political autonomy.¹⁹ Hostilities began soon after operations started as profits from the mining were not adequately shared with the local community and the mine operations impacted the health of the environment. Heavy pollution from mining operations contaminated the Jaba River, as well as the land and sea. Furthermore, the lack of benefit-sharing agreements caused grievances between the residents and the mining company, particularly with respect to landowners who claimed to be receiving minimal royalties from the company.²⁰

After several decades of discord between the mining company, its supporters in government, and the local population, the Bougainville Revolutionary Army (BRA) emerged, with the ultimate goal of seeking independence from Papua New Guinea. Violence was one of the strategies used by the BRA to express discontent with the mining companies and the Government officials who allowed these practices to go on unregulated. The Panguna mine was shut down in 1989, following a series of violent actions on the mine and its employees, while efforts towards secession continued with violence until a cease-fire was reached in 1997. Although a peace agreement was signed in 2001, the Panguna mine has not re-opened as the parties cannot reach an agreement on addressing the environmental legacy from previous mining operations, preventing new damage and sharing future revenues.²¹

¹⁹ U.S. Committee for Refugees and Immigrants, "U.S. Committee for Refugees World Refugee Survey 1998 - Papua New Guinea, 1998," accessed July 3, 2019, www.unhcr.org/refworld/publisher,USCRI,PNG,3ae6a8be14,0.html.

²⁰ A.J. Regan, "Causes and Course of the Bougainville Conflict," *The Journal of Pacific History*, 33, no.3 (1998): 269-285.

²¹ Böge, Volker, *Bougainville: A Classical Environmental Conflict?* Occasional Paper No. 3, (Bern, Switzerland: Environment and Conflicts Project (ENCOP) October 1992); Conciliation Resources, Accord, No. 12/2002, special issue on 'Weaving Consensus: The Papua New Guinea-Bougainville Peace Process'. (<http://www.c-r.org/accord/boug/accord12/index.shtml>).

Fourthly, in 1947, an official report about northern Somalia expressed fear that “irreversible ruin” may hit the soil and vegetation of the area due to congestion and overgrazing; and the “Official Report” for 1952-53 stated that 80 persons had died in disputes over grazing and watering rights.²² In more recent decades, the increased migration of the Ishaq into the Haud has generated conflict between this latter pastoralist group and the Ogaden. These clashes contributed to the war between Somalia and Ethiopia in 1977-78, and “the dispute between the two main clan families has had repercussions in internal Somali politics right up to the present.”²³

While Bangladesh has always been prone to natural disasters, environmental pressures such as deforestation and human encroachments have exacerbated flood conditions and reduced the availability of natural resources for Bengalis. Consequently, millions of Bengalis have migrated into the states of Assam and Tripura in Northeast India. The migrations have shifted the balance of political power in these states, threatened indigenous culture, and increased competition over resources. As a result, ethnic clashes have broken out in both states, claiming the lives of thousands of individuals.

Two key environmental factors have played a role in the exacerbation of natural flooding and reduction of available fertile agricultural land in Bangladesh: deforestation and increasing human encroachments close to river banks.

Bangladesh is extremely vulnerable to natural disasters and experiences a regular cycle of floods, cyclones, and drought. Many experts agree, however, that by reducing forest coverage through upstream deforestation

²² Anders Hjort af Onas, Ornas, and M.A. Mohamed Salih, eds., *Ecology and Politics: Environmental Stress and Security in Africa* (Scandinavian Institute of African Studies, 1989), 160.

²³ Ornas, and Salih, eds., *Ecology and Politics*, 160.

of the Himalayas, soil is exposed to rain and winds, and flooding is exacerbated. Flooding reduces the availability of fertile cropland. During the annual floods, one-third of the country is covered in flood waters, making all types of agriculture virtually impossible. The 1988 floods – one of the worst Bangladesh has ever experienced – reduced rice production by 1.6 million tons.

Human encroachments and settlements have also exacerbated flooding in Bangladesh: natural drainage systems have been blocked, embanked or damned (embankments designed to keep floods out often end up trapping flood waters within vast areas for months at a time); natural depressions and wetlands continue to be usurped for agricultural purposes; and road construction has made low-lying areas more vulnerable to flooding by using up large quantities of soil. Partly as a result of the environmental pressures, subsequent impoverishment of the people, and relative attraction of neighboring India, over 10 million Bengalis — close to 20 million when their descendants are included — have migrated to Northeast India in the last four decades, with a substantial portion of that migration occurring after 1974.

CONCLUSION

This research has been able to x-ray the indispensability of environmental issues to International Relations. Findings show that environment and its structures of natural resources are palpable theories that are fast becoming discussed issues in the international system. The prospects for geopolitics, climate and food security are hinged on understanding how the environment influences everyday living. At the main, the study argued that there is an intricate strap that formulates a nexus between environment, scarcity and conflict. Some conflicts according to our findings are best

explained in the impact of environmental-resource scarcity. At the barest, the environment-scarcity-conflict linkage is merely a chain of events, or are in circular motions.

Scholars have observed that as consumption increases, countries will face growing shortages of vital renewable resources such as freshwater, cropland, rangeland, forests, fisheries and other wildlife. In all of these cases, institutional, political or economic factors can be as important as physical or material factors in limiting the availability of natural resources. Governments can make scarcity worse (for example through perverse subsidies or price controls); similarly, perceptions of scarcity can be as damaging as absolute limits.²⁴

At the same time, climate change threatens to alter the distribution and availability of many critical natural resources, potentially throwing local livelihoods and rural economies into upheaval. The poor are the most vulnerable and face particular challenges in protecting themselves, their families, their assets and their livelihoods against environmental risks, shocks and stress. A 2007 report from *International Alert*, for example, found that 46 countries are vulnerable to conflict as a result of climate change interacting with economic, social and political problems. In short, fragile governments will have great difficulty taking the strain of climate change on top of all other current challenges.²⁵

A number of scholars and development practitioners argue that increasing scarcity of renewable resources could have profound social consequences, including more deeply entrenched poverty, large-scale migration,

²⁴ A., Evans, 'Resource Scarcity, Climate Change and the Risk of Violent Conflict', *World Development Report Background Paper*, (Washington, DC: World Bank, 2010).

²⁵ D. Smith, and Vivekananda, J., *A Climate of Conflict: The Links between Climate Change, Peace and War* (London: International Alert, 2007).

sharpened social cleavages, and weakened institutions.²⁶ Where these factors interact with preexisting socio-economic, ethnic or religious tensions, they can potentially contribute to violent conflict.

²⁶ J.W. Maxwell, and Reuveny, R., 'Resource Scarcity and Conflict in Developing Countries', *Journal of Peace Research* 37, no. 3(2000): 301-322.

BIBLIOGRAPHY

- Barnett, Jon. "Environmental Security." In *Contemporary Security Studies*, edited by Alan Collins, 218-237. New York: Oxford University Press, 2010.
- Bhargava, Vinay K. *Global Issues for Global Citizens*. Washington, DC: World Bank Publications, 2006.
- Böge, Volker. *Bougainville: A Classical Environmental Conflict?* Occasional Paper No. 3. Bern, Switzerland: Environment and Conflicts Project (ENCOP), October 1992.
- Collins, Alan. 'Introduction: What is Security Studies?' In *Contemporary Security Studies*, edited by Alan Collins, 2-11. New York: Oxford, 2010.
- Evans, Alex. 'Resource Scarcity, Climate Change and the Risk of Violent Conflict.' *World Development Report Background Paper*. Washington, DC: World Bank, 2010.
- Frerks, Georg, Ton Dietz and Pieter van der Zaag. 'Conflict and cooperation on natural resources: justifying the CoCoon programme.' In *Conflicts over Natural Resources in the Global South. Conceptual Approaches*, edited by Maarten Bavinck and Lorenzo Pellegrini, 13-34. London: CRC Press, Taylor & Francis Group, 2014.
- Garrett, Nicholas and Anna Piccinni. *Natural Resources and Conflict. A New Security Challenge for the European Union*. London: Resource Consulting Services, 2012.
- Greaves, Wilfrid. 'Insecurities of non-dominance: re-theorizing human security and environmental change in developed states.' In *Natural Resources and Social Conflict. Towards Critical Environmental Security*, edited by Matthew A. Schnurr and Larry A. Swatuk, 63-82. London: Palgrave Macmillan, 2012.
- Hendrix, Cullen S. and Marcus Noland. *Confronting the Curse. The Economics and Geopolitics of Natural Resource Governance*. Washington, DC: Peterson Institute for International Economics, 2014.

- Heywood, Andrew. *Global Politics*. London: Palgrave Macmillan, 2014.
- Homer-Dixon, Thomas F. 'Environmental Scarcities and Violent Conflict: Evidence from Cases.' *International Security* 19, no. I (1994): 5—20.
- Klare, Michael T. *The Race for What's Left. The Global Scramble for the World's Last Resources*. New York: Picador, 2013.
- Le Billon, Philippe. *Wars of Plunder: Conflicts, Profits and the Politics of Resources*. London: Hurst, 2012.
- Maxwell, J.W. and R. Reuveny. 'Resource Scarcity and Conflict in Developing Countries.' *Journal of Peace Research* 37, no. 3(2000): 301-322.
- Murshed, Syed Mansoob. 'New directions in conflict research from an economics perspective.' In *Conflicts over Natural Resources in the Global South. Conceptual Approaches*, edited by Maarten Bavinck and Lorenzo Pellegrini, 34-50. London: CRC Press, Taylor & Francis Group, 2014.
- Ornas, Anders Hjort af Onas, and M.A. Mohamed Salih, editors. *Ecology and Politics: Environmental Stress and Security in Africa*. Oslo: Scandinavian Institute of African Studies, 1989.
- Pereira Joana C. 'Environmental issues and international relations, a new global (dis)order - the role of International Relations in promoting a concerted international system.' *Rev. bras. polít. int.* 58 no.1 (June 2015): 1—16.
- Regan, A.J. 'Causes and Course of the Bougainville Conflict.' *The Journal of Pacific History* 33, no.3 (1998): 269-285.
- Schnurr, Matthew A. and Larry A. Swatuk. 'Towards critical environmental security.' In *Natural Resources and Social Conflict. Towards Critical Environmental Security*, edited by Matthew A. Schnurr and Larry A. Swatuk, 1-14. London: Palgrave Macmillan, 2012.
- Smith, D. and J. Vivekananda. *A Climate of Conflict: The Links between Climate Change, Peace and War*. London: International Alert, 2007.
- Stoett, Peter. 'What are we really looking for? From eco-violence to environmental injustice.' In *Natural Resources and Social Conflict. Towards Critical Environmental Security*, edited by Matthew A. Schnurr and Larry A. Swatuk, 15-32. London: Palgrave Macmillan, 2012.

U.S. Committee for Refugees and Immigrants. 'U.S. Committee for Refugees World Refugee Survey 1998 - Papua New Guinea, 1998.' Accessed July 3, 2019. www.unhcr.org/refworld/publications/USCRI/PNG/3ae6a8be14,0.html.