The Water Scarcity-Conflict Nexus: The Case of Darfur

by

Robyn Smith

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Supervisor: Pieter Fourie

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Declaration

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Date: March 2017

Abstract

The world is experiencing increasing water scarcity and with such scarcity comes a greater likelihood of violence. Worldwide countries have had to investigate scarcities and resultant challenges such as violence. Low-income countries which suffer from lack of good governance and possess an array of ethnic groupings within their borders are the most vulnerable to water scarcity-related violence. The purpose of this thesis is to examine the relationship between water scarcity and conflict through the case study of Darfur. Darfur highlights how low-income countries lack the means to address grievances which arise between different ethnic groups around issues with water sources. This thesis takes an important stance on water scarcity in that it does not agree that water scarcity alone is enough to cause major incidences of violence, it is rather the mixture of ethnic tensions, water scarcity and bad governance which is toxic and results in violence. This is often forgotten by fear-ridden media articles and politicians which believe the globe is doomed to dehydration and war. Water scarcity and conflict are complex phenomena and thus require comprehension of the theoretical principles which created them. Traditional International Relations theories are therefore analysed in order to provide insight into why scarcities are occurring and how they have indirectly contributed to scarcities. Liberalism and realism have ensured that the world views nature as something to be used and profited from. This has proven to be unstainable and notes an area where International Relations needs to improve. Newer environmentally-minded theories have emerged and have fought to alter the current world order where natural resources are pillaged and lives are at risk. Such theories would include Green Theories. Green Theories are multifaceted and normatively show an alternate outcome when applied to the Darfur crisis. The purpose of the theoretical component of this thesis is to highlight that newer more environmentally-minded theories are needed in International Relations, and currently demand further study.

Opsomming

Waterskaarste neem wêreldwyd toe, wat lei tot die potensiaal vir die toename van geweld. Geweld is een van die tendense verwant aan die wêreldwye toename in die skaarste-tendens. Lae-inkomste lande met swak regerings wat bestaan uit ‘n uiteenlopende verskeidenheid etniese groepe binne hul grense, staan die sterkste kans om onder hierdie waterskaarste-geweld deur te loop. Die doel van hierdie tesis is om die verhouding te ondersoek tussen waterskaarste en konflik deur gebruik te maak van die Darfur-gevallestudie. Darfur werp lig op die wyse waarop lae-inkomste lande nie oor die nodige middele beskik om hierdie griewe aan te spreek nie – griewe wat ontstaan tussen verskillende etniese groepe rondom kwessies verwant aan toegang tot en die beskikbaarheid van waterbronne. Hierdie tesis neem ‘n belangrike standpunt in oor waterskaarste deurdat dit nie akkoord gaan daarmee dat dit alleen waterskaarste is wat vir meeste van die grootste gevalle van geweld verantwoordelik is nie. Hierdie tesis neem standpunt in dat die geweld eerder toegeskryf kan word aan ‘n kombinasie van etniese spanning, waterskaarste asook swak regering – ‘n toksiese kombinasie wat in geweld ontaard. Hierdie kombinasie word meesal deur die vreesbevange media-artikels en politici agterweë gelaat – politici wat glo die wêreld is gedoem tot dehidrasie en oorlog. Waterskaarste en konflik is ingewikkelde verskynsels. Dit verg begrip van die teoretiese beginsels wat daartoe aanleiding gegee het. Tradisionele Internasionale Betrekkingsteorieë word vervolgens ontleed om insig te lewer oor die redes waarom skaarste plaasvind, en hoe dit indirek tot die skaarstes bydra. Liberalisme en realisme het meegebring daartoe dat die wêreldwye opvattings oor die natuur lei tot houdings van die natuur as bloot ‘n kommoditieit vir geldgewin. Hierdie wêreldbeskouing is duidelik nie meer volhoubaar nie, en bied ‘n leemte in die gebied van Internasionale Betrekkinge waar dit drasties kan verbeter. Nuwe omgewingsgesinde teorieë het nou ontwikkel wat die bestaande idees aanvat en is besig om die hedendaagse tendense te verander - tendense wat die natuurlike hulpbronne plunder en lewens in gevaar stel. Sulke teorieë sluit in Groen Teorieë. Groen Teorieë is veelsydig en dui normatief op ‘n alternatiewe uitkomste waar dit op die Darfur-krisis toegepas word. Die doel van die toeretiese gedeelte van hierdie tesis is om die kollig te werp op nuwe en meer omgewingsgerigte teorieë wat nodig is om Internasionale Betrekkinge op datum te bring, en wat tans dingende, verdere studie verg.

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List of Acronyms

AL	Arab League
AU	African Union
CS	Copenhagen School
DDT	Dichloro-diphenyltrichloroethane
DLF	Darfur Liberation Front
ENCOP	Environment and Conflicts Project
EPA	Environmental Protection Authority
G8	The Group of Eight
GDP	Gross Domestic Profit
IDP	Internally Displaced Persons
IMF	International Monetary Fund
IGAD	Regional Intergovernmental Authority on Development
IPCC	Intergovernmental Panel on Climate Change
IO	International Organisations
IR	International Relations
JEM	Justice and Equality Movement
MNC	Multinational Corporation
NIF	Islamic Front
SLA	Sudan Liberation Army
SLM	Sudanese Liberation Movement
SPLM/A	Sudan People's Liberation Movement/Army
TNC	Transnational Corporation
UCDP	Uppsala Conflict Data Programme
UK	United Kingdom
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCC	United Nations Framework Convention on Climate Change

UNMIS	United Nations Mission in Sudan
UNICEF	United Nations Children's Fund
US	United States
USA	United States of America
WASH	Water, Sanitation and Hygeine
WB	World Bank
WTO	World Trade Organisation
WWF	World Wildlife Fund

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Chapter 1: Introduction to the Study

"THE OCEANS COULD BE DEAD BY THE YEAR 2048" – The Inertia, 12 November 2014

"FOUR BILLION PEOPLE FACE SEVERE WATER SCARCITY" – The Guardian, 12 February 2016

"WORLD FACING FIRST MASS EXTINCTION SINCE THE DINOSAURS AS WILDLIFE POPULATIONS PLUNGE BY 67 PER CENT IN 50 YEARS" – Independent, 27 October 2016

These are just a few of the consistent headlines of newspapers, online blogs and television specials that serve as warning signs to people globally. It is not, however, only the media that warn of such a future; in October 2016 a special issue of the *Cambridge Review of International Affairs* edited by Burgess, Owen and Sinha outlined International Relations' propensity to turn to securitization when water scarcity is prevalent.

If nothing drastic is done, the world will die. There is no future for our children. So why are the people who have the power to make changes not doing anything? Why is the world still consumed by matters of so-called "high politics"[1] without seeing that our collective existence is being threatened by our desires to gorge ourselves on things that harm the Earth?

Every day people are made aware of the fact that our environment is facing devastation (Marten, Brooks & Suutari, 2005: 10). From these reports one can see that natural ecosystems from the oceans to the rainforests are close to "tipping points"; once they have tipped the damage will be irreversible and catastrophic for the human population (Marten *et al*., 2005: 10). Scientists claim that the evidence of climate change is irrefutable and it therefore demands immediate attention in order to reverse the process.

Climate change, and how it has challenged past populations, can and does have a destabilising effect on nations and states. These challenges can precipitate disruption in the geopolitical, social and economic realms (Mazo, 2010: 9). According to Speth and Haas (2006: 1), there is

[1] "High politics" refers to important issues that have to do with inter-state relations, such as war, diplomatic cooperation and peace. It refers specifically to problems that affect state sovereignty and autonomy. The state is the main unit of concern and analysis in "high politics" (Dikshit, 1999: 8).

more economic activity and there are more people on the Earth than ever before. This has a major impact on the environment and will have drastic consequences if not addressed. The environment is at present increasingly vulnerable and susceptible to any changes to natural resources within its ecosystems. This is exacerbated by the increasing numbers of human beings, who have a tendency to consume products at a more rapid rate than ever before (Speth & Haas, 2006: 1).

The consequences of this increase in population size, and the concomitant consumerism, are felt throughout the ecosystem. The World Wildlife Fund (WWF) estimates that more than 10 000 species become extinct every year and, according to scientists, the "rapid loss of species we are seeing today is estimated by experts to be between 1,000 and 10,000 times higher than the natural extinction rate" (WWF, 2014a). The main causes of these losses are habitat degradation, over-exploitation in fishing and hunting, as well as habitat loss; all of these features can be attributed to people's need to survive or prosper in an ever increasing globalised world (WWF, 2014b). Fishing towns and islands that once had over-abundant stocks of fish have experienced a 95 per cent drop in their stocks over the last 50 years (Marten *et al*., 2005: 10).

This over-exploitation has been studied by Garret Hardin, who contends that there is a fundamental problem with commonly owned resources (Hardin, 1968: 1246; Hasnas, 2009: 96). In "The Tragedy of the Commons" Hardin states that: 1) commonly owned resources will be over-exploited; 2) the tragedy of the commons[2] cannot be resolved "by appealing to the consciences of those exploiting the resource"; and 3) that the only real solution to such a tragedy would be the privatisation of the resource (Hardin, 1968: 1246; Hasnas, 2009: 96; Goodin, 1992: 7). Much of this framework can be applied to the many areas where environmental degradation is resulting in high levels of scarcity and loss of ecosystems (Goodin, 1992: 7).

Animals and the larger natural ecosystems are not, however, the only areas that are experiencing great turmoil and, even though humans are the perpetrators of the destruction, they are also at the receiving end of it. Natural resources that have long been used as sources of survival for humans are now scarcer (Bouguerra, 2006: 49). The scarcity of drinkable water

[2] The "tragedy of the commons" refers to a "commons", which is a natural resource that is shared by many people. Hardin states that when such commons are shared, no one person has a claim over the resource but rather has the right to use their fair share of the resource for survival or profits. The "tragedy" occurs when, through the lack of regulation, people begin to take more than their share and the resource become over-exploited. The common resource is rapidly depleted, leaving everyone with nothing (Reader, 1988: 51; Ponce, 2005).

causes the most concern for the human race. Carrington (2016) recently reported in *The Guardian* that at least four billion people experience water scarcity for at least one month a year. Water has always been a finite resource; however, there is more than enough water for the world's population and ecosystems. The problem becomes apparent in the mismanagement and distribution of water. If it were not for some countries having more water sources than others and using this as political leverage, then there would be enough water to "meet the needs of a population ten times larger than today's" (Bouguerra, 2006: 49).

Water is the source of all life, for humans and the natural world. When people hear the words "water scarcity", images of droughts and deserts come to mind. Sandra Postel, however, argues that water scarcity is in reality the consequence of the increasing consumption of water. From the 1950s until the early 1990s the global consumption of water tripled. In the 1990s the response to this increasing demand involved engineers constructing more than 38 000 dams and waterways that would help deal with floods and provide more water for agriculture, irrigation and drinking. This, however, is not a sustainable way to deal with this ever-increasing demand for water. Dams and lakes are shrinking, while water tables all around the world are declining. This has drastic implications for both the ecosystem and the human population (Postel, 1992: 2332).

Lack of water can cause socio-political conflict. Animosity is particularly rife between the "haves" and the "have nots". Societies that have an abundance of water sources are capable of dictating high prices for the water that they sell to their water-deprived neighbours. This can lead to conflicts. On a smaller, but equally important, level there is conflict among rural farmers and city dwellers. Competition over the scarce sources of water are increasingly present between farmers and urban populations. This almost trivial competition can, however, lead to armed conflicts and wars (Postel, 1992: 2332).

The effects of water scarcity are the most detrimental in developing states. Africa is regarded as one of the most vulnerable continents when it comes to resource scarcity and conflict. There are two reasons for this: 1) Africa contains states that have the highest population growth rates in the world; and 2) "Africa has over the last few decades probably witnessed more destructive and violent intermediate-level conflicts than any other continent" (Derman, Odgaard & Sjaastad 2007: 2). The fact that Africa still experiences the highest rates of poverty and famine in the world also contributes to this condition. An important aspect of this evaluation is the reality that African states, populations and economies rely solely on agriculture for their livelihoods. "Africa has experienced more intra-national violence than

any other continent over the last four decades and conflicts … over natural resources appear to be growing as these resources become scarcer and more difficult to access" (Derman *et al*., 2007: 1). Many conflicts may be interpreted as being driven by reasons that have nothing to do with resource scarcity specifically; however, many of these conflicts are perpetuated by such scarcity (Derman *et al*., 2007: 1).

Conflict in developing states has been understood by influential scholars (Homer-Dixon, 1991, 1995, 1996; Hardin, 1968; Taylor, 2004, 2011; Maxwell & Reuveny, 2000) as having innate links with resource scarcity and that most of Africa's armed conflicts can be explained within this framework (Derman *et al*., 2007: 2). Africa is also unique in that it contains thousands of different ethnic groups that add fuel to any competition over scarce resources. Most African rural people are pastoralists who require water to hydrate their cattle and crops. This leads to competition when water is scarce. Conflict often arises between the different ethnic groups over who has the right to that specific water source. This type of conflict can easily and rapidly escalate into bloody armed conflicts that involve one group taking over control of the source and the other fighting for its survival (Derman *et al*., 2007: 215).

The links between water scarcity and conflict have been studied by an array of scholars (Homer-Dixon, 1991, 1995, 1996; Hardin, 1968; Munn, 2002; Postel, 1992 & Taylor, 2004, 2011). The main conclusion of such studies highlights the extent to which there is a link between conflict and water scarcity; however, these links are complex and multi-faceted. Homer-Dixon (1991: 77) states that, "unfortunately, the environment-security theme encompasses an almost unmanageable array of sub-issues". When water sources start to dry up, this affects states' and regions' ability to sustain themselves, which in turn results in the impoverishment of people, which in its turn causes ethnic and class cleavages to manifest violently. Water scarcity and general environmental degradation pose the threat of new forms of violence occurring in both the global North and South (Homer-Dixon, 1991: 78).

Although the issue of water scarcity concerns all countries, it affects the poorer ones more seriously. This makes the situation dire for African countries. A good indication that water scarcity is affecting a country can be seen in four areas: economic decline; reduced agricultural production; disruption of legitimate social relations; and population displacement. In the case of the Sudan and Darfur regions specifically, all of these areas were affected and directly led to the years of war that ensued. The effects of water scarcity mean that several forms of conflict (insurgencies, ethnic violence, civil strife) occur which all work to

destabilize the security of states and regions (Homer-Dixon, 1991: 78). Ignoring them only means that the security threat to the state intensifies.

As Homer-Dixon (1991: 81) points out, the literature on "specific connections" between water scarcity and "acute conflict are surprisingly thin". This is because there are usually other factors that contribute immensely to the conflict, such as clashing religious beliefs. The different lifestyles of pastoralists and nomads often become central to conflict over water scarcity. In the case of Darfur land scarcity and ethnic misunderstandings contributed to the conflict. These are complex issues that often overshadow the underlying issue of water scarcity causing conflict. The stance in this thesis, however, remains that water scarcity is the catalyst to many conflicts, which have many intervening causes as well.

An analysis of the many elements of water scarcity reveals that such scarcity has many links with armed conflicts in an ethnically divided Africa (Homer-Dixon, 2010: 3). The topic of "water wars" has garnered much attention from academics in the past (Barnaby, 2009; Gleik, 1993; Irani, 1991; Pearce, 2006; Turton, 2000, 2001), with grand claims being made that most conflicts in Africa can be understood within the water scarcity framework (Munn, 2002: 146). Today, however, academics have taken a more moderate stance on the power of water to cause wars and armed conflicts (Homer-Dixon and Percival, 1998; McMichael, 1993; Tignino, 2005). The combination of water scarcity and ethnic divisions and how these elements aggravate each other is a crucial aspect of this thesis. As a specific illustration of this purported relationship, this thesis aims to study both ethnic tensions and water scarcity through a case study on the armed conflict in the Darfur province in Sudan.

The Conflict in Darfur

Several publications on the conflict in Darfur attribute the outbreak of violence to water scarcity and ethnic tensions. Resources were unfairly distributed based on different populations' ethnic background and/or religious beliefs. Suliman (2011: 7) states that it was "changing resource dynamics, expanding poverty, lack of infrastructure, and political corruption which all underlie the conflict, which can only be superficially defined across ethnic lines". This study will focus on such resource dynamics and ethnic lines and their contribution to the conflict.

The United Nations calls the conflict in Darfur "the world's worst humanitarian crisis" (Morris, 2004). Since February 2003 Darfur has been in a protracted state of armed conflict (Ray, 2009: 213). Competition over scarce water between Arab pastoralists and black African

farmers is believed to have been the trigger of the violence (Schlein, 2011). This was exacerbated by the drought that the region had been experiencing since the 1970s (Gebrewold, 2013: 160). The drought forced many nomadic "tribes" to relocate to the south; this created further depletion of water in the south, which angered those who had lived there their whole lives (Gebrewold, 2013: 160). At recent peace summits and meetings delegates all agreed that access to water will be the key to peace in Darfur. Mohamed Yonis, Deputy Joint Special Representative of the African Union-United Nations Mission in Darfur, stated that "water is one of the main root causes of this conflict … there is a need to address this issue and we do believe that water will serve as an instrument for peace" (Schlein, 2011).

Darfur is a vast and sparse western region in Sudan that has a strong tradition of opposition to central rule. It was one of the last regions to be commandeered by a European power after the Berlin Conference and remained independent until after the First World War, when the British took control. Darfur was resistant to central rule even after Sudan became independent from British rule in 1956. This resistance was manifested in violent skirmishes that lasted until the 1970s between the government and rebels from Darfur. In the 21st century Darfur has been economically marginalised compared to the rest of Sudan because of its secessionist characteristics (Nothold, 2009: 212; Ndlovu-Gatsheni & Mhlanga, 2013: 65).

In 2003 the war between North Sudan and the South began to dissipate as peace talks began to make progress; rebel groups in Darfur saw this and were angered that their needs were not being taken into account and that they were excluded (Nothold, 2009: 212; Ndlovu-Gatsheni & Mhlanga, 2013: 65). The conflict in Darfur consisted of two insurgent groups fighting government forces over their marginalisation and consequent impoverishment. These groups were the Sudanese Liberation Movement (SLM) and the Justice and Equality Movement (JEM). In 2003 it was these groups that "launched a joint attack on government targets, thereby igniting the current war" (Nothold, 2009: 212; Ndlovu-Gatsheni & Mhlanga, 2013: 65).

The two groups were successful in the beginning through their attacks on government air bases, which destroyed government helicopters. The government, failing to quell the attacks, turned to the Sudanese Military Intelligence; this led to civilians and innocent people being killed in a myriad of air strikes and bombings. This was not the only form of violence that the Khartoum government used and financially supported; they involved Arab "Janjaweed" (devils on horseback) (Nothold, 2009: 212; Mazzei, 2009: 216). The Janjaweed militias rode into African homesteads and villages and violently assaulted the inhabitants. Janjaweed

attacks were characterised by the systematic rape of women and children, the enslavement of young men, destruction of property and the "organised denial of food, medical and other relief supplies so as to promote deaths by 'natural' causes" (Nothold, 2009: 212; Mazzei, 2009: 216).

The Khartoum government clearly favoured the Arabic communities in Darfur and made sure that they were well supplied with water. This caused competition and frustration to emerge between the two ethnic groups. The Janjaweed attacks alone were responsible for the deaths of 180 000 African Darfurians. The attacks caused 200 000 people to seek safety in refugee camps in neighbouring countries (Mazzei, 2009: 216). Today the conflict has subsided (as a as a result of many agreements) but not in a way that will ensure the end of competition over water sources forever. Environmental depletion is increasing at a rapid rate; this means that if the competition over fair water distribution in Darfur is not resolved, then violent conflict will continue to mar the country.

Research Problem

With global environmental scarcities only becoming more and more prominent, the study of their consequences have become critically important (Cramer, 2000: 25). Climate-related scarcities are purported to influence conflict, especially in low-income countries. The relationship between water scarcity and conflict is supposedly not direct; instead it exacerbates existing societal weaknesses and proxy elements such as ethnic tension (Jacoby & Sasley, 2002: 107). Some believe that water stress may influence ethnic and other tensions that have existed since the partitioning of Africa at the Berlin Conference in 1884 (Ndulo, 2003: 315-317). Supposedly, these tensions can manifest in the form of armed conflicts, especially in the absence of good governance to quell competition or resolve the challenges associated with water scarcity. In the case of the Darfur region in Sudan, some argue that a toxic mix of water scarcity and ethnic tensions have led to a protracted armed conflict. In International Relations scholarship, there remains the interesting challenge that the issue of water scarcity straddles the lines between what constitutes "low politics" and "high politics". Scholarship appears to be divided whether it is this tension between issues related to ethnic insecurities (high politics), on the one hand, or the structural violence of neoliberal environmental objectification globally (low politics), on the other hand, which are the primary culprits in fanning water insecurity, exacerbating physical violence and military conflict.

Research Questions

Primary research question

How credible is the IR scholarship which has framed the purported link between violent conflict and water insecurity, and is there any heuristic utility in the concomitant securitisation of water in particular?

Sub-questions

1) Do Green Theories within IR provide an analytically useful alternative/addition to the conservative theories of realism and liberalism, specifically with regards to environmental issues?
2) Is there evidence that water scarcity in particular can be associated with armed conflicts in diverse ethnic communities in Africa, specifically in the Sudanese province of Darfur?
3) Would environmental issues be addressed more efficiently if they were considered in terms of "high politics"?

Objectives of Research

The objective of this research is to describe and explain how climate change, and specifically water scarcity, may have major ramifications for the stability of low-income states. It provides the case study of Darfur and the armed conflict, which can be seen as a cautionary tale for the rest of Africa and the world. Is it the current dominant IR theories such as liberalism and realism which have been responsible for ignoring the real threat of environmental degradation? Could it be that such theories have led to the speeding up of resource depletion for the sake of economic gains? This research studies the descriptive nature of Green Theories which might be able provide an alternative perspective to that of realism and liberalism. Green Theories may also provide greater insight into how to deal more effectively with environmental issues. It is important to note that these issues are not Africa-specific and can be experienced in the developed world as well. Climate change issues have long been side-lined by "high politics" and security threats; therefore, this research aims to frame environmental issues not as "high politics" threats, but as threats that increase the more the environment gets abused.

Theory

The uses of political theories are prevalent throughout this thesis. It is therefore important to discuss the utility of theories. According to Mukherjee and Ramaswamy (2011: 7) theories can "be used to either defend or question the status quo, it takes into cognizance the facts and details, it explains and describes politics in abstract and general terms that allow space for critical imagination". The main focus of political theories is to explain and describe real life events, political institutions and power relations (Goodwin, 2007: 4). When applied to this thesis, the use of Green Theories come into play because environmental issues need to be explained and described. The principles of Green Theories are descriptive and normative, however, this thesis remains centred on the descriptive nature of such theories.

Throughout this thesis Green Theories are used in order to highlight their different approaches to environmental issues when compared to those of liberalism and realism. The contrasting descriptive nature of Green Theories highlights how realism and liberalism have only exacerbated environmental issues through their basic assumptions and global dominance. Liberal and realist theories have done little to explain or fully advocate for the environment, even if it appears that they want to (Laferriere & Stoett, 2006: 6-7; Weber, 2006: 104; De-Shalit, 2006: 387). Liberalism and realism both understand the world through studying progress and humankind's ability to control natural resources. When examining the key principles of both realism and liberalism, one can see that although they both support sustainability, they both negate it simultaneously (Laferriere & Stoett, 2006: 6).

Realism's main tenet that war is the norm and that national security is the priority which ensures that nature is exploited in the "service of a military-industrial elite" (Laferriere & Stoett, 2006: 6). Realism cannot fully advocate for the protection of nature because it is a theory that is (perhaps) unintentionally based on power politics, which demands an "ideology of biocontrol" (Laferriere & Stoett, 2006: 6). This biocontrol is amplified when it is believed that the entire international realm is always ready to go to war (Laferriere & Stoett, 2006: 7). When states do go to war, many of them disable their enemies through bombing dams and major water pipelines (Selden & So, 2004: 157). This is just one of the outcomes of realist beliefs that directly damage the environment and those that need it for their survival.

Liberalism, although more optimistic about the human condition, also does not truly advocate for issues that will preserve our ecosystem (Weber, 2006: 104). Liberalism's goal of peace

poses a threat to the environment and scarce resources, because it hides behind this façade while it openly advocates for the pillaging of natural resources in the pursuit of economic dominance. Liberalism's strong ties with capitalism show exactly how damaging liberalism is to the environment. Capitalism is a system of economic distribution and expansion; it is characterised by its "constant drive for expansion in search of increased productivity and profit" (Cahn, 1995: 1). This characteristic leads to the overuse of limited environmental resources. Globalisation has caused a relaxing of national borders, which has in turn come with a relaxing of transnational corporations' environmental responsibilities and accountability (Laferriere & Stoett, 2006: 7).

Realist and liberal theories try to incorporate the plight of the environment into their policies. However, their basic assumptions and goals tell us that they will not put the environment before the protection of the state and economic profits. This is ironic, because if the environment suffers, then the protection of the state and economic gains will suffer. Liberalism and realism are "caught in a problematic ecological web, imposed by [their] own values and assumptions about human and non-human nature (and expressed in the commodifying language of nature as resources)" (Laferriere & Stoett, 2006: 7).

This is not true of Green Theories. The ideological tenets are descriptive and provide new understandings of international processes which serve the environment better than those of the realist and liberal theories (Laferriere & Stoett, 2006: 7; Weber, 2006: 104). Green Theories claim that political order is best achieved through a holistic approach (Laferriere & Stoett, 2006: 8). A holistic approach is defined by belief that all parts are connected to a larger whole and therefore the wellbeing of the whole is determined by the wellbeing of all the parts. The holistic approach takes into account the state of the environment and the long-term effects of exploiting it. This alone does not ensure the protection of the environment or resources; however, it does highlight the "ecological superstructure of (international) politics" (Laferriere & Stoett, 2006: 8).

IR Green Theory Perspective

Green Theories are not yet acknowledged as fully-fledged theories of International Relations, but rather as sub-fields of the wider theory of International Relations (Eckersley, 2004: 248). Green Theory was recognised as a sub-field only in the 1970s, after the issue of trans-boundary ecological crises became more prominent (Eckersley, 2004: 248). The body of theories themselves is based on the broad insights of ecology. Ecology is a sector of science that studies the relationship between organisms and their environments. Green Theories came

to prominence as the relationship between human beings and their environment became unstable because of the damage that is being inflicted on the environment (Wake & Malpas, 2013: 154). Green Theories advocate for the closing of the gap that has occurred between "society and the environment" (Barry, 2007: 17). This 'gap' refers to the process whereby humans have distanced themselves from the natural world and no longer see themselves as being intrinsically linked to that world. It is important to note that Green Theory is a broad church; there are many different Green Theories and they will be addressed in later chapters.

The recurrent theme that is prominent in Green Theories is the need for a change in societies' instrumental relationship with nature and natural resources. The instrumental relationship highlights how human beings have begun to view the natural world as an instrument that can help them and their countries/companies accumulate wealth. Green theorists take a normative stance on many issues, especially with their belief that the relationship between society and nature should be a more intrinsic one where society realizes that through abusing the environment they are indirectly abusing themselves (Dobson & Lucardie, 2002: 191).

Green Theory came to fruition in the 1970s, after the impact of social movements such as women's rights, gay rights and the civil rights movement inspired academics to take the environmental movement seriously. These movements caused many green parties to emerge in European politics, which were based on the four pillars of green politics: social justice, ecological responsibility, grassroots democracy and non-violence. Green Theories are among the recent international discourses that directly challenge neoliberal globalisation. Much like socialism and liberalism, Green Theories have a strong normative stance on justice, democracy, rights, the environment and the state. They also have a political economic branch which concerns itself with understanding the relationship between the environment, the economy and the state (Eckersley, 2004: 250).

Instead of looking to realist or liberal theories only to explain water scarcity and conflict, the principles of Green theories are also investigated in this thesis. This is to ensure that an alternative perspective to that of realism and liberalism on the topic of environmental issues is given. Relative to the literature of IR theories, that on Green Theories is not as abundant; however, the main principles are provided so as to give the reader a glimpse of what is to be expected in following chapters. Green issues have been recognized since the 1960s; however, the world has only seen the political implications of such issues recently (Weber, 2006: 104). Green Theories acknowledge that humans are, or rather should be, self-governing and autonomous agents. This can be applied to a main theme in green political theory when it

comes to theory of agency. The green belief in agency is that every person should have the autonomy to shape his or her social and personal circumstances. Green theorists believe that the current ecological crisis, coupled with the economic crisis can only be overcome by the self-determination of those affected. The use of the vague term 'self-determination' calls for Green theorists to clarify what they mean by self-determination (Goodin, 1992: 124-126).

Non-violence is one of Green Theories' central principles that guide the actions of people who follow green principles. Green Theories emerged out of opposition to violence and the nuclear arms race; therefore one can see that non-violence has remained important in these theories. Non-violence does not mean that greens believe that a state or individual should not be active in protecting themselves; they believe non-violent alternatives are abundant and can be used instead of violence (Goodin, 1992: 131). Many of the Green Theories' values and beliefs have been adopted by liberal parties or realist-leaning elites; however, to adopt such theories piecemeal does not approach issues with the environment holistically (Goodin, 1992: 124). Many scholars believe that such a patchwork approach to issues facing the environment and humankind's existence will not be comprehensive enough to "save" the Earth (Goodin, 1992: 126; Laferriere & Stoett, 2006: 6).

When issues specifically around water scarcity reach crisis levels, IR tends to want to securitize them. This has many far-reaching consequences which are discussed at length in Chapter 3; however, in order to contextualise the concept of Securitization Theory, a brief synopsis is presented below.

The securitization[3] of water has become a popular topic among scholars and politicians. Securitization Theory was developed by the Copenhagen School and provides a competent, sophisticated research departure for general security studies (Williams, 2003: 528). The securitization discourse highlights how environmental issues are urgent and "interrelated to human security and well-being" (Fischhendler, 2015: 246). In 2003 a report was sent to the US Department of Defence which claimed that "climate change would challenge US national security in ways that should be considered immediate" (Fischhendler, 2015: 246). This points to the desire to make environmental issues part of a "high politics" agenda. If water can be 'securitized' then high-ranking security departments could take it as a serious threat.

[3] To 'securitize' an issue it means that "the issue is presented as an existential threat, requiring emergency measures" (Bourne, 2013: 53).

The resource that is 'chosen' the most to securitize is that of transboundary water. Many transboundary river basins in Africa have demanded the attention of national security. States that share a water source become environmentally, economically and politically interdependent. These interdependencies are what place water on the "national security" agendas. The act of 'securitizing' water, and linking conflict with water, have demanded a conceptual shift from traditional notions of security "as primarily lack of, or safety from, military threats to a concept that has been linked to a chain of 'natural' processes (such as water scarcity) and their impact on physical security and welfare" (Fischhendler, 2015: 247).

Many environmentally minded people and politicians like to see water scarcity being raised to the level of "high politics" through securitization; however, this does not always ensure peace. Raising the profile of water scarcity to security guarantees raised awareness, faster-acting resolutions and funds, but it also guarantees that great measures will be taken to prevent the threat. Fischhendler (2015: 248) states that, "once an issue is securitized, exceptional measures to prevent an existential threat are often legitimized as well, including the waging of war". The act of 'securitizing' is an act that bends the rules of "normal politics" because it places issues beyond public debate and allows for decisions to be made on the basis of anxiety and impulse (Williams, 2003: 518).

In the case of Darfur, this discourse does not relate to the "transboundary" nature of water securitization. However, one could interpret the secessionary desires of Darfur as being enough to warrant the transboundary discourse. Darfur has a history with wanting to secede from the rest of Sudan; this means that to Darfurians the water they were fighting over did have a symbolic transboundary nature. What is missing from the securitization discourse, however, is the fact that it does not take into account civil issues around water scarcity, such as is the case in Darfur.

Research Design and Methodology

This study is based on qualitative research. This means that the data and information on the selected topic will be gathered and analysed through an explorative, descriptive and explanatory method (Burnham, Lutz, Grant & Layton-Henry, 2008: 40). All such data are based on secondary sources, which can be accessed through Stellenbosch University's online databases and library. Two features of qualitative research are applicable to this thesis. Firstly, the research explicitly attends to and accounts for real-world contextual conditions. Secondly, the qualitative nature of the research ensures that insights from existing and new concepts aid

in explaining social behaviour and thinking (Yin, 2015: 9). In order to highlight such elements deductive reasoning[4] is used in order to gain insight into the conflict in Darfur and the descriptive nature of Green Theories.

The research design of this thesis takes the form of a case study. Yin (2008: 2) states that a case study design is helpful because many topics within the social sciences possess elements which are extensive and complex and often pertain to real-life events. The choice to use the case study design was taken because this thesis demands a detailed understanding of a real-life phenomenon, which also encompasses several important contextual conditions (Yin, 2009: 18; Yin & Davis, 2007).

The specific case study which is used is the case of the conflict in Darfur, which started in 2003. This case study was chosen because it highlights an African country which has a colonial history and is considered a low-income country (Holt & Daly, 2014; World Bank, 2016). The case study design also allows for the context of extreme ethnic tensions, water scarcity and conflict to be studied in-depth (Homer-Dixon, 1991: 8). It is essential to study such phenomena here because they are relevant to answering the research questions.

According to Yin, "doing case study research would be the preferred method … in situations when 1) the main research questions are 'how' or 'why' questions; 2) a researcher has little or no control over behavioural events; and 3) the focus of the study is a contemporary (as opposed to entirely historical) phenomenon" (2013: 13). This study applies Green Theories to a single case study. Hofstee (2006: 123) states that there are many risks in using case study research, including generalisations, subjectivity and regression away from the study's focus. Hofstee (2006: 123) states that in order to balance out the risks one must combine the case study method with other techniques. The analysis and use of secondary sources has advantages and disadvantages. The advantages include: saving time and money, the use of advanced frameworks that already exist and the fact that the researcher does not have to reach populations that are vulnerable in order to re-interview them. Some of the disadvantages include the fact that the data may be incomplete, partial, biased or obsolete (Gray, 2013: 533).

[4]"The process of inferring conclusions from known information based on formal logic rules where conclusions are necessarily derived from the given information and there is no need to validate them by experiments" (Seel, 2011: 911).

Structure of the Thesis

The remaining chapters of this thesis are partitioned into four sections; below is a breakdown of each chapter.

Chapter 2 is on the topic of water scarcity and conflict. It examines the links between water scarcity and conflict to see if this link is warranted or over-emphasized.

Chapter 3 is on the topic of Green Theories and Securitization Theory. The spectrum of Green Theories is present in this chapter. It aims to show how Green Theories provide an alternative to the conservative theories of realism and liberalism on environmental issues. This chapter also includes an account of Securitization Theory and shows that while there is great heuristic utility in securitizing water, there are also great consequences.

Chapter 4 provides the case study on Darfur. The case study dissects the conflict and applies the theories, ideas and opinions from previous chapters to the conflict.

Chapter 5 provides the reader with the conclusions of the study.

Chapter 2: The Relationship between Water Scarcity and Conflict

Introduction

The relationship between water scarcity and conflict forms the foundation of this thesis. It is this relationship which determines how other elements of the thesis are linked. The purpose of this chapter is to examine how credible the IR scholarship which framed the purported link between water insecurity and violent conflict is. Only once such examination has been provided can the descriptive attributes of Green Theories, Securitization Theory and the case study of Darfur be applied to the link.

The world over there has been a creation of a "disastrous" outlook when it comes to water. A "crisis state of mind" is constructed around water. The UN has stated that the 21st century is "the century of water" (Berry, 2008: 15). Vice-President of the World Bank, Ismail Serageldin, said that "the wars of the next century will be over water" (de Villiers, 2000: 13). The vital nature of water and its relationship with possible conflict is highlighted well by Ward (2003: 4-5):

> There are alternatives to energy. But there are no alternatives for water apart from recycling and desalination. And desalination is not an easy option in continental-size countries. Well, I've got water, so maybe my supply is all right, but what about the guy who has no water, what happens to him? Who is to be responsible? Will he say, 'well, it's OK my friend Verghese has water. I shall sacrifice myself for him?' I don't see him saying that. Why should he?

This is a crisis, as the poorest countries are not able to stop scarcity from occurring, and consequently they cannot stop violence. How can they when their people are sick and impoverished? The world knows this and that is why nearly every sector – engineering, industry, social sciences and others – is writing about this problem and trying to come up with viable solutions (Berry, 2008: 15).

One can still question whether this crisis-filled and fearful discourse is really necessary. Is the world really heading toward a water-less tomorrow? Many will say yes without any hesitation. Many others are more wary of such a panic-fuelled discourse. Academics have many theories (cornucopianism, resource curse etc.) that back them up, claiming that the water crisis is not as bad as everyone is making it out to be. Each narrative is increasingly important as together they mould "public sensibilities, shape power relations in ways that may

be less than transparent" (Berry, 2008: 18). This chapter analyses these opposing positions and provides a thorough study of both the fearful discourse and the perspective that water scarcity is not as bad as it is made out to be. Choosing one perspective over the other is not the point. The point is to show that not all academics believe we are doomed to dehydration.

Although dehydration is a good enough reason to take up arms and fight for water, it is not the only reason. This highlights the point that the relationship between water scarcity and conflict is increasingly complex and requires a thorough reading if one wants to know the "full story". Water scarcity is becoming a more and more prominent issue throughout the world. The Middle East, Africa and North America have all recently experienced severe droughts. As mentioned in Chapter 1, it is low-income countries that are the most vulnerable to scarcity-related conflicts. Technologies and wealth that are required to ease droughts are non-existent in poor, African countries.

The history of countries also has a role to play in their propensity to take up arms when resources become scarce. Ethnic groups were either split up or lumped together at the Berlin Conference in the 19th century (Hodge, 2008: 83). This ensured that African states would battle to create a unified national identity. The great diversity that emerged with all the different ethnicities and religions created countries that were consistently at odds among themselves and their neighbours. Combined with the poverty and disease that affect African people every day, it is a reality that another element such as environmental problems will drive Africa even further backwards. Environmental changes could cause wars, diplomatic disagreements, terrorism and trade disputes. This will hinder African development even further. If the relationship between water scarcity and conflict is not studied in depth, then solutions will be harder to find and all the while African people continue to suffer.

Homer-Dixon (1991) and the Toronto Group studied the relationship between water scarcity and conflict at great length. Their work will be prominent through much of this chapter. The Toronto Group came up with many frameworks that help in studying the relationship between water scarcity and conflict. They formulated theories around what types of conflicts occur because of certain types of scarcities. They also highlighted how state capacity often influences society to take up arms. Environmental security and how it defines threats to peace will be outlined by noted academics, as will the topic of "water wars". Many believe water wars and scarcity-related conflicts are one and the same thing; this chapter will highlight how they are different. These are just a few of the variables that will be examined in this chapter.

As seen in Chapter 1, the issue at stake is the link between water insecurity and violent conflict which is in question. This chapter does not intend to answer the question of whether the links between water scarcity and conflict are substantive, but rather to show what prominent academics think of such links and whether such links are credible within IR. Studying the links between water scarcity and conflict is not easy as there are an increasing number of elements to each case of scarcity-related conflict. Some of these elements are studied in this chapter. This chapter, however, provides different perspectives on the relationship between water scarcity and conflict. It also highlights how violence is not the only or inevitable outcome when scarcity increases; sometimes cooperation is possible. With cooperation, however, come consequences that could affect the state.

The question posed in Chapter 1 on how credible the IR scholarship which has framed the purported link between violent conflict and water insecurity is highlights the aim of this chapter. What do the experts have to say about the purported links, are these credible opinions? It is a review that inspects the many different ideas about the purported relationship between water scarcity and conflict. There are many sub-issues that make up such a relationship; this makes it impossible to answer explicitly the primary research question of this thesis. Nevertheless, this chapter also provides a broad overview of the topic.

Is there evidence that water scarcity in particular can be associated with armed conflicts in diverse ethnic communities in Africa, specifically in the Sudanese province of Darfur? Chapter 1 raises this question, but it is not answered fully in this chapter; however, the different types of conflicts that occur as a result of scarcity are indicated, which help when applied to the case study on Darfur. This chapter aims to give a better understanding of the diverse range of academic opinions on whether the purported links between water scarcity and conflict are credible.

This introduction has put the issues that surround water scarcity into a global context. It has introduced the premise that fears about a waterless future are warranted. The remainder of the chapter is divided into five sections in order to unpack the research questions.

The first section consists of a review of the relationship between climate change and conflict. This section is important because it highlights how climate change is causing great economic, political and social shifts. These shifts have major impacts on conflicts that arise; sometimes they are the direct cause and at other times they are the indirect causes of conflicts. Gleditsch and Theisen's (2007) "Pathway to Conflict" is provided in order to explain such a relationship.

In order to narrow the research focus, the next section examines the relationship between water scarcity and conflict. It displays an array of academics' views and beliefs about the purported relationship between water scarcity and conflict. This section discusses topics such as:

- Neo-Malthusians
- Cornucopians
- Political ecology
- The liberal argument and
- Types of scarcity, ecological marginalisation and resource capture.

These topics aid a fuller comprehension of the complex relationship between water scarcity and conflict.

Following an account of the relationship between water scarcity and conflict is a discussion on environmental security. This is a key section as it highlights that resource scarcity is a catalyst in human behaviour that generates violence. This section looks at the broader underpinnings of environmental security and assesses what it conveys about the purported relationship between scarcity and conflict.

Water wars and the water discourse in Africa is then discussed. This section analyses the characteristics of so-called "water wars" and provides a clear distinction between water scarcity and actual water wars. One can conclude from this section that water wars are not nearly as prominent as some politicians claim they are.

The last section is on the topic of cooperation and the reshaping of state sovereignty. As is highlighted throughout this chapter, conflict is not the only result to issue from water scarcity. Many believe that cooperation is more likely. This section studies cooperation and the theoretical strand it emerged from, and provides the consequences for state sovereignty when cooperation occurs.

The Relationship between Climate Change and Conflict

Climate change refers to a process whereby there is a shift in meteorological conditions which lasts for at least five years. These shifts may only involve a change in rainfall or temperature; however, they usually accompany a general shift in conditions to either dryer or wetter climates (Burroughs, 2001: 2; Lawson, 2015: 219). Climate change can also refer to the warming of the planet; the atmosphere and oceans are warmer than they have ever been,

which has resulted in glaciers melting and sea levels rising (IPCC, 2014: 1261). It has been scientifically proven that the increase of greenhouse gases produces anthrogenic emissions and is what has caused this warming (IPCC, 2014: 1260). Greenhouse gases can be both naturally occurring and human-made. With the increase of anthropogenic emissions through activities such as deforestation and the burning of fossil fuels, land use changes, livestock production and industrial processes, the Earth is rapidly losing its ability to absorb gases (IPCC, 2014: 1260; Lawson, 2016: 219). It is this inability to absorb gases that causes the global rise in temperatures (IPCC, 2014: 1260). Climate change can be caused by natural internal changes; however, it is more persistent when it is caused by things such as the burning of fossil fuels and deforestation (IPCC, 2014: 1255). The United Nations Framework Convention on Climate Change (UNFCC) defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods" (IPCC, 2014: 1255). This marks an important distinction between climate change as result of natural climate variability and as caused by human activity which alters atmospheric composition (IPCC, 2014: 1255).

It is expected that climate change and global warming will cause significant changes to our environment. Buhaug, Gleditsch and Theisen (2010: 76) state that there are three consequences of this fact that have security consequences.[5] The first is that scarcities of fresh water will increase. It is the increasing unpredictability of access to water that is the greatest challenge to human life and livelihoods. Every region will experience the consequences of climate change differently. Europe will experience higher temperatures and Africa will experience altering precipitation patterns, droughts and general reduction in annual rainfall (Buhaug *et al*., 2010: 76). This will ensure that the gap between the low-income countries and the high-income countries will grow even wider.

The second consequence is the rising sea levels; this will cause population displacement and threaten peace in many coastal areas (Buhaug *et al*., 2010: 77). This is a predictable and incremental change; however, it has significant implications when combined with water scarcity and the refugee crisis in Africa. Coastal areas will experience catastrophic storms and soil erosion that will force many to become environmental refugees. Competition between

[5] Security consequences would entail wars, civil wars, terrorism and skirmishes. Any event that threatens the state is considered a threat to security (Lonergan, 2012: 251).

these refugees and the natives of the places where they decide to settle raises the likelihood of conflict; this is illustrated well by Gleditsch *et al*. (2007) and their "pathways to conflict".

Figure 2.1: Pathways to Conflict

Pathways to Conflict

Direct Effect

Environmental Stress → Migration from Region A → Conflict in Region B

Indirect Effect

Environmental stress → Conflict in Region A → Migration from Region A → Conflict in Region B

It is important to note that these "pathways to conflict" can be applied to all three consequences of climate change and global warming.

The third consequence is natural disasters. There are two types of natural disasters: they can either be hydrometeorologic (caused by climate) or geologic (caused by the earth) (Buhaug *et al*., 2010: 77). Recently the number of hydrometeorologic disasters has increased exponentially, meaning that there are more disasters than there have ever been in the past. This increase can be accredited to global warming. The global nature of such disasters means that they take more victims than geological disasters do. The worst of these disasters are floods, which are often followed by years of drought (Buhaug *et al*., 2010: 77).

These three consequences all have major implications for the issue of water scarcity and conflict. They highlight that human survival is intrinsically linked to the environment's wellbeing. When one area, region or country experiences a disaster, it will affect many other areas of the environment as well as human living conditions. In other words, when one area of the environment is under distress, the entire world feels either direct or indirect implications. The implications often involve people turning to conflict. This will be discussed further below.

The Relationship between Water Scarcity and Conflict

Water scarcity is described as the point where the average use of water by humans negatively affects the quantity and quality of water to such a level that all sectors, most importantly the environment, cannot be sustained (Krchnak, 2014). Schulte adds to this definition by claiming that water scarcity is the volumetric lack of water supplies, which is measured through looking at the ratio of human consumption in relation to the available water supply in a specific area/region (Schulte, 2014). The physical measurements of water scarcity come from studies conducted by the World Health Organisation (1995), which stated that 25-30 litres of water per person per day is the minimum amount before people are classified as water deprived. It is important to point out here that inadequate access to water should not be confused with actual water scarcity (Mukheibir, 2010: 1027). Access to water and the distribution of water are core elements to water security; however, they do not always go hand-in-hand with water scarcity. For many low-income countries, issues with access to water and distribution does stem from water scarcity, but this is not always the case (Mukheibir, 2010: 1027). Mukheibir (2010: 1027) adds to Homer-Dixon and Percival's (1998: 280) definitions of water scarcity. They believe that water scarcity can be experienced as a result of "policy-induced consequences of mismanagement". What they mean by this is that those who battle to gain access to water are economically, geographically, socially and institutionally situated on the margins. Without policies to aid the marginalised, they tend to experience structural scarcity of water (Mukheibir, 2010: 1027).

Maxwell and Reuveny (2000: 301), Sandra Postel (1992: 2332), Johan Galtung (1982: 99) and Sverre Lodgaard (1992: 119) all claim that as natural resources become increasingly scarce, there is more and more proof that such scarcity is a primary element in politically-driven conflict, especially in African countries. There are other academics, including Homer-Dixon and Percival (1998: 280), McMichael (1993: 321) and Tignino (2010: 649), who see such water scarcity as just one of the factors of conflict and not the primary element. Research conducted by Maxwell and Reuveny (2000: 301) and Li and Correa (2009: 12), on the other hand, places the emphasis on the reality that such scarcities will have the hardest impact on low-income countries. The reason for this, they believe, is that most low-income countries do not possess well-outlined or easily enforceable property rights, meaning that people can abuse resources easily. Furthermore, they do not possess enough wealth for research and development. Unfortunately, the economies of most low-income countries are heavily reliant on the ecosystem (Maxwell & Reuveny, 2000: 302; Li & Correa, 2009: 12; Ashton, 2002: 237).

Maxwell and Reuveny (2000: 302), Leisinger (1984: 64) and Derman, Odgaard and Sjaastad (2007: 1-2) claim that societies which make up low-income countries are crippled by elements such as unemployment, bad health and poverty, which make them prone to civil unrest and conflict. Derman *et al.* (2007: 2) add to this by noting that Africa experiences the highest rates of poverty and famine in the world. Maxwell and Reuveny (2000: 302) believe that conflict and unrest as a result of factors such as poverty, bad health and unemployment are able to form a cycle of resource abuse and further conflict. Conflict causes many people who are willing and able to fight to leave the labour force. This means that the death rate of any specific conflict rises. The people who remain fighting use more natural resources to fund their conflict, thus continuing a cycle of abuse and conflict (Maxwell & Reuveny, 2000: 302; Gleditsch, 1998: 381).

Maxwell and Reuveny (2000: 302) go on to explain their findings based on the research they conducted, the first being that conflict based on scarcity cannot last forever, for as Gleick (1993: 79-80) states, such conflicts do not necessarily lead to violence but rather cooperation. The second finding is that there is almost always a possibility for a resource or a population to settle down to sustainable levels that ensure that the possibility of internally caused conflict is diminished significantly (Maxwell & Reuveny, 2000: 302). The authors also claim with agreement from Richard Connor (2012: 16), that technological innovation and discovery can have a positive impact on the outbreak of conflicts by ensuring that scarcity is managed more efficiently and that the resource is distributed more equally (Maxwell & Reuveny, 2000: 302). This, however, is not always the case with technological innovation as sometimes certain technologies can work to abuse the scarce resource which, according to the authors, will result in more conflict (Maxwell & Reuveny, 2000: 302; Hoekstra, 2013: 1-3; Falkenmark, 1986: 85, 101). It is their belief that resource scarcity and conflict are interdependent; conflict impacts on resource scarcity and, equally, resource scarcity impacts on the willingness and ability of people to involve themselves in conflict (Maxwell & Reuveny, 2000: 303; Falkenmark, 1986: 101-102).

Maxwell and Reuveny (2000: 303) and Falkenmark (1986: 102) believe that the path towards scarcity-based conflict typically involves economic decline directly because of a diminished quality or quantity of natural resources. Another element that plays into this type of conflict is when large numbers of people become environmental refugees and are forced to migrate to more resource-rich areas; these new areas are almost always home to a different ethnic people, and this can cause great tension between the natives and the immigrants (Maxwell & Reuveny, 2000: 303; Martin, 2005: 331). Resource scarcity, especially water scarcity, causes

people to lose confidence in their government. This results in civil unrest, which if not dealt with properly, leads to conflict. In turn, such conflict leads to weaker government institutions (Maxwell & Reuveny, 2000: 303; Martin, 2005: 329; Homer-Dixon & Percival, 1998: 280; Ashton, 2002:73).

It is the social contract[6] between the state and its population that is weakened when the state comes into contact with environmental scarcity. This is because the demands of the population increase as scarcity increases. This is significant as in weak states and institutions their capability to meet these demands decreases (Homer-Dixon & Percival, 1998: 281; Martin, 2005: 329). In this regard, Homer-Dixon and Percival (1998: 281-282) agree with Maxwell and Reuveny through their reference to a vicious cycle, which has the ability to proliferate conflict and violence. Accordingly, when environmental scarcity is experienced by a state, the state becomes reliant on short-term "survival strategies". Coincidently these strategies reduce interactions between the state and society. In turn, this works to further isolate society from relations with their government and therefore results in society being more likely to take violent measures to communicate their grievances. The authors claim that this is exacerbated if the state cannot be seen to work in order to lessen the grievances and fragmentation of its population even further (Homer-Dixon & Percival, 1998: 282). In Africa this cycle is of increasing importance, as Africa contains one of the highest number of low-income countries, meaning that their ability to deal with environmental resource scarcity is minimal (Homer-Dixon & Percival, 1998: 282).

David Taylor (2004: 169-170) also highlights another dimension of these weaker institutions, claiming that "when a slower-moving but more predictable threat to environmental security is at work, governments are unlikely to bring" major force to the situation. Africa is considered an unstable continent. This is partly the result of the colonial history of the continent (Turton, 2000: 35; Cleary, 2002: 16 & Okoth, 2006: 44). When resources are scarce, the political cleavages that already exist are exacerbated (Maxwell & Reuveny, 2000: 303; Turton, 2000: 35).

Theisen and Gleditsch (2007: 3-9) have constructed four theories that explain the relationship between water scarcity and conflict:

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[6] The social contract refers to the rights of the people and their responsibility to government, and the government's responsibility and duty to the people (Bawden, 1984: xi).

1) Neo-Malthusianism:[7] Resource scarcity leads to conflict;
2) Cornucopianism: There is no inherent resource scarcity, therefore, no resultant conflict;
3) Political ecology: The distribution of resources causes conflict;
4) The liberal argument: Cooperation can overcome scarcity.

Neo-Malthusians

The neo-Malthusians blame the rapid growth of populations for environmental degradation and scarcity and they do not predict a happy ending for the world (Urdal, 2005: 418; Levy, 1995: 48; Homer-Dixon, 1991: 99-100; Ashton, 2000: 66). Growing populations mean degradation and scarcity of some of the most important resources, such as fresh water, fisheries and croplands; Urdal (2005: 418) and Ashton (2000: 66) claim that this increases the probability of violent conflict because of competition over these resources. Urdal (2005: 418) points to the events after the Cold War, when

> [a] wave of alarmist neo-Malthusian literature emerged, predicting that the rapidly growing world population would soon exceed the resource base and lead to serious environmental destruction, wide-spread hunger and violent conflicts.

Gleditsch (1998: 383) highlights the neo-Malthusian perspective in this diagram which explains the purported links between population growth, scarcity and conflict:

Figure 2.2: Neo-Malthusian beliefs on population growth and violence

Population growth/high resource consumption per capita → deteriorated environmental conditions → increasing resource scarcity → harsher resource competition → greater risk of violence

Conversely, there are many authors who do not believe there is such a strong link between conflict and resource scarcity, or more specifically, water scarcity. The neo-Malthusians blame the rapid growth of populations for environmental degradation and scarcity (Urdal, 2005: 418). But this is not the case for the cornucopians, who are considered resource optimists (Urdal, 2005: 419; Gunter, Liotta, Marquina, Rogers & Selim, 2012: 479; Homer-Dixon, 1991: 99-100).

[7] Neo-Malthusianism originates from the works of Thomas Malthus. His theory claimed that population growth is exponential, whereas agricultural growth is not, and therefore the population can increase too rapidly for agricultural growth to keep up. This will result in there not being enough food for the population. This theory is applicable to water sources as well (Dritschillo, 2004: 294).

According to Mark Whitehead (2014: 32), the future that neo-Malthusians predict is already evident in West Africa. Whitehead states that areas in West Africa are already experiencing negative population growth, which is directly caused by hunger and conflicts over scarce resources. These apparent "positive checks" on population growth were also associated with an increase in anarchy and the breakdown of rule of law and government. He goes on to claim that what is happening in West Africa is what the rest of the world can look forward to if there are no viable solutions to population growth and over-exploitation of natural resources. What do neo-Malthusians believe are viable solutions to these issues? The solution lies in "positive checks", which means that people take population growth into their own hands by controlling the size of their families through birth control, thus limiting their use of important natural resources. If this is not done, then "negative checks" will come into play. Negative checks involve higher death rates because of scarcity and the resultant conflict that will arise (Whitehead, 2014: 31).

Cornucopians

Cornucopianism is the belief that there are "unlimited natural resources, unlimited ability of natural systems to absorb pollutants, and unlimited corrective capacity in natural systems" (Dryzek, 1997: 45). Cornucopianism is popular among neoliberal economists as they promise that the issue of climate change can be dealt with without disrupting current, dominant economic patterns (Lawson, 2015: 225). The cornucopians are in direct disagreement with the neo-Malthusians, with three major points of disagreement. The first is that they do not believe that the most debated natural resources are scarce at all, at least not at an international level (Urdal, 2005: 419). Urdal (2005: 419), Middleton (2013: 35) and Gunter *et al.* (2012: 479-480) note that cornucopians do not believe that any form of crisis will occur because of increasing populations.

Cornucopians insist that if some natural resources are increasingly becoming scarce, then humans across the globe are able to adapt to this (Urdal, 2005: 419; Middleton, 2013: 35; Gunter *et al*., 2012: 480). They strongly believe that humans are capable of adapting to such challenges. Adaptation, whether at a global level or a local level, can range from conservation programmes to efforts to reduce consumption of scarce water sources (Bugaug *et al*., 2010: 78). They have a strong faith in market mechanisms, claiming that the more scarce a resource is, the higher it will be priced and therefore people will move away from making such purchases, naturally leading the resource base to grow because of less consumption(Urdal, 2005: 419; Middleton, 2013: 35; Homer-Dixon, 1991: 99-100; Gunter *et al*., 2012: 480).

The cornucopians claim that scarcity can actually work to become the catalyst that spurs on technological innovation, which can ensure that scarcity is not experienced in the future (Urdal, 2005: 419). Boserup and Schultz (1990) similarly support this claim by stating that "population pressure on natural resources is actually key to development and implementation of new techniques in agricultural production". Almost controversially, the cornucopians go on to claim that it is not the scarcity of resources that creates conflict but rather their abundance (Urdal, 2005: 419; Floyd & Matthew, 2013: 70; Earle *et al*., 2013: 127). They believe that "income from rich natural resources, such as gems, tropical timber, cash crops and drugs may be regarded as an incentive for armed conflict", either through greed or in order to fund warfare opportunities (Urdal, 2005: 419). There is a gap in this cornucopian hypothesis as they do not account for an abundance of fresh water as a catalyst for conflict. The cornucopians ignore the fact that a resource, such as water, which ensures the basic survival of the human populations world-wide, could cause more conflict if it were more abundant.

When conflict does occur due to scarcity, the cornucopians believe that government inference is the core cause of such conflict (Gleditsch & Theisen, 2007: 4). The cornucopian theory provides a helpful framework within which to assess whether the links between water scarcity and conflict are valid; however, a few academics draw attention to gaps in such a perspective. Such academics include Buhaug, Theisen and Gleditsch (2010: 78), who agree that cornucopian beliefs are helpful; however, they are only helpful when applied to incremental environmental degradation. They claim that human's ability to adapt is severely limited when environmental degradation occurs suddenly and catastrophically. "Gradual changes, such as desertification and sea-level rise, are generally suitable for a gradual response, including various forms of adaptation" (Buhaug *et al*., 2010: 78). Unpredictable rainfall and resultant droughts demand immediate adaptation, which is not possible for developing African countries. If the population is not able to adapt to these sudden changes, then they are more likely to flee the area or turn to violence in order to secure their survival (Buhaug *et al*., 2010: 78).

Homer-Dixon and Percival (1998) provide a more moderate stance between the cornucopians and the neo-Malthusians. They believe that almost all cases of environmental scarcity and conflicts are increasingly context specific (Homer-Dixon & Percival, 1998: 280; Matthew *et al*., 2004: 858). These contexts can take the form of either a lack of quantity or quality of specific environmental resources, or more broadly a country/region could be experiencing an unbalanced political culture. Therefore, the nature of the state does also contribute significantly to scarcity (Homer-Dixon & Percival, 1998: 280; Falkenmark, 1986: 95).

Homer-Dixon and Percival (1998: 280) take a strong position on state institutions and indicate how, if they are already weak or characterised as fascist, issues around resource scarcity will increasingly lead to conflict and violence among people.

Political Ecology

Political ecologists strongly disagree that there is a causal link between resource scarcity and conflict (Gleditsch & Theisen, 2007: 8). According to DeRouen and Newman (2014: 132) and Peluso and Watts (2001), political ecology states that it is the distribution of a resource that is the core mediating force between conflict and the environment. Political ecologists claim that local "scarcities" may occur in the context of local abundances. This could happen as a result of bad management of distribution and the favouring of one group over the other (DeRouen & Newman, 2014: 132). It is issues around distribution and discrimination that cause scarcity, not the actual amount or quality of a resource (Gleditsch & Theisen, 2007: 8). A good example of this would be the distribution of land during colonial times. Land policies during colonial and postcolonial times ensured that land was concentrated in the hands of a select few. This resulted in an artificial scarcity of land, which later resulted in bitter ethnic clashes (Kahl, 2006: 161).

They dislike the fact that other perspectives ignore the point that resource extraction precipitates resource degradation mostly through mining, dam construction and industrial activities. The biggest issue political ecologists have with neo-Malthusians and cornucopians is that they believe that poorer populations are to blame for scarcities and resulting conflicts (Hartmann, 2001: 50; DeRouen & Newman, 2014: 132). It is rather the mismanagement of such distribution and extraction which causes scarcity-related conflict. Much like the neo-Malthusians, political ecologists do not accept the optimistic perspective of the cornucopians. However, they also strongly disagree with the neo-Malthusians about how and why conflicts begin (Gleditsch & Theisen, 2007: 8).

The Liberal Argument

The liberal argument claims that a shared demand can facilitate cooperation rather than conflict (Suzuki, 1994: 475; Braucher *et al*., 2009: 678). Their attention remains focused on political institutions and how they shape human behaviour. They do not focus on the state of the environment (Gleditsch & Theisen: 2007: 7). The liberals are primarily concerned with democracy and cooperation. According to the liberal argument, collective issues such as floods or droughts can be catalysts for water cooperation. It is important to note that this perspective pays specific attention to transboundary water scarcity and, therefore, leaves out

the large issue of internal water scarcity and resultant conflict. Nevertheless, the liberal argument still states that it is when there are asymmetries in interests and demands for water that conflict will occur. However, this can be dealt with through external incentives such as development aid to poorer countries (Braucher *et al.*, 2009: 678). Another incentive might be that of international treaties, which prescribe what actions should be taken when transboundary water sources run dry (Tir & Stinnett, 2012: 211).

The liberals also place a strong emphasis on the "self-correcting capacity of markets" (Lawson, 2015: 225). This resolves a major issue for the liberals. They want to come across as protectors of the environment; however, if there is a profit to be made liberals will turn a blind eye to damaging the environment. This makes their belief in a self-correcting market all the more convenient, as it means that liberals can deal with environmental deterioration without harming dominant economic models and profits (Lawson, 2015: 225).

The topic of international cooperation has many consequences for the ever-changing structure of state sovereignty. The liberal argument and cooperation will be studied in greater depth at a later stage in this chapter. Types of scarcity, ecological marginalisation and resource capture continue to scrutinize environmental issues and therefore will be discussed next.

Types of Scarcity, Ecological Marginalisation and Resource Capture

Environmental scarcity is a term that points to the decreasing availability of renewable resources such as soil, freshwater and land (Mehta, 2013: 25). Homer-Dixon and Percival (1998), Onyekuru and Marchant (2013) and Peterson and Pardo-Guerra (2006: 135-136) all highlight how there are three types of environmental scarcity: 1) demand-induced scarcity, which results after populations have grown rapidly and thus have caused the per capita demand for resources to increase simultaneously; 2) structural scarcity, which occurs when the distribution of a resource is unequal and the resource becomes concentrated in the hands of a few people, while the majority of the population experiences great scarcity; and 3) supply-induced scarcity, which is "caused by degradation and depletion of an environmental resource" (Homer-Dixon & Percival, 1998: 280; Onyekuru & Marchant, 2013). Homer-Dixon and Percival (1998: 280) claim that two "patterns of interaction", namely ecological marginalisation and resource capture, exist between these types of scarcities.

Ecological marginalisation refers to the situation in which growing "consumption of a resource combines with structural inequalities in distribution." When significantly weaker groups of the population are denied access to the resource, they migrate to ecologically

weaker areas, which then become even more degraded (Homer-Dixon & Percival, 1998: 280; Peterson & Pardo-Guerra, 2006: 135; Tovey, 2007: 25). Resource capture occurs when the "increased consumption of a resource combines with its degradation"; this leads to the powerful groups in a given population, in an attempt to predict future scarcities and shortages, cleverly ensuring that distribution of the resource favours them (Homer-Dixon & Percival, 1998: 280; Peterson & Pardo-Guerra, 2006: 135; Tovey, 2007: 25).

Ecological marginalisation and resource capture can further influence marginalised factions to turn to violent action against groups whom they deem to have unjust access to resources (Homer-Dixon, 1998: 280; Tovey, 2007: 25-26; Peterson & Pardo-Guerra, 2006: 135). A secondary effect of these elements is a lowering of production, specifically in agriculture, the migration of groups and an undermining of institutions (Homer-Dixon & Percival, 1998: 280). Homer-Dixon and Percival (1998: 280), however, state that in order for these issues to cause heightened likelihood of conflict, the people have to believe that there is a relative drop in their standard of living "compared with their aspirations, and they must see little chance of their aspirations being addressed under the status quo".

But grievances do not immediately lead to groups taking violent action (Opp, 1988: 853; Aspinall, 2007: 950). Homer-Dixon and Percival (1998: 280) believe that two other factors must exist for grievances to escalate into conflict: 1) a group needs to have a "strong collective identity" in order for them to comprehensively challenge the state authority and take the "opportunities for violent collective action" against such authority; and 2) the groups experiencing the grievances must perceive themselves as being capable of participating in collective action; more importantly they need to believe that the optimal way to successfully address their grievances is through violence. Homer-Dixon and Percival (1998: 281) again highlight their interest in the role of the state and resource-driven conflict by stating that "civil violence is a reflection of troubled relations between the state and society". It is the nature of the state that is of particular importance, because a fully representative state would register grievances from groups and respond in a way that ensures that ecological marginalisation and resource capture do not happen on the same scale as they would in a non-representative state (Aspinall, 2007: 951; Opp, 1988: 853; Homer-Dixon & Percival, 1998: 281).

Turton (2000: 37) supports Gleick's (1998) understanding that there are four major links between water scarcity and conflict. Gleick (1998: 108) explains that the first link is related to the degree of water scarcity, the second link is "the extent to which the water is shared by two or more groups", the third link takes into account the amount of power each of those groups

has compared to one another, and the final link is the ease and capability of gaining access to another source of water. Although there are many opinions on this subject of water scarcity and conflict, most commentators (as mentioned above) disagree that water scarcity itself can be the root cause of conflict. Lipshutz (1989: 2), who would agree with these opinions, still believes that it is increasingly important to study the links between scarcity and conflict, as increasing scarcity of an important resource such as water can lead to more and more people turning to violence.

Matthew *et al.* (2004: 858) and Graeger (1996: 110) highlight the debate as to whether there are links between environmental scarcity and violent conflict. There has been a great deal of theoretical criticism of the view that environmental scarcity leads to conflict; the most noted critics are Diehl (2001) and Gleditsch (2001) (Matthew *et al*., 2004: 858). These academics note that environmental scarcity does not always lead to conflict, but it can and does occasionally lead to cooperation (Matthew *et al*., 2004: 858). Like Homer-Dixon and Percival (1998), they also claim that an abundance of a resource can be the real reason that groups decide to involve themselves in violent conflict; this is known as the "resource curse" (Matthew *et al*., 2004: 858; Floyd & Matthew, 2013: 70; Earle *et al*., 2013: 127). The resource curse is a term coined to explain the phenomenon whereby states that possess within their borders a great deal of natural resources tend not to benefit from them (Humphreys, Sachs & Stiglitz, 2013: xi; Floyd & Matthew, 2013: 70; Earle *et al*., 2013: 127). Interestingly enough, countries that are resource-rich are often less financially stable and more conflict-ridden than any other countries around the globe, Africa being a prime example (Humphreys *et al*., 2013: xi; Earle *et al*., 2013: 127; Floyd & Matthew, 2013: 70).

Even though Matthew *et al.* (2004: 858) highlight some legitimate criticisms, it is important to note that they believe that the "most influential arguments in the field have concluded that environmental stress is linked to conflict indirectly, but significantly". Matthew *et al.* (2004: 858) explain that this linkage differs from case to case; nevertheless, the link is still possible because environmental scarcity is believed to completely diminish the adaptive capability of most societies, while simultaneously facilitating and enforcing conflict and instability. Nevertheless, critics such as Homer-Dixon and Percival (1998: 280), McMichael (1993: 321) and Tignino (2010: 649) still claim that it is not environmental scarcity that leads to such conflicts, but rather it is other elements such as systemic corruption, lack of economic growth, and political or group identity clashes that are more likely to be the root causes of conflict (Matthew *et al*., 2004: 858).

Matthew *et al.* (2004: 858) instead adopt the view that proposes that environmental scarcity and stress bring about a wide range of social reactions; however, ecological and social systems perform a type of double-loop learning from one another whereby they both alter because of their interactions with one another, and this often results in some sort of equilibrium. They go on to claim that it is increasingly uncommon that a society loses its adaptive capacity completely and breaks down into protracted violent conflict over a resource (Matthew *et al*., 2004: 859).

Types of Conflict

Before looking at the types of conflict, it is important to note that the topic of conflict is vast and usually warrants a chapter on its own. However, in order to make the topic more applicable to this thesis, a brief definition of conflict will be given. Conflict is defined by the 2015 Conflict Barometer as the "clashing of interests" between at least two parties, whether these parties are groups of states, organisations or organised groups (Heidelberg Institute for International Conflict Research, 2015). In order for conflict to erupt, the parties involved must be "determined to pursue their interests and achieve their goals" (Heidelberg Institute for International Conflict Research, 2015). The Uppsala Conflict Data Programme (UCDP) states that armed conflicts are "contested incompatibility that concerns government or territory or both where the use of armed force between two parties results in at least 25 battle-related deaths in a year" (Edstrom & Gyllensporre, 2013: 16). Conflicts can be divided into two categories, the first being low-intensity conflicts, which are called minor armed conflicts, and the second being major armed conflicts (Edstrom & Gyllensporre, 2013: 16). Minor armed conflicts involve the battle-related deaths of 25-1,000 people in a year; major armed conflicts cause 1,000 or more battle-related deaths in a year (Edstrom & Gyllensporre, 2013: 16).

There are four types of conflict that were identified by the UCDP (Harbom & Wallensteen, 2009: 577; Gleditsch, Melander & Urdal, 2016: 15). The first type of conflict is referred to as inter-state conflict (Gleditsch *et al*., 2016: 16; Landman, 2013: 117). Inter-state conflicts involve two or more countries; this means that the drivers of violence are the states themselves (Landman, 2013: 117; Gleditsch *et al*., 2016: 16). The second type is called intra-state conflict, which involves the government fighting a non-governmental group (guerrilla fighters, separatist movements, rebels etc.). This type of conflict occurs within the borders of a specific country (Landman, 2013: 117; Gleditsch *et al*., 2016: 16). The third type of conflict is called international intrastate conflicts. This type involves the government of a country, a non-governmental group and external troops from a third country which could support either

the government or the non-governmental group (Landman, 2013: 117; Gleditsch *et al*., 2016: 16). The final type is called extra-systemic conflict and it "involves a state and a non-state group that is outside its own territory"; a good example of this would be colonial conflicts (Landman, 2013: 117; Gleditsch *et al*., 2016: 16). All of these types of conflicts can be present when water scarcity occurs; however, the most prominent form is the intra-state conflict, as in Africa there were at least 12 intra-state conflicts in 2008 alone (Harbom & Wallensteen, 2009: 577-578).

When it comes to the types of conflict that occur as a result of scarcity, it would be amiss not to include the earlier perspective of the Homer-Dixon and the Toronto Group.[8] They conclude that the rapid population growth rate is the key reason scarcities are being experienced. The UN has projected that by the end of the 21st century the global population will be 11 billion. This poses a problem for water use and will require a solution, whether technological or management-based, in order for all people to have access to water. Undoubtedly, whether solutions are found or not, this puts immense stress on limited resources such as water. Conflict is to be expected, according to Homer-Dixon and his colleagues at the Toronto Group (Homer-Dixon, 1991: 104).

The Toronto Group asks the question: What kinds of conflict will occur if access to water diminishes, impoverishment of people increases and environmental migration occurs? It is important to note that there is not a great deal of empirical data on this topic, as such water stress has not yet occurred. Nevertheless, the Toronto Group proposes three theoretical types of conflict: simple scarcity conflicts, relative-deprivation conflicts and group-identity conflicts (Homer-Dixon, 1991: 105).

Simple scarcity conflicts are conflicts that occur because state actors and non-state actors seek zero-sum gains, which occur because of scarcity. The realist perspective of International Relations best explains such conflicts. These conflicts are realist in nature because they mean that when one group has a resource, other groups do not have that resource. They are conflicts that involve the understanding that fighting is necessary to a group's survival. They do not look to cooperation, as found in the liberal perspective. Simple scarcity conflicts occur over three types of resource scarcity: water, agriculturally productive land and fish. Conflicts are more likely to occur over these resources, because they are becoming increasingly scarce as a

[8] The Toronto Group is a research team that has dedicated many years to studying the links between conflict and environmental scarcity.

consequence of over-exploitation and they are key to the survival of humans (Homer-Dixon, 1991: 106-107).

Relative-deprivation conflict theories stress that as developing states produce less economically as a result of environmental stress, their people will more than likely become increasingly unhappy with the increasing gap between economic delivery and their expectations. The more rapid the deterioration, the more intense the discontentment will be. The wealthy elite are likely to protect their supply at a high cost, which increases the unhappiness of deprived poor people. This, if not addressed, will lead to conflict, with the deprived groups taking up arms to secure their share of the resource. This theory also notes that the arrival of environmental refugees will dilute the distribution of the resource to the native land-dwellers, which could lead to conflict between two such groups (Homer-Dixon, 1991: 109-110). Opposed to this idea of environmental refugees, Salehyan (2005) believes that people fleeing from environmental stress such as water scarcity, as opposed to political refugees, are not likely to contribute to violence. Usually such an influx takes place over a long time and, although spontaneous conflicts may erupt over competition for water, receiving states are able to adapt over time (Salehyan, 2005: 12-14).

Group-identity conflicts occur when populations are forced to move for environmental reasons such as droughts or floods. When different ethnic groups meet under stressful, deprived conditions, group hostilities arise. The native group will want to defend their identity while discriminating against and threatening the outsiders. Martin *et al.* (2006) point to the fact that leaders often abuse the notion of environmental scarcity by encouraging their followers to "make up" environmental problems in order to advance their aim of dominating the other group. Countries with backgrounds of violence make them more vulnerable to further conflict; this makes it easy for leaders to construct environmental issues to serve their own interests. With an increase in population and environmental stresses in low-income countries, an increase in migration to more developed countries is likely. With this comes an ethnic imbalance in cities and urban areas, which often leads to xenophobic attacks which are hard for governments to quell (Homer-Dixon, 1991: 109).

The next section will provide an array of experts' opinions on the topic of environmental security. This section is relevant to this thesis because it highlights the point that resource scarcity can be a catalyst for violence.

Environmental Security

As a broad field of study "environmental security" has much to say on the topic of environmental scarcity and conflict. Noted academics Richard Matthew, Ted Gaulin and Bryan McDonald (2004) wrote an article, "The Elusive Quest: Linking Environmental Change and Conflict", that describes the link between environmental resource scarcity and conflict, and also gives an account of the criticism of this perspective. They first highlight how environmental scarcity fits into the broader scope of "environmental security", which is a contested term (Matthew, Gaulin & McDonald, 2004: 857; Levy, 1995: 35; Graeger, 1996: 109).

Before the dissolution of the Soviet Union, issues environmental security was non-existent. The issue of environmental security only became prominent after the Cold War (Matthew *et al*., 2004: 857; du Plessis, 2000: 9; Graeger, 1996: 109). Environmental security's main focus, however, is on conflict, natural resource scarcity and on how environmental stress impacts on social adaptation (Matthew *et al*., 2004: 857; Graeger, 1996: 109; Levy, 1995: 35). When the term first emerged many academics studied scarcity, environmental security and climate change, and a number of them found that environmental scarcity, combined with many other elements, did indeed influence violent behaviour, which naturally, was considered an increasing threat to national and international security (Matthew *et al*., 2004: 858; Graeger, 1996: 110; Levy, 1995: 46).

Matthew *et al.* (2004: 860) point out that there is a consistent dominating trend running throughout the literature on environmental security that assumes that environmental scarcity simultaneously decreases adaptive abilities and increases conflict. Among the more contemporary writers, according to Matthew *et al*. (2004: 860), to perpetuate this view of the dominant trend are Thomas Homer-Dixon and the Toronto Group. Their research claims that "scarcity of renewable resources such as forest, fisheries, cropland and water give rise to a number of deleterious social effects – including economic decline, social segmentation and human migration – and these social effects, in turn, contributed to conflict" (Matthew *et al*., 2004: 860; Ronnfeldt, 1997: 475). Included in their conclusion was the recognition of a disparity or "ingenuity gap" between the solutions which were needed to aid in addressing environmental scarcity and the social, human and institutional capital that could be used to provide these solutions (Matthew *et al*., 2004: 861; Homer-Dixon, 1995: 592).

It is the ability of populations to adapt that plays a pivotal role in environmental security. Homer-Dixon (1991, 1999) calls this the "ingenuity gap", which refers to the gap between

those who cannot deal with scarcity through innovation and adaptation and those who can. Homer-Dixon (1991, 1999) uses this theory of the ingenuity gap to explain why developing nations experience more scarcity-related conflict than developed nations do. Matthew *et al.* (2004: 861) see that it is this ingenuity gap that gives Homer-Dixon (1995: 592) and the Toronto Group the ability to argue that it is the actual gap that underscores human adaptive abilities. Their studies explain that environmental scarcity and decreasing human adaptive capabilities combine the elements that contribute to the perpetuation of violent conflicts that threaten national and international security and the field of environmental security.

These studies by the Toronto Group did not entirely escape criticism –with two specific criticisms standing out from the rest (Matthew *et al*., 2004: 861; Ronnfeldt, 1997: 475). The first criticism claims that even if environmental scarcity does play a major role in conflict, there are more likely other legitimate explanations for the conflict (Matthew *et al*., 2004: 861). The second criticism claims that adaptation, resolution and cooperation are not as far-fetched as they are made out to be (Matthew *et al*., 2004: 861). Matthew *et al.* (2004: 861), however, are not impressed by these criticisms, as they believe that most of the criticisms later turned out to also follow the dominant thread in environmental security and landed up looking a lot like what Homer-Dixon and the Toronto Group were criticised for in the beginning (Ronnfeldt, 1997: 475 & Homer-Dixon, 1995: 592). For example, the Environment and Conflicts Project (ENCOP) stated that the "environmental conflicts manifest themselves as political, economic, ethnic, religious or territorial conflicts. They are traditional conflicts induced by environmental degradation" (Matthew *et al*., 2004: 862). This is similar to the Toronto Group's point as it highlights how scarcity is alleged to increase conflict indirectly.

There also appears to be a lack of consideration or debate over the relevance of human adaptation to environmental scarcity (Matthew *et al*., 2004: 862; Homer-Dixon, 1995: 592). In the ENCOP studies the belief is that human adaptation is an issue of "mal-development", which looks increasingly similar to the disparity that Homer-Dixon believes exists; the disparity and "mal-development" work to undercut human reactions and therefore almost to encourage conflict (Matthew *et al*., 2004: 862; Homer-Dixon, 1995: 592). According to Matthew *et al.* (2004: 863), these studies and criticisms of the dominant paradigm in the literature on environmental security all fundamentally tell an increasingly similar tale. In each study there is a "general theory that links resource scarcity and conflict that are the same" (Matthew *et al*., 2004: 863). ENCOP subscribes to the belief in "mal-development", whereas Homer-Dixon (1995: 592) believes in the ingenuity gap or the disparity mentioned above.

Matthew *et al.* (2004: 863), however, do not see these theories as different because they both outline a similar process, which is the limited capacity to respond to scarcity.

The following section highlights the point that certain discourses around the topic of water and "future water wars" are sometimes over-exaggerated and not based on facts but are rather fearful narratives.

'Water Wars' and the Water Discourse in Africa

Turton (2000: 35) notes that there are proximately 80 river and lake basins on the African continent. He adds that more than 21 of these water resources are in use by more than 10 African states (Turton, 2000: 36; UN, 2012; Ashton, 2002: 236). This creates the conditions, as described by Hirji and Grey (1998: 78) and Tignino (2010: 651), where management, more specifically bad management, can become the catalyst for violent conflict and what they call 'water wars'. Although a 'water war' is not, specifically, what this literature review is focused on, the subject does help to better understand conflict over water within Africa. According to Turton (2000: 36-37) and Alam (2002: 341), a water war must have three elements for it to be considered a legitimate water war. The first element is that a water war has to be caused by people's need for access to the resource to be classified as the direct cause of the war, meaning that water scarcity is the necessary condition for war (Turton, 2000: 36; Alam, 2002: 341).

The second element is that the 'enemy' sees water and hydraulic infrastructure – for example, pipelines, dams, rivers and water treatment plants – as targets during the war which would severely weaken their opponent (Turton, 2000: 36; Alam, 2002: 341). This condition does not require there specifically to be water scarcity in the area and it is therefore not considered a legitimate water war, but is rather classified as a conventional war with water being used a tactical component (Turton, 2000: 36). The third element is that trans-boundary water sources become the central point of the war (Turton, 2000: 36). This last type of water-related war is not considered by the author as a legitimate 'water war', because water scarcity is not the root cause of the conflict; hence the author rather refers to them as quasi- or pseudo-water wars (Turton, 2000: 37). One can already see in these classifications that much of what the world and policy makers perceive to be scarcity-induced conflict does not in fact relate to scarcity at all.

Charlotte Church (2000: 20) claims that even though this classification of 'water wars' is based on years of research, and that when water is scarce it needs to be more carefully

managed, the possibility of 'water wars' erupting all across the African continent and other water-stressed regions is increasingly over-exaggerated. Stetter, Herschinger, Teichler and Albert (2011: 441) similarly believe that the water wars theory and current dominant water discourse are increasingly over-exaggerated as there is still no evidence that any international or intra-national conflicts or 'wars' have ever had water scarcity as the sole reason for their eruption. Alam (2002: 341), however, would disagree as he believes that water wars are essentially any conflicts that are spurred on by a lack of access to water. Church (2000: 20) and Stetter *et al.* (2011: 441) go on to state that they agree that, while water scarcity has been a part of some major conflicts, these conflicts may actually fall under Turton's above-mentioned quasi-water wars and as conflicts that have water as a tactical target, but yet are not legitimate water wars.

If this is the case, then why are there so many newspapers and prominent politicians claiming that the next great wars are going to be fought over water and that water is now seen as 'the new oil' (Homer-Dixon, 1996: 362; Alam, 2002: 341; Barnett, 2000: 275-276). The current water discourse has done much to undermine many economies in Africa. The statement made by Ismail Serageldin, claiming that "the wars of the next century will be over water", has had an impact on African economies (Homer- Dixon, 1996: 362; De Villiers, 2000: 13; Berry, 2008: 15). This statement by a prominent political figure placed Africa in a bad economic light, as international investors began to see Africa as the hotspot where most water wars would play out, which caused many investors to disinvest and look at Africa with suspicion and fear (Turton, 2000: 36). Turton (2000: 36) explains that Serageldin's statement is consistently repeated in the media, which has ensured that the general public and politicians who are not completely informed on the true nature of water wars come to believe the statement. This statement is considered by many scholars as unsubstantiated and lacking in empirical evidence; however, it still distorts the perceptions of investors, the public and policymakers about what water and conflict can really amount to (Turton, 2000: 36).

Barnaby (2009: 282) confidently claims that "countries do not go to war over water; they solve their water shortages through trade and international agreements". She claims that cooperation is the most common response to transboundary water scarcity. She highlights this claim through providing the relevant figures; between 1948 and 1999 cooperation over scarce water was much more common than conflict. There were approximately 1,831 cases of interactions around international water sources; of these 67 per cent were cooperative and 28 per cent were conflictual – the remaining 5 per cent were insignificant or neutral (Barnaby, 2009: 282). Do these hard facts silence and nullify claims by neo-Malthusians that scarcity

causes conflict? Not necessarily, as Barnaby does not account for conflicts that occurred internally, leading to civil wars. Her facts also do not account for more recent conflicts and for the fact that climate change is only speeding up. Barnaby, nevertheless, makes an important point about cooperation, which will be explained further.

Cooperation and the persistent liberal paradigm has much to add to the topic of this thesis. The following section discusses how, when cooperation is the chosen diplomatic course to address scarcities, it often brings about a change of state sovereignty.

Cooperation and the Reshaping of State Sovereignty

State sovereignty is defined as "the authority of a state to govern itself or another" (Haljan, 2014: 128). This means that states believe that other states may not militarily or legislatively involve themselves in their business unless explicitly asked to, or do so in times of crisis (Haljan, 2014: 128; D'Anieri, 2013: 29). In summary, sovereignty means that states govern themselves independently and free from outside interference. State sovereignty ensures that states have the power to create legislation on most issues within their territorial boundaries (Thomas, 2011: 1). It is only the state's constitution that can limit such power of the state possesses, not an outside force (Thomas, 2011: 1). According to John Agnew (2005: 437), sovereignty is a norm "that legitimises central state authority".

This norm has not been researched enough because it remains the dominant way elite leaders perceive their power over the state. When it comes to state sovereignty one could question why it has been prescribed a territorial definition of political authority. This would later lead the world to question why states are the only "proprieters" of the territory (Agnew, 2005: 437-438). As one can see, sovereignty is not a term with a clear and fixed meaning; however, this definition is still widespread today (Hashmi, 2010: 15-16). The term itself has been evolving since 1648 and the creation of the modern state, so it would be inaccurate to state that there is only one unambiguous definition of state sovereignty (Agnew, 2005: 438). Agnew (2005: 437) states that "the dominant Westphalian model of state sovereignty in political geography and international relations theory … is even more inadequate today", because of its problematic emphasis on "geographical expressions of authority". There are many powerful forces that deny this type of sovereignty from working in modern times. Globalisation and climate change are the biggest catalysts for altering the reality of state sovereignty and how it evolves (Hashmi, 2010: 17; Lawson, 2015: 240). Globalisation and climate change have to date caused state sovereignty to diminish in many people's eyes; however, as will be shown

later, it is not a mere diminishing but rather a reshaping that has occurred (Hashmi, 2010: 17; Lawson, 2015: 240).

Throughout much of this chapter there has been brief mention of how cooperation could be a possible alternative to conflict. Cooperation is the most desirable outcome when issues of scarcity become prominent. However, cooperation brings with it another set of precarious consequences. The state and sovereignty suffer when cooperation is used to resolve issues of environmental scarcity. This will be discussed further in this section.

In 1972 the international agenda for the environment became prominent in the sense that organisations were forming and agreements were being signed which all advocated for the wellbeing of the environment(Lawson, 2015: 237). It was in 1972 that Greenpeace was founded, the UN was organising its Environment Programme, and the Stockholm Conference was organising the first Earth Summit in Rio de Janeiro (Lawson, 2015: 237). It was a watershed year that pointed to the path ahead towards a "greening of sovereignty"(Lawson, 2015: 241). The world was beginning to see that the wellbeing of economic development depended on the wellbeing of the environment. Issues such as water scarcity, acid rain and ozone depletion were now seen as possible threats that were nearly on the same level as that of invading militaries (Lawson, 2015: 238). These issues threaten each and every modern state's sovereignty as much as an outside force does. Therefore, cooperation was seen as one of the measures that could support the global community. Cooperation, however, can be seen as a privilege only high-income countries can gain anything from. When faced with famine, lack of innovation and illnesses, low-income countries seem to avoid cooperation as violence ensures their immediate survival. Cooperation takes time and strong governance, two things low-income countries typically do not have. Nevertheless, cooperation has a role to play in mitigating issues of environmental degradation. It is important to point out that liberal thought is what brought about the idea and manifestation of cooperation in this sphere.

As has been stated above, there are many instances whereby cooperation rather than conflict has been the chosen method, one that has worked well to quell dissent and stabilise an area or region that has been experiencing water scarcity and grievances around it (Uitto & Duda, 2002: 366; Meissner, 2000: 104-105; Martin, 2005: 330). Cooperation is seen by many as the only real resolution to issues such as environmental scarcity and therefore should be the no-brainer choice among states that are currently experiencing stress (Uitto & Duda, 2002: 366; Puchala, 1971: 5; Cramer, 2000: 114; Martin, 2005: 330). Litfin (1997: 167), Weinthal (2002: 204) and Wolfrum and Matz (2003: 163) recognise that there is an inherent understanding in

states that sees that cooperation with their neighbours can undermine their state sovereignty. Man-made borders and boundaries, however, cannot confine and limit problematic environmental issues such as water scarcity; this therefore requires a certain level of international cooperation in order to avoid violence (Litfin, 1997: 167).

Litfin (1997: 167) and Wolfrum and Matz (2003: 163) claim that international cooperation does not work to actually undermine state sovereignty, but that it rather indirectly restructures and reshapes the concept. Research on the topic shows that growth in international cooperation on the topic of ensuring the longevity of the environment and all that it offers has brought about a movement away from the traditional norms and practices of state sovereignty (Litfin, 1997: 167; Eckersley, 2004: 53). Liftin (1997: 179) and Eckersley (2004: 53-54, 203) both claim that state sovereignty in the international realm is also a flexible concept that is required to shift and change with the times in order to survive at an international level.

Litfin (1997: 169) asks two empirical questions. The first is whether international cooperation in the form of treaties and responses to environmental scarcity is decreasing the sovereignty of states? The second question is whether sovereignty has the power to halt environmental protection and awareness? The belief that international environmental cooperation has the ability to decrease state sovereignty is rather unsubstantiated as state sovereignty should be a term and practice that can adapt to different circumstances (Litfin, 1997: 168). The second question asks the deeper question of the two, one that relates to how people who are concerned with the subject of environmental scarcity go about dismantling sovereignty, so that states can work interdependently against the threats of conflict over scarce resources such as water (Litfin, 1997: 168).

To some, this may seem like a radical position to take; however, there are legitimate reasons to believe that sovereignty inhibits international environmental cooperation (Litfin, 1997: 168). Litfin (1997: 168) goes on to claim that it is, after all, the modern, sovereign state that has caused the deterioration of the environment and created the current environmental scarcities. Litfin (1997: 168) therefore concludes that it is almost impossible to trust the sovereign state to perform collective actions, since it claims to be inherently against such action. The counter to this argument is that the state is the only vehicle that is able to take actions which would help the environment, because it has the necessary resources, territorial control and authority, which can all aid in protecting populations from further scarcities (Litfin, 1997: 168).

As a response to the notion that international environmental cooperation results in diminishing sovereignty, Bryant and Bailey (1997: 72), Sassen (1996: xxii) and Biersteker (1980: 207) claim that it is rather the inherent nature of globalisation that is diminishing sovereignty. They go on to state that they believe it is the major transnational corporations (TNCs) that are in fact working against sovereignty (Bryant & Bailey, 1997: 72; Biersteker, 1980: 207; Sassen, 1996: 7; Omagu, 2012: 70). TNCs are always attractive investors for places such as Africa, as they bring in revenue and create thousands of jobs; however, at the same time they work to severely undermine a state's sovereignty (Bryant & Bailey, 1997: 72; Eckersley, 2004: 65). TNCs are attracted to places such Africa because of the wealth of natural resources such as gold, diamonds and uranium; they over-exploit these resources and the cheap labour that is supplied by the state (Bryant & Bailey, 1997: 72). From Bryant and Bailey's (1997: 72) perspective, TNCs rather than international environmental cooperation are what is causing a diminishing in state sovereignty. This is because countries alter their national policies through becoming more lenient on environmental regulations. This allows TNCs to take advantage of countries' already scarce resources while encroach on large amounts of a country's sovereignty (Bryant & Bailey, 1997: 73; Frynas, 2004: 365). TNCs are believed to be the actors that undermine sovereignty because they are not held accountable for the over-use of water, overfishing and pollution (Bryant & Bailey, 1997: 72-73; Frynas, 2004: 365-366).

In order for international environmental cooperation to prevail, according to Green and Colgan (2013: 473) and Bryant and Bailey (1997: 72), states will have to realise that their sovereignty is being largely ceded to TNCs, which are also the causes of environmental degradation and over-exploitation. International cooperation in the form of treaties and other measures does not claim to take sovereignty away from states, yet it has the proven capability to provide valuable assistance in instances of scarcities and conflict (Green & Colgan, 2013: 473). The previous three decades have been significant as they have seen the proliferation of international law. Today there are over 1,300 bilateral environmental treaties/agreements and 1,000 multilateral treaties/agreements (Green & Colgan, 2013: 473). This has resulted in the further growth of environmental international organisations (IOs) that work against water-based scarcities which can lead to conflict (Green & Colgan, 2013: 473; Verweij, 1999: 454). These IOs have a good reputation of providing necessary relief aid; however, states are still apprehensive about handing over control to external actors (McCarthy, 2007: 179; Verweij, 1999: 454).

The prominence of IOs in Africa has increased, indicating that more states are handing some control over to them. IOs are now able to secure buy-in from states as their beneficial impact with regard to conflict over scarce resources has been noted (Green & Colgan, 2013: 473-474; Epstein & O'Halloran, 2008: 80; Verweij, 1999: 454). States have therefore been delegating many tasks to IOs in order to help deal with such environmental scarcities. However, Green and Colgan (2013: 473-474) and Epstein and O'Halloran (2008: 80) question the extent to which states are doing so. As a result of a state's reservations about losing its sovereignty, IOs are often delegated tasks with a lower level of sovereignty cost (Green & Colgan, 2013: 474; Epstein & O'Halloran, 2008: 91). Lower levels sovereignty costs involve things such as the implementation of an environmental policy as well as the monitoring that accompanies such policies; this means that a states' sovereignty is diminished only minimally (Green & Colgan, 2013: 474; Epstein & O'Halloran, 2008: 91). Alternatively, higher sovereignty costs involve activities such as law-making and law enforcement; these are rarely, if ever, delegated to IOs (Green & Colgan, 2013: 474; Epstein & O'Halloran, 2008: 91-92).

Conclusion

It is undeniable that climate change is altering our physical environment; the security implications, however, cannot be predicted. If conditions continue as they currently are, there will be displacements and a wide array of reasons to turn to violence in order to survive. Water is one of the most vital resources for the survival of humans. Water scarcity/insecurity, therefore, naturally poses a great threat for the future, but environmental specialists do not believe that it is a threat that cannot be avoided. There are an increasing number of elements involved in the relationship between water scarcity and possible conflict, but not all of them foreshadow a dehydrated future. These elements include factors such as the belief that water scarcity can be overcome through cooperation, technological innovation and better management of the resource.

The different types of scarcity play a major role in whether groups turn to violence. Here one can see that the relationship between the people and the state is increasingly important. If the state does not see to all people's needs for resources and favours one group over the other, then the probability of violence breaking out is high. When conflict does occur it usually takes the form of intra-state conflict. The likelihood of water scarcity-related conflict turning into international intra-state conflicts is also high if water scarcity is not dealt with in a sustainable manner. This can be dealt with through trusting that people and states can think of innovative ways to share water and address issues around scarcity.

Water scarcity does not mean that the world is doomed to "water wars". The construction of such a discourse around the topic of water scarcity has done much to inhibit the development of Africa. It has also driven people into a panic about the future. Cooperation could be seen as the only viable solution. Cooperation, however, does undermine state sovereignty, but this does not have to be to the detriment of states.

Water scarcity has many people wondering what the future will bring. Will a lack of water lead to the third world war? Will it bring about new technologies? Or will it just mean that international cooperation becomes even stronger? The security implications are vast, yet no one can accurately predict what will happen. This chapter has reviewed what prominent academics have to say about water scarcity/insecurity and its purported relationship with violent conflict.

As one can see, there are many different perspectives on the topic of water scarcity and conflict. What can be agreed on is that this relationship has a severe impact on Africa. Africa's history as a continent, its lack of proper governance and development, its peoples' impoverishment and their bad health all contribute toward water scarcity issues turning into conflicts. When it comes to studying the relationship between water scarcity and conflict, these elements have to be taken into account. These elements are what make it almost impossible to confidently claim that there is a direct relationship between water scarcity and conflict. All of these elements come together and make the probability of conflict that much higher.

The question of whether the "panic-fuelled" narrative of water wars is warranted might well be answered through understanding that water scarcity is one of the major factors in future conflicts. It is not, however, the only factor. It is the position of this thesis, after reviewing what the experts have to say about the relationship between water scarcity and conflict, that concern about water scarcity is warranted. Although it is not a direct relationship, it is still one that raises some concern, especially in Africa.

It would be foolish to ignore signs that water scarcity has the ability to alter IR. Water scarcity has the ability to reconfigure IR and security studies. If distribution and management of current water sources are not properly maintained, then fearful discourses could become self-filling prophecies. However, just as a conflict-ridden future seems likely, a future that has put adaptive capabilities to the test could also be likely. Innovation and technology could resolve issues of water scarcity and conflict, yet how will continents like Africa manage to acquire such technology? The lack of development in Africa will continue to hinder it in this matter.

This chapter has laid the foundation for the rest of the thesis through providing a review of the literature on the topic of water scarcity/insecurity and conflict. It has outlined how other chapters will deal with the relationship between water scarcity and conflict. This is helpful when attempting to address the research problem and answer the research questions as it shows all angles and opinions on the real causal relationship, if any, between water scarcity and conflict. Mostly this chapter has highlighted that the relationship between water scarcity and conflict has major security consequences, which can and do alter IR. It has also highlighted that the IR scholarship which has framed the link between water insecurity and violent conflict is increasingly credible. One can see that real concern is warranted when it comes to water scarcity and conflict; however, the chapter has also indicated that there are many other elements which are involved in the eruption of conflict.

Chapter 3: The Green Theory Perspective and the Securitization Stance

Introduction

The effects of industrialisation on the Earth have been tremendous. Green Theory is a response to these damaging effects. Socially, politically and economically people over the past 50 years have begun to see that the current norm of abusing the environment is no longer sustainable (Lawson, 2015: 219). From Chapter 2 one can see that the links between water scarcity/insecurity and violent conflict are increasingly credible within IR. This chapter aims to provide the perspective of Green Theories and how they could possibly provide an alternative or addition to the conservative theories of realism and liberalism with regards to environmental issues. The chapter highlights these perspectives through studying the works of experts such as Stephanie Lawson, Andrew Dobson and Robyn Eckersley, all of whom are published academics within the political/environmental field. Another question which is asked in Chapter 1 is whether there is any heuristic utility in the securitization of water. This chapter is therefore also dedicated to Securitization Theory and the question as to whether environmental issues would be addressed more efficiently if they were considered in terms of "high politics".

In recent years Green Theories have become more prominent as concern for the welfare of planet has increased. If left unchecked climate change will destroy the natural world beyond repair. The general, educated public are aware of this and are now turning toward green solutions. One of these green solutions is to adopt political paradigms that condemn actions that have brought about crises in the natural world. It is predicted that by 2050 the global population will be nine billion, but only if no neo-Malthusian negative checks intervene. This population size once again puts immense stress on resources, especially drinkable water (Lawson, 2015: 219). International relations will be affected by this, as we have seen throughout Chapter 2. Concerns are warranted, but they need to be researched correctly and dealt with in innovative ways. Securitization Theory will provide a different perspective on this later in the chapter.

The initial sections of this chapter discuss the founding of environmentalism and its links to political and social awareness and the general emergence of Green Theory as a sub-section

within International Relations. Later in the chapter, Securitization Theory is conceptualised and examined. This section aims to address the question of whether there is any heuristic utility in the concomitant securitization of water.

The Emergence of Environmental Awareness

It is not news that human activity has been causing environmental damage; however, it was only in the 1960s that this awareness manifested as political concepts and people began to talk openly about the environment in political debates and discourses (Dryzek, 1997: 4). Engels and Marx, however, had already in the 19th century identified that this awareness may have come too late, as the Industrial Revolution had already damaged the environment and society as a whole (Lawson, 2015: 220). Engels and Marx famously said:

> The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of Nature's forces to man, machinery, application of chemistry to industry and agriculture, steam navigation, railways, electric telegraphs, cleaning of whole continents for cultivation, canalisation of rivers, whole populations conjured out of the ground – what earlier century had even a presentiment that such productive forces slumbered in the lap of social labour (Marx & Engels 1969: 16).

These innovations were all seen as great progressions in industrialisation; however, "the 'subjection of Nature's forces to man' produced a whole array of problems which in turn prompted philosophical and theoretical speculation on such categories as 'nature' and the 'environment'" (Lawson, 2015: 220). This led to the formation of the first group of people to openly want to protect the environment. This group was based in England and they were founded as far back as the 1860s. Almost simultaneously in America people were gathering to discuss their concerns about the protection of the wilderness (McCormick, 1991: vii). In 1866 Ernst Haeckel, a biologist, coined the term "ecology" and a year later the term "biosphere" made an appearance in the *Oxford English Dictionary* (Lawson, 2015: 221). Scientific links, however, were yet to be made (Crosby, 1995: 1182-1183).

Environmental awareness continued throughout the 1800s with more academics identifying links between industrialisation and environmental degradation; this continued into the 1960s when Rachel Carson published her book entitled *Silent Spring*. *Silent Spring* broached the topic of the use of dichloro-diphenyltrichloroethane (DDT), which is a powerful insecticide that was used for spraying crops. DDT is extremely poisonous and it was killing small animals and damaging many ecosystems. DDT would seep into the earth and find its way into

waterways, making it spread to all ecosystems. It was not only animals and plants that suffered poisoning from DDT; humans who were exposed also died (Carson, 1962: 20).

Silent Spring was a book that had global implications because it put environmental issues on the map. It can be argued that it was this book that led to the 1970s being a decade that was very focused on the environment. The American Environmental Protection Authority (EPA) and Earth Day were founded in 1970 and it said of Carson and *Silent Spring*:

> In the process of transforming ecology from dispassionate science to activist creed, Carson unwittingly launched the modern idea of environmentalism: a political movement which demanded the state not only preserve the Earth, but act to regulate and punish those who polluted it (EPA, 1992).

DDT was completely banned in 1972, the same year that the UN Environment Programme was founded and the first Earth Summit was held in Rio de Janeiro. In Vancouver, Canada, Greenpeace was also founded. Arne Naess, a Norwegian philosopher, came up with the term "deep ecology",[9] and in Australia and New Zealand the first green political parties were formed. This was a watershed moment in history for the environment. With all these developments people who were aware of environmental issues either adopted a "promethean" perspective on environmental issues or a "survivalist" stance (Lawson, 2015: 222).

Survivalist Perspective

The prominent academic, Garret Hardin, and his article entitled "The Tragedy of the Commons" (1968) formed part of the survivalist perspective. There was a strong belief at the time that technical innovations could solve all environmental issues. Hardin disagreed with this and saw that it was human values that needed to change in order for the environment to recover. Self-interest was the one human value that Hardin strongly wanted to alter. He believed that self-interest was rational when it came to individual self-interest; however, in the long term self-interest was unsustainable for the environment (Hardin, 1968: 1244). In line with the thinking of the neo-Malthusians, who believed that the rapid growth of populations was to blame for environmental degradation and scarcity, Hardin saw that population growth was the core issue when it came to resource depletion: "a finite world with finite resources can carry only a finite population" (Lawson, 2015: 222; Homer-Dixon, 1991: 99-100; Ashton, 2002: 66). Hardin also believed that if positive checks were not put in place

[9] "Deep ecology" refers to an environmental movement/philosophy that believes humans are one of many parts of the global ecosystem. It is a holistic perspective which provides a new understanding of global environmental issues, one that does not see humans as more important than that of the natural world or animals (Johnstone, 2010).

to control the population, then negative checks were bound to occur (Hardin, 1968: 1248). Paul Ehrlich stated that there were only two solutions to over-population: "one is a 'birth rate solution', in which we find ways to lower the birth rate. The other is the 'death rate solution,' in which ways to raise the death rate – war, famine, pestilence – *find us*" (Ehrlich, 1968: 17).

A group of businessmen, scientists and politicians noticed that governments were not doing much to ensure environmental protection and so they decided to form a group called the "Club of Rome". Their intentions were to focus on topics such as population growth, malnutrition, non-renewable resources and environmental degradation, and work to find possible long-term solutions. In 1972 the group published a book called *The Limits to Growth*, which proved to be very influential because it used intricate models and highlighted that governments were neglecting the environment. The book had a survivalist undertone throughout which claimed that if the world were to continue abusing the environment for economic gains, then the consequence would be rapid decline in population and industrial production (Meadows, Randers & Meadows, 2004: 21-22). They did outline an alternative, which stated that the world had to start planning immediately for economic and ecological stability. Economic and ecological stability would indirectly lead to a worldwide equilibrium that would ensure that all people have their basic needs met (Meadows *et al*., 2004: 23-24).

The Promethean Perspective

In stark contrast to the doom and gloom approach of the survivalist theme lies the Promethean stance. Much like that of the cornucopians, Prometheanism claims that humans and technology can move the world away from environmental catastrophe, meaning that through technology one can reverse all the damage done to the Earth. Garrett Hardin claims this was an extremely dangerous thing to believe in (Dryzek, 1997: 45). Hardin and others see this approach as "passing the buck" or not taking responsibility for harmful actions. It means that people can continue to abuse the environment without having to feel responsible or accountable, because they hope that a scientist somewhere will come up with a solution, one that does not undermine the current economic paradigm. Prometheanism is, therefore, very popular among neoliberal economists, because of its belief that people can solve climate issues without altering their economic activities. In the 1970s Prometheanism was increasingly popular because people saw astronauts going to space and many other phenomenal technical triumphs and believed that technology could solve ecological issues.

Although the scientific evidence of climate change was available, there was a backlash. People such as Rachel Carson were personally attacked and accused of being irrational. The

commercial world or businesses that survived from making large profits turned against the scientists who were claiming that environmental degradation was caused by the practices of these businesses, who denied that anything was wrong. Businesses shut down and discredited anyone who threatened their profit margins by exposing how detrimental industry was to the environment (Lawson, 2015: 226). In the USA conservative think tanks were forming in order to fund their own scientists and studies that would negate results that showed the detrimental consequences of industry for the environment (Oreskes & Conway, 2010: 5-8). Green Theories, however, do not base themselves entirely on the Prometheans and survivalists. They are also concerned with values and beliefs, which shift and change over time, and how they affect the environment. It is important to note that the environmental movement is considered "the biggest assortment of ill-matched allies since the Crusades – young and old, radicals of left and right, liberals and conservatives, humanists and scientists, atheists and deists" (McCormick, 1991: ix). In addition to this wide assortment of members, there are also a number of different perspectives on environmental problems. Robert Goodin cleverly refers to this as the many "shades of green" (Goodin, 1992: 7). These 'shades' are highlighted in a number of Green Theories, which will be examined next.

Green Theory and the Shades of Green

Environmentalism as a term is broad; it refers to social movements, political thought and beliefs about the environment (Lawson, 2015: 227). Therefore, a more specific term was needed to indicate the different perspectives, beliefs and ideas that had political implications. Green Theory was the term that emerged to indicate this perspective. Green Theory, however, is not a "singular, uncontested body of thought"; there are multiple bodies of thought within Green Theory. If one wanted a definition of Green Theory, it would be "a form of normative theory that has, as a central and defining focus, a concern for the protection of the natural environment" (Humphrey, 2010: 573). It is important to note that when the "environment" is mentioned, it refers to the global environment (Attfield, 1999: 9-10). Green Theory is composed of two core categories: ecologism and environmentalism (Lawson, 2015: 227).

Environmentalism has an anthropocentric view of the environment and human behaviour. Environmentalism believes that "the interests of humans are of higher priority than those of nonhumans" (Buell, 2005: 134). This signifies that the ecosphere is at the core of the environmentalist ethic of value; thus no specific species is more important than the ecosphere/biosphere (Buell, 2005: 134-137). Ecologism takes a more radical political approach when compared to environmentalism. Ecologism believes that environmental issues

can only be properly resolved if radical changes are brought about in "patterns of production and consumerism" (Lawson, 2015: 228). This is highlighted well by Dobson (2007: 2-3): "a sustainable and fulfilling existence presupposes radical changes in our relationship with the non-human natural world, and in our mode of social and political life". Ecologism is formed on the base of 'ecosystems' and 'ecology', which are both scientific elements.

An 'ecosystem' is a collection of organisms found within a certain area. The environment where they live and the energy flows between the many different organisms make up an interactive system that is mostly self-contained (Lawson, 2015: 228). 'Ecology' constitutes the examination and study of the relationships between all the organisms within an ecosystem. Ecologism, as one can see, adopts a holistic perspective on environmental issues. It notes that environmental issues are not isolated from one another and therefore demands a solution that is all-encompassing. An all-encompassing solution is hard to imagine, as where would it end? The planetary system or the global system? In ecologism the relationships between political, cultural, social, economic, geographic, biological dimensions are all elements which are examined in order to gain insight into where an issue originates and how it can be resolved properly (holistically). All of these elements are interdependent and indirectly affect the environment every day.

Similarly, the 'bright green' environmentalists believe in ideas that stem from 'ecological modernization theory', which emerged in the 1980s. This is a social theory that adopts both an environmentalist and an ecologist stance on how to attain a sustainable future. Bright green environmentalists are anthropocentric, but do not see halting industrialisation as the appropriate response to addressing environmental issues. Rather, they see that a complete revolution in the current economic and social order is needed to obtain sustainability for the environment (Bloor, 2010: 247). Bright green environmentalism is strongly influenced by Prometheanism, yet is also strongly against the "business as usual" approach. The main focus is on "design, technology, innovation, entrepreneurialism, and consumption practices" (Newman, 2011: 39). Economic growth and prosperity cannot, therefore, be determined as detrimental to environmental sustainability. It is through economic prosperity that 'green social engineering' can be conducted that might bring about positive change to environmental degradation (Newman, 2011: 39-40).

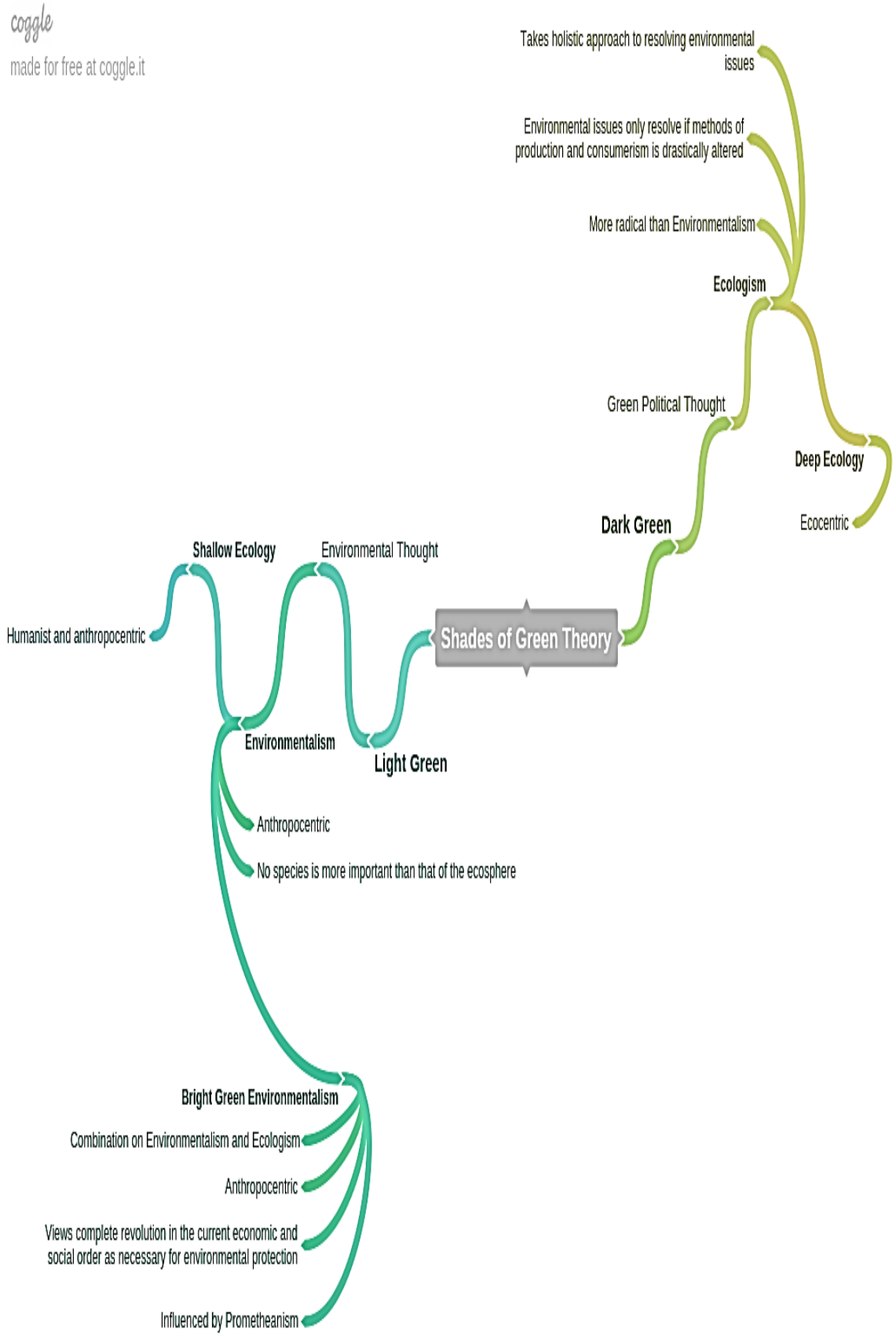
It is in the distinction between "light" green and "dark" green where one can in turn distinguish between "environmental" political thought and "green" political thought. Ecologism can be found in the green political thought arena. Light green and thus

environmental political thought can be described as "shallow ecology, humanist and anthropocentric" (Lawson, 2015: 229). Dark green and "green" political thought are on the other side of the scale. Dark green entails a belief in deep ecology and an ecocentric approach to environmental issues (Eckersley, 1992: 7-8). This detailed outline of which shades of green each political thought belongs to is rather complex, but there is another way to view green political theory; as Humphrey (2010: 182) states, it is a "broad category encompassing all forms of political though that have as a high priority the conservation or preservation of the natural environment". For the purpose of clarity, this chapter will use this definition of Green Theory and, when a more precise distinction is needed, it will refer to ecocentric theory and ecologism.

There is a definite difference between these two shades of green; they are highlighted further in Figure 3.1, which outlines the many different Green Theories and where they are located on the shade scale. The figure showcases how Green Theories can be classified as either "light green" or "dark green". Through "Environmental thought", light green splits into "Shallow Ecology", "Environmentalism" and then "Bright Green Environmentalism". The Environmentalism branch further splits off into the "Bright green environmentalism" branch. Under each main branch (Environmentalism, Shallow Ecology and Bright Green Environmentalism) one can see their characteristics and normative theoretical assumptions. On the Dark Green side one can see that Green Political Thought brought about "Ecologism" and "Deep Ecology". The beliefs of Deep Ecology are shown beneath the main branch and the beliefs of Ecologism are shown above its main branch.

(Figure 3.1 created by author)

Figure 3.1: Shades of Green Theory



Ecologism and Green Theory

Ecologism has two distinct characteristics: one is its political dimension and the other its philosophical dimension. On the political side, as mentioned above, the focus is on ending all threats to humanity and the natural world through deindustrialisation and economic, social and political reform. The philosophical aspect is a theory of value which looks to challenge the dominant Western political paradigm. The philosophical side is anthropocentric; however, ecologism is found to be ecocentric, which means that ecologists assign value to the natural world first and foremost (Humphrey, 2010: 573-574). The Green Theory of value gives a "unified moral vision" and tells one what is to be valued and why (Goodin, 1992: 15; Carter, 2007: 52). In ecologism the unit which is to be valued is the natural world; it should not, however, be valued "for the support and comfort of being" it provides for humans, as John Locke (prominent liberal academic) once stated in an instrumentalist writing (Eckersley, 1992: 23). Ecologism states that the natural world should be seen as something that has enormous value in and of itself. In conclusion, ecologism believes that "nature" has value that is independent from that of humanity (Goodin, 1992: 45). As one can see, there are two types of theories of value that have been highlighted; they are known as axiological and instrumental. The axiological theory of value highlights how "nature" has its own intrinsic value, while the instrumental theory of value sees that "nature" has value only insofar as it aids humanity (Lawson, 2015: 230 & Carter, 2007: 52).

It is important to note that it is not only liberals who believe that the value of the natural world is directly tied to its benefit to humankind. Marxists also adopt this stance: "while social relations between humans are theoretically different under capitalism and socialism, the relationship between humans and the rest of nature appears to be essentially the same" (Eckersley, 1992: 22). Both Marxism and liberalism want people to have access to the "material good life", which can only be brought about through industrialisation. This highlights the point that both traditional liberalism and Marxism are at their core anthropocentric (Eckersley, 1992: 22). This is not true for all forms of liberalism and Marxism, yet it is crucial to acknowledge that the traditional forms of these theories are anthropocentric.

The Natural Question

Ecologism sees that all that is "natural" should be highly valued; however, where must the line drawn on what is classified as natural and what is unnatural or artificial? Ecologism believes all that is manufactured or constructed by humans is artificial. With the theory of

value being ecocentric, this would mean that ecologism believes that natural is good and artificial is not good, or at least not as good as "the real thing" (Lawson, 2015: 231). There is a stigma that comes with labelling something "unnatural"; it takes the item which is unnatural and judges it on a moral level. The question that arises in this line of thinking is: Are humans natural and therefore part of nature, or are they unnatural? If they are regarded as natural, then all their actions are to be labelled as natural as well. Or are humans above nature? Many religions believe that humans are at the top of the natural hierarchy, which reflects the view of theories that are anthropocentric. Regardless of all of these questions, the fact that humans ponder and study "nature as an entity defined apart from human activity or agency, and possessing intrinsic value, implies a distinction between 'humanity', on the one hand, and the 'natural world' , on the other, even if we want to dismiss the distinction as an artificial one" (Lawson, 2015: 231).

In order to fully comprehend the question one needs to reconsider the idea that the value of nature exists independently of humans and is therefore a type of moral value. This raises the question as to how, without humans to give the natural world such value, could it be valued in any moral way at all? The notion of moral values is constructed by humans; it is not constructed by animals or inanimate rocks/stones. Therefore, one must ask how moral value can exist in the absence of humans? Many might say that it is God(s) that bestow moral value on the natural world; however, it is humans who gather and think about such moral value and behave towards nature in a way that implicates moral values.

Nevertheless, if one believes that reality is socially constructed, then one must think of the natural world as a social construct, "a product of the human imagination as situated in specific historical and/or cultural contexts and which may therefore vary quite radically according to these contexts" (Lawson, 2015: 232). This, is in fact, the most anthropocentric notion, because while it tries to give moral value to the natural world, it simultaneously privileges human thought and not the natural world. There is, therefore, no escape from anthropocentrism when it comes to imparting moral value to any type of inanimate object or even the biosphere (Carter, 2007: 53 & Doherty & de Geus, 2003: 217).

Another aspect of the Green Theory of value and morality is the question as to how far the boundary extends when thinking of the "moral community". Many believe that the moral community includes more than just humans – it includes all life on Earth and the Earth itself (Dobson & Lucardie, 1993: x). This results in challenges for the more traditional theories of morality and justice, which see nature as an object of moral rhetoric but not as a subject. They

believe that "nature is not a moral agent and cannot itself distribute justice" (Wissenburg, 1993: 51). This is still not an issue for people who have dedicated themselves to ecocentrism, which is represented well through the notion of 'deep ecology' (Lawson, 2015: 232).

Deep Ecology and Biocentrism

The first person to distinguish between anthropocentric, human-centred "shallow environmentalism" and deep ecology was Arne Naess. Deep ecology sees the value of all living things from that of single cell amoebas to humpback whales (Drengsen, 2008: 27). Deep ecology also respects social justice, cultural diversity and advocates for non-violence in the natural and cultural spheres (Drengsen, 2008: 27). Naess came up with the notion of deep ecology because he wanted to highlight that there was a difference between the science of facts in ecology and how in deep ecology things went a step further by assigning value to the natural world. Deep ecology is characterised by this approach, which adopts an explicitly normative stance. Arne Naess states:

> Chemistry, physics, and the science of ecology acknowledge only change, not valued change. But … a change in the bio-conditions of a river or ocean which excluded most forms of life contends that it would constitute a devastation of diversity. The inability of the science of ecology to denounce such processes … suggests that we need another approach which involves the inescapable role of announcing values, not only 'facts' (Naess, 1989: 47).

Deep ecology is filled with spiritual leanings, which many critics interpret to be the downfall of the theory. The spiritual dimension that attracts the most criticism is the belief that humans should live in harmony with both the natural world and the cultural world. Critics believe this indicates that deep ecologists believe that humans should become subordinate to nature, but this is not true. Living in harmony with one's surroundings does not mean that one has to alter all aspects of one's lifestyles, but rather points to the need for integration. Deep ecologists, therefore, do not see humans as separate from the biosphere, but rather as an integral part of that biosphere. This does not mean that they place humans at the centre of this biosphere. They see that humans have created the large-scale environmental issues that the world is experiencing today and it is the dominant thought patterns of humans that need to be altered in order for abuse of the environment to end.

Bioregionalism is the political dimension of deep ecology. Bioregionalism claims that all issues – environmental and social – that have arisen in the industrial age can be combatted through people returning to community living. The aim of community living, according to the tenets of bioregionalism, would entail becoming self-sufficient both economically and

environmentally. These communities would organise themselves close to the land, in "naturally defined areas" (Lawson, 2015: 233). The communities aim to actively reduce the toll they take on the environment through organic farming, use of natural medicines and region-based marketing; this all would assist communitarianism, "nature-based wisdom, spirituality, mutual aid, participatory politics and 'speciate humility'" (Sale, 2000: xix). This method of 'healing' and 'helping' the environment, naturally, has faced many criticisms.

Small communities, which ideally would have a population of around 10 000, would have to deal with many issues. These issues may include the intellectual and cultural impoverishment that would result in stagnation in innovation, including innovations that are helpful to the environment. Another issue would include the fact that large-scale environmental issues would be much more difficult to resolve with small communities. Socially, these communities would also more easily become oppressive rather than democratic (Carter, 2008: 59). Ecofeminists have a lot of negative things to say about deep ecology. However, many ecofeminists do agree with the values of deep ecology and the "human identity with nature and the ethic of care that stems from this" (Salleh, 2000: 110). The problem they see with deep ecology is that deep ecology neglects to include a gender perspective, which is easily adoptable from ecofeminism. Salleh (2000: 110) states that deep ecology, through neglecting gendered perspectives, is unable to identify issues around identity and difference.

Difference and identity are not only specific to questions of gender but also to indigenous identities. Eurocentrism is a major issue and many deep ecologists are accused of ignoring the topic, while still unintentionally promoting it. According to ecofeminists, this was a terrible oversight, as indigenous people had learnt how to live within their means, and therefore deep ecologists could learn a lot from them. They do not believe that all humans should try to time-travel, but that "Western societies" should challenge their "ingrained habits of thought and be more fully conscious of what we are about" (Salleh, 2000: 121). There is an alternative approach which also believes that value is based not on only human interest, but rather is found in all living organisms. It also points out that "ecosystems are not the repositories of value insofar as they support life" (Humphreys, 2010: 574). The ecosystems are not moral subjects and therefore "the purely physical conditions of a natural environment must, from a moral point of view, be sharply separated from the animals and plants that depend on those conditions for their survival" (Taylor, 2011: 18). This approach or point of view raises many questions which are centred on environmental ethics:

- Is human behaviour towards natural ecosystems subjected to moral constraints, or should such moral constraints only be applicable to the ways in which humans relate to each other?
- If yes, human behaviour is towards ecosystems is subjected to moral constraints, then what specific constraints are active and how exactly are they different from those that guide our actions towards other humans?
- How should the rules and standards derived from such constraints be justified?
- Hypothetically, say humans do have a moral obligation towards the natural world, how is the moral obligation to be contrasted with human values and interests (Taylor, 2011: 10).

Taylor's (2011) answer to these questions is that we do have a moral obligation to the environment, which is completely isolated from that of which humans have to each other. This is in direct opposition to an anthropocentric environmental ethic, which believes that all moral obligations that we possess towards the natural world should come from our moral obligations to one another and future generations. In this perspective, even the obligation to protect endangered species is derived from human values. This is one of the first real intellectual inquiries within biocentrism into the field of environmental ethics and normative theory. Populist literature, however, sees biocentrism from a different perspective, one that advances extreme claims. The main point of reference in this regard is *Biocentrism: How Life and Consciousness are the Keys to Understanding the True Nature of the Universe* by Robert Lanza, written with Bob Berman (2009), which states that the current theories of the physical world are trapped in "the cages in which Western science has unwittingly managed to confine itself" and do not account for "life and consciousness" (Lanza & Berman, 2009: 1-2).

The notion of consciousness in this book is used to highlight a different truth, one in which "the animal observer creates reality and not the other way around" (Lanza & Berman, 2009: 15). Biocentrism becomes a completely different theory if one takes into consideration this populist perspective. Populist authors believed this was a revolutionary discovery regarding reality; however, it mostly derived from a type of very old idealist philosophy, which states that reality can only ever reside in human consciousness. There are some distinct similarities with the sociology of knowledge whereby facts about the material world are believed to be mediated by cultural and social organisations/institutions and experienced by them, but not created by them. Knowing this, there is an isolated, "independent, non-social reality such as 'nature', even though it may be subject to many different interpretations" (Lawson, 2015: 235; Bloor, 1996: 35). The key focus point here, however, is that the eccentric and mystical

form of biocentrism that has been described here as an adaptation of idealist philosophy (which has been supported by mystic, Deepak Chopra) does not have much to do with the biocentric environmental ethic formulated by Taylor, "which belongs squarely within a tradition of green theory with serious philosophical credentials" (Lawson, 2015: 235-236).

Eco-anarchism and Eco-authoritarianism

Ecologism is an ever-expanding field, another two important forms of it are eco-anarchism and eco-authoritarianism. As one can tell from their names, they are antithetical ideological or political stances. During the 1970s eco-authoritarianism became increasingly popular; however, there are still supporters of this ideology today. It has its foundations in a Malthusian/Hobbesian survivalist perspective and is strongly linked to "doom and gloom" academics such as Garrett Hardin. One of the key figures to propagate eco-authoritarianism was William Ophus. He states that not only is liberal democracy unable to resolve issues of the environment and resource scarcity, but indeed believes that liberal democracy has created environmental problems and scarcities. Currently we are facing an ecological crisis and he believes that what is needed is a "'green Leviathan' with a knowledge and power to make prudent, enforceable ecological decisions" (Barry, 1999: 196; Keulartz, 1983: 3).

The opposite stance to that of eco-authoritarianism is eco-anarchism, which is also referred to as social ecology. Its best known advocate, Murray Bookchin (1921-2006), believed that the notion that the domination of the environment by man stemmed from the reality of domination among humans themselves (Bookchin, 2005: 1). Bookchin was influenced heavily by the nineteenth-century anarchist, Peter Kropotkin, "who promoted a benign view of nature, seeing it as essentially interdependent and egalitarian and certainly without hierarchies" (Bookchin, 2005: 2-3). Humans, according to Bookchin and eco-anarchism, are naturally cooperative and best suited to live with nature, whereby they undertake egalitarian social arrangements in which they do not dominate each other or the natural world. Life was like this in preliterate times when people lived in organic communities. These communities were changed when the rise of social hierarchies became dominant through divisions such as gender, class, race, age and religion. This brought about competition over resources which ended an era of cooperation (Carter, 2008: 75; Bookchin, 2005: 5).

Deep ecology also seemed too esoteric for Bookchin, which he described as "mystical eco-la-la". He was against the idea that positive changes came from "a transformation of individual world-views stimulated by better spiritual connections with nature" (Bookchin, 2005: 76). He

felt that deep ecology was a movement that harboured a misanthropic perspective, believing that their ideas supported "coercive forms of population control, immigration and aid policy" (Bookchin, 2005: 76-77). It is true that some deep ecologists have supported the idea of "letting nature take its course", believing that natural disasters such as famine and disease would take care of environmental issues through reducing the global population (Chase, 1991: 20). Bookchin found this to be morally repugnant. There were many differences between eco-anarchism and deep ecology, which have been highlighted; however, there was also some common ground. They both have a hostile view of the state, they believe a hostile view of the state is necessary because of their ecological and social values (Carter, 2008: 76). Another commonality is there dedication to radical ecologism, in the many different forms that it takes, as a challenge to superficial environmental reformism. Environmental reformism does not challenge the foundation of modern capitalist industrial society, which has, in the final analysis, brought about the social and environmental damage that ecologism aims to fix at the most foundational level (Lawson, 2015: 237).

The Greening of International Relations

Concerns about environmental degradation have shown, throughout this Chapter that groups and individuals have worked to better understand the reasons, and possible solutions through abstract ideologies and political and social actions. Green-minded experts and specialists have all sought to further their understanding about the relationship humans have with the environment. The belief is that only once a holistic understanding of this relationship has been established can solutions be effective. The belief has been the case since the 1970s on a global stage; it has been pointed out that 1972 was a watershed year for the formation of organisations, the publishing of books and growing awareness about the plight of the environment. This was the year that the international political agenda could no longer ignore environmental issues and this in turn set the foundations of global environmental governance (Elliot, 2004: 7). Writers and academics from this time – Garrett Hardin, Rachel Carson, Paul Ehrlich and others – were followed by philosophers and political theorists who developed a wide range of normative approaches to the environment under the umbrella of Green Theory (Lawson, 2015: 237). Green International Relations (IR) theory cannot be considered as separate from the more general field of Green Theory, yet there are some issues that are of specific concern to green IR. These issues include the development agenda, the international political economy, the role of the sovereign state (which was discussed in Chapter 2) and the changing nature of security (which will be discussed in more detail later in this chapter).

When the environmental issues were put on the agenda in the 1970s, they started to gain momentum at the same time as the international political economy which was evolving into a specialist field within IR. These two fields both required attention as one was demanding issues of economic development be resolved, while the other was demanding that environmental protection be enforced. The UN recognised that both these demands were intrinsically linked, because they saw that if the low-income countries of the South were to develop through the same model as the North (heavy industrialisation), then the environment was going to suffer even more. However, for the developed world to stand by idly as the South became even more impoverished would also be morally wrong and went against all that the UN stood for (Lawson, 2015: 238).

This led to the forming of the World Commission on Environment and Development in 1983. This Commission focused on three intertwined themes: environmental protection, economic development and social equality. The Commission published a report called "Our Common Future" and it introduced the term "sustainable development" into the vocabulary of international politics (WCED, 1987). "Sustainable development" in this sense was defined as meeting of the needs of the present generation without compromising the resources available to future generations. The report noted many environmental disasters, including severe weather as well as horrific industrial accidents around the globe. It highlighted the fact that many states were spending the biggest proportion of their GDP on their militaries rather than on protecting the natural world and non-renewable resources (WCED, 1987). Issues such as ozone depletion, species loss, acid rain and global warming made it clear that threats to national security were changing. It was not only the threat of invading militaries or rebels that could be considered national security threats. These fears were confirmed in 1992 at the UN Conference on Environment and Development (UNCED), also known as the Rio Summit, which was the largest gathering ever of world leaders at that time. The Rio Summit included the Rio Declaration, which set out guidelines for the protection of the environment and how the global community could restore it (UN, 1992).

The intertwined relationship between the environment and security was once again brought to the forefront in the UN's Human Security Report of 1994. It was in this report that the term "human security" was first used – it was a term that shifted people's focus on security to "people rather than territories, with development rather than arms", which promoted "a new paradigm of sustainable human development" (UNDP, 1994a). Human security is a multifaceted notion, which has environmental security listed as just one dimension of security along with economic security, health security, personal security, food security, political

security and community security (UNDP, 1994b). It was agreed that all these forms of security were important; nevertheless, the theme that generated the most concern internationally was environmental security. This is because environmental security underpins many of the other types of securities – health and food being the most prominent. Other types that are not mentioned include water and energy security; however, they are also closely tied to environmental security. Only today is a deteriorating environment recognised as a traditional threat to national security. As seen in Chapter 1, many people have recognised that there is an increasing potential for violence over scarcities, which is related to environmental issues (Dalby, 2002: xix).

Securitization Theory and the Environment

Appeals to environmental security highlight a fairly new and successful attempt to place environmental issues on the security agenda and is where a better understanding of securitization stems from. Although there has been momentum in this regard, the relationship between security and environmental change is still a contested subject. This is because environmental issues are often pushed to the back burner, while "more important" traditional security threats are dealt with; there is also the issue that many people disagree that the environment should even be considered an area that is a part of the national and global security regime. Environmental security provides a more comprehensive account of the new and different "typologies of vulnerability as well as the potential for conflict and violence with which these vulnerabilities could be associated" (Trombetta, 2008: 586). The term 'environmental security' has caused many people concern, as they believe that this would result in the securitization of the environment. Why is this a concern for these people? Would the securitization of the environment not aid governments to take proper action in curbing environmental degradation? Securitization comes with many benefits, but with many, many more disadvantages, as will be discussed below.

Ole Waever and Barry Buzan were the prominent academics who worked on the topic of securitization and the environment in the Copenhagen School. They developed a framework which conceptualised the theory of securitization (Trombetta, 2009; Balzacq, 2012: 59). Securitization Theory showcases the political aspects of "doing" security and challenges the current dominant approach to security, which is concerned with finding and eliminating self-evident threats, and introduces a social-constructivist stance which considers how issues are transformed into security threats (Trombetta, 2009). Securitization is "the successful process of labelling an issue a security issue and results in the transformation of the way of dealing

with it" (Trombetta, 2009). Such transformation would have many implications: the label "security" environmental issues would be transformed into an existential threat, which would generate exceptional emergency measures, which would in turn include breaking rules or requiring governing through decree – effectively ignoring democratic rule (Trombetta, 2009).

Many commentators have raised the question as to how effective the global community has been in trying to untangle these intertwined dimensions of security. Barnett (2001: 10) believes that it is political institutions and their governance that are responsible for the failures of environmental security. Barnett states that there is a need to securitize the environment at an institutional level in order for positive change to occur. This perspective comes from the fact that even though the intentions and principles of organisations such as the UN are noble, they never seem to translate into sustained action. On the other hand, there are people who believe that organisations such as the International Monetary Fund (IMF), World Bank (WB) and the World Trade Organisation (WTO) have taken the norms of sustainable development and internalised them, thus formulating integrated notions about environmental protection within a liberal economic world order over the last two decades (O'Neill, 2009: 161). Multinational corporations (MNCs), according to O'Neill (2009: 191), are also making a concerted effort to become more conscious of their brand and how they treat the environment. Public image, instead of moral obligation, is the driving force behind MNCs becoming more environmentally friendly. They have also realised that they need to "minimise risks and uncertainties associated with multiple and shifting governmental and inter-governmental rules" (O'Neill, 2009: 161).

This is important to note because it indicates how there is a reformist approach, however slow it might be. The unfortunate side of this is that this reformist approach exists within a well-established framework of industrial capitalism and its neoliberal economic framework, which is unlikely to support, much less promote, a green approach. Reformists will not satisfy those who want to change the status quo, especially because those that have the power to do so are profiting so much from the current framework. A good example of reformist wanting to keep the current status quo would be the anti-globalisation movement, which emerged to protest organisations such as the WTO and other organisations that promote globalisation. In 1999 a mass protest was held at the WTO conference in Seattle. This protest consisted of approximately 30,000 activists from all over the world. They were all different, yet they were "unified by trenchant critiques of neoliberal globalisation and a commitment to ecological and social justice" (O'Neill, 2009: 162). Global protests groups have continued to protest at major international conferences and meetings, such as the IMF, G8 and the Asia-Pacific Economic

Cooperation forum, which has resulted in these events becoming increasingly monitored by security. This highlights the fact that such institutions are not willing to consider complete reformation of liberal economics and globalisation. Protesters disagree with reformists because they believe that simple reforms do not guarantee a healthier relationship with the environment and only an end to liberal economics will ensure a healthier environment.

Regardless of the legitimacy of other claims within the anti-globalisation movement, there is no doubt that the international cooperation that has developed because of strong global institutions has caused increased environmental damage. This growing cooperation is a "liberal institutionalist approach and accords with what appears to be a common sense position, namely, that when it comes to threats posed by environmental degradation – of which climate change is possibly the most significant at the present time – individual states cannot simply go it alone" (Lawson, 2015: 240). In the 1970s, interestingly, state sovereignty was viewed as an obstacle to dealing with environmental issues. This made the notion of a global government seem like the only viable option to tackle environmental degradation, but this notion soon attracted great criticism as many people felt such a form of government would result in global authoritarianism. Liberal regime theory strongly criticised the idea of a global government because it saw that the extent to which international cooperation was taking place and believed that increasing regulations concerning the environment meant the further diminishing of state sovereignty (Paterson, 1999: 798-799).

The Discursive Nature of Security

The Copenhagen School (CS) was formed in order to reconceptualise security studies on the basic assumption that security is a speech act. The CS noted that threats show themselves as security issues through the discursive politics of security (Dillon, 1996: 47). Waever (1995: 55) states that:

> with the help of language theory, we can regard "security" as a *speech act*. In this light, security is not of interest as a sign that refers to something more real; the utterance *itself* is the act. By saying it, something is done (as in betting, a promise, naming a ship) … The *word* "security" is the *act* … In this instance, security is an illocutionary act, a 'self-referential' practice; its conditions of possibility are constitutive of the speech act of saying 'security'.

There are, however, criticisms of this perspective. One is that security cannot always be self-referential; it regularly executes a type of reference – however partial or biased this may be (Nightingale & Cromby, 2002: 705). If one believes that security is a speech act, theoretically and methodologically it becomes hard to substantiate, even if it makes sense for other instances. In reality, what has often been understood to be the result of the performative use of

the concept of security does not align with that assumption. Instead, securitization comes about from other unarticulated assumptions about the symbolic power of security. To sum up, "securitization is a pragmatic act, i.e. a sustained argumentative practice aimed at convincing a target audience to accept, based on what it knows about the world, the claim that a specific development is threatening enough to deserve an immediate policy to curb it" (Balzacq, 2012: 60). This points to two different ways of seeing security: the CS approach is considered philosophical, while the pragmatic perspective is sociological. The differences between the two will be examined below.

The Philosophical and Sociological Models and Green Theory

Both of these perspectives were developed simultaneously, although in different areas of the world. The sociological perspective was developed in Denmark, while the philosophical perspective was developed in the UK, France and Belgium. But, taking into account strong cross-pollination, the borders between these two perspectives are extremely porous, some academics refer to both without distinguishing one from the other. However, the CS philosophical approach is more common than the sociological approach, which is often regarded as superficial (Balzacq, 2012: 60). Elements of both approaches will be discussed below.

Many understandings and works that describe securitization are based on the philosophical approach. Speech act theory and poststructuralist ideas have been used to describe issues such as infectious disease, identity, and transboundary crime and human trafficking (Emmers, 2000: 426). Although this philosophical theory of securitization can be applied to a diverse range of issues, there is still a disconnect between the theoretical assumptions and the methods which tend to follow on from the assumptions (Leonard, 2007). In fact, in the CS or philosophical approach to securitization, most peer-reviewed studies fall beyond the scope of the framework of speech act theory. The next section will revisit the idea that security is a speech act. It will take a closer look at speech act theory, and the relationship between what security means and what it does. Each of these sections is an examination of the weaker CS presumptions about security and securitization (Balzacq, 2012: 60).

JL Austin's work will be used to summarise speech act theory. Austin (1962: 107) believed that every sentence has the potential to convey three forms of acts, the combination of which forms the total speech act situation:

1) Locutionary – "the utterance of an expression that contains a given sense and reference",

2) Illocutionary – the act performed in articulating a phrase. In a way, this type highlights the performative class of utterances, and the idea of the "speech act" is predicated on that form of agency;
3) Perlocutionary acts, which are made up of sequels which are aimed to bring about feelings, thoughts, beliefs, or actions of the target audience (Searle, 1977: 59-82).

For a clearer understanding it is important to notice that the illocutionary and perlocutionary are different when it comes to the direction and the nature of consequences they bring about. Illocutionary, by convention, is intertwined with the effects that will occur if all four of the "felicity conditions" are met; these include:

1) A condition which is determined by the presence of a "conventional procedure having a certain conventional effect, that procedure to include the uttering of certain words by certain persons in certain circumstances";
2) An executive condition to decide whether the procedure has been properly and fully executed by all participants;
3) A sincerity condition that proposes that participants in this conventional procedure must have specific feelings or thoughts, and "must intend so to conduct themselves";
4) A fulfilment condition which is determined by whether participants "actually do conduct themselves subsequently" (Austin, 1962: 14).

Perlocution is "specific to the circumstances of issuance, and is therefore not conventionally achieved just by uttering particular utterances, and includes all those effects, intended or unintended, often indeterminate, and some particular utterances in a particular situation may cause" (Austin, 1962: 14). This, therefore, means that if perlocution does not meet these rules which condition the realization of an illocutionary act, which the CS uses for its definition of security and securitization, one can see that viewing security as a speech act can become rather restrictive (Balzacq, 2012:61). Also, in all processes such as securitization, the purpose is to trigger a significant response from the other (perlocutionary) and unless this occurs then no securitization happens. This highlights the point that perlocution is imperative to understanding how and why a specific public issue can transform into a security issue. This means that perlocution could be the key to describing how the environment and water scarcity could become securitized.

The sociological approach to securitization is based upon symbolic interactions and the symbolic uses of language. The language in which people choose is an imperative component of resultant interactions. Securitization aims to shape interactions – through the use of specific

language – which is used in order to persuade a specific audience to see the world in a particular way and therefore people act as the situation demands. The sociological approach also adds a new process – persuasive reasoning and argument – to securitization, which studies how alterations in security symbols determine the nature and the consequences of political structure of threats (Balzacq, 2012: 63). According to such outlines, securitization is a process whereby:

1) There are patterns of heuristic artefacts (image repertoires, analogies, metaphors, emotions and stereotypes),
2) These are contextually mobilized through a recognised person, who
3) Works persuasively in order to prompt a target audience which builds a comprehensive network of implications (sensations, intuitions, feelings and thoughts), which all agree with that person's reasons for actions and choices by
4) "Investing the referent subject with such an aura of unprecedented threatening complexion" that
5) A unique political action must be made immediately in order to block the threats development (Balzacq, 2012: 63).

This section has involved heavy theoretical foundations which are important as they lay the foundation for understanding Securitization Theory. It is imperative as most academics are more focused on the consequences of securitization and not what the foundations of securitization are (Huysmans, 2006: 246). The main aim of this section has been to highlight how even the most foundational assumptions of securitization theory are still problematic, yet they still remain extremely important methodologically, conceptually and empirically (Balzacq, 2012: 68).

Securitization is rigid in its conceptualisations of security and, therefore, does not allow for the conceptualisation of the second aspect of recent developments in the security arena, whereby the appeal of security highlights an increasing concern for preventative measures (Trombetta, 2009). Although the issue of securitization raises an important point by outlining the power of the political nature of security and corresponding discourses, it is argued that the Copenhagen School and their researchers impose an unnecessary rigidity on security as a type of social practice. The term "security", according to the Copenhagen School, sets up a very specific mindset and outlines a set of problematic practices that are linked with the logic of war and emergency. These practices are closed to negotiation, political debate or general

flexibility, which results in it being almost impossible to account for any alterations in security practices (Trombetta, 2009).

For many the idea of securitizing the environment is a matter of concern because (as seen above) the term "security" "evokes a set of confrontational practices associated with the state and the military which should be kept apart from the environmental debate" (Deudney, 1990: 75; Trombetta, 2008: 586). Through securitizing environmental issues one allows for the military to create new ways and weapons, which could lead to nationalistic methods of protecting resources and to fighting instead of approaching issues through the greening of securitization (Trombetta, 2008: 586). Deudney (1990) highlighted the fact that the institutions and practices which were characteristic of traditional security would be ill-fitted to deal with environmental issues; he also stated that he felt that the security rhetoric and practice would bring about a zero-sum rationality to the environmental discourse, which would create winners and losers and would completely undermine the efforts of Green Theories to bring about cooperation when it came to environmental issues. Low-income countries were in agreement with Deudney, adding that they felt "security" was a rich countries' solution in order to protect their resources and consumption patterns (Dalby, 2002: 85). In 2007 this debate was taken to the UN Security Council, where the members remained divided as to whether securitizing environmental issues would bring about real, holistic solutions or not.

High Politics and Green Theory

Chapter 1 showed that high politics refers to important issues that have to do with inter-state relations such as war, diplomatic cooperation and peace. It specifically refers to problems that affect state sovereignty and autonomy. The state is the main unit of concern and analysis in "high politics" (Dikshit, 1999: 8). This means that it is essential to study both securitization and high politics together, noting that one could not exist without the other. Much like securitization theory, high politics does not have one concise definition or manifesto. It is a multifaceted topic; however, the foundational ideas of high politics will be examined further in this section, as well as the way that scholars deal with the topic and political consequences of high politics at present (Turnbull, 2016: 82).

In Cowling's (1971: 3) study of high politics he investigated "the intentions and actions of a political leadership network, which consisted of 'fifty or sixty politicians in conscious tension with one another whose accepted authority constituted political leadership'". To Cowling high

politics is merely a matter of manoeuvring and rhetoric by powerful executive leaders. Through examining the war diaries of the powerful elite, as well as letters and private papers, Cowling was able to conclude that executive leaders behave "situationally" when deciding to elevate an issue to high politics (Turnbull, 2016: 82). However, in order to fully comprehend high politics it is important to go back to theories of Realism to show the distinction between "low politics" and "high politics" (Motaal, 2010: 4).

Realism, also known as realpolitik, provides a clear rationale for "high politics" to prosper in modern times. It is an old theory of International Relations, but it is increasingly relevant to the debate over whether the environment should become securitized. Proponents of realism believe that it is the primary goal of states to acquire, maintain and exercise power (Motaal, 2010: 4). Since the treaty of Westphalia states have been the central actors in international relations. The state is a rational, unitary actor that is a sovereign entity, even if sovereignty is diminishing. Realists argue that it is the state and the delicate balance of power between all states which creates the dominant international paradigm (Motaal, 2010: 4). Realists are the theorists who separate "low politics" from "high politics". "Low politics" involves issues such as economics, human health, human rights and possibly still the environment; these are issues that the state views as low priority. "High politics", on the other hand, is associated with conflict, war and military capability, which are all matters of high priority to the state.

High politics deals with all issues that are pertinent to inter-state relations, elements such as peace, war and diplomatic missions. High politics also has a lot to do with state sovereignty and issues around constitutional alterations – distinct issues that pertain to the state as an autonomous entity. Therefore high politics involves politicians and diplomats who sit in "high positions" – the elite positions within the state apparatus. The security of the state is what drives high politics. Low politics, on the other hand, relates to issues that are considered "everyday". Such issues involve "human survival relating to economic policies and public administration – including public health, education and welfare administration in general" (Dikshit, 1999: 8). Low politics does not exclude elites from its policy formation; however, elites do not involve themselves in any other aspects of low politics.

It is important to note that the distinction between high and low politics is not always definite. Sometimes there is an overlap in states that consist of participatory democratic institutions and practices. People often regard high politics and low politics as the same as formal and informal politics, but this is not correct. Informal politics involves the "inter-personal relationships between heads of States which may play a significant part in the conduct of

international relations" (Dikshit, 1999: 8-9). Formal politics, on the other hand, consists of foreign policy organisations, diplomatic correspondence and intergovernmental commissions. One can see that both high politics and low politics, though not interchangeable with informal and formal politics, involve several aspects of both formal and informal politics.

Through the ages the pertinence of high versus low politics has altered significantly. This was highlighted well during the colonial era, when high politics was increasingly involved "because the colonial model of the European State represented the model example of the Razelian concept of organismic State with an inbuilt tendency to expand territorially in the process of its growth, so that problems of security – internal as well as external – had loomed large in the political life of the state" (Dikshit, 1999: 9). It was only through the formation of the "modern State as a secular civic authority based on the consent of the ruled" that low politics could emerge (Dikshit, 1999: 9). The formation of the modern state had the impact of tipping the scales in favour of low politics. Low politics was once again dominant after World War II, when decolonisation led to the creation of more independent nation-states.

Realists argue that "might makes right" and therefore it is of the utmost importance that the state acquire power. Weakness or the lack of power has exceptionally bad consequences. For this reason the plight of the environment for realists has still remained in the category of "low politics". Realists do not see that it is necessary for states to coordinate their domestic or international policies; therefore the transboundary nature of issues such as water scarcity remains within "low politics" (Motaal, 2010: 4). International and domestic security is of the utmost importance to realists; however, this does not mean that realists will not classify conflicts over environmental resources as "high politics". When a conflict stemming from scarcity breaks out, it is natural for the realist state to consider labelling it "high politics" if it threatens the survival of the said state.

The Pitfalls of Securitizing the Environment

The securitization of environmental resources is helpful because it puts issues like water scarcity on the public and political agenda (Fourie & O'Manique, 2010: 249). However, securitization is criticized as often as it is praised when it comes to environmental issues. The securitization process has two noteworthy pitfalls, which will be analysed. The first pitfall is attributed to the fact that "the binary logic of the approach lacks complexity" (Stetter *et al.*, 2011: 445). Environmental issues are characteristically complex and intertwined with many other developmental problems; they therefore require an approach that can move beyond

labelling problems as either "security" or not security. Environmental threats such as water scarcity come about slowly and unobtrusively and therefore need an approach that takes this into account. The second pitfall is that securitization places such an emphasis on studying the actors and audiences of a security issue that it side-lines the bigger societal structures "within which socially meaningful notions of actorhood develop in the first place, including the construction of actorhood in the context of securitization" (Meyer, 2000: 235-238; Stetter *et al*., 2011: 446).

In recent years the issue of securitization has embraced politics, society and the environment (which includes "baseline concerns about the relationship between the human species and the rest of the biosphere") (Buzan, Waever & De Wilde, 1998: 22-23). All threats, which are identified and become a security issue through speech act, cannot be "properly" measured on an objective scale (Vultee, 2010: 35). Instead security threats are assessed by the political elite who decide what course of action to take and then "build a shared understanding of what such threats look like" (Buzan *et al*., 1998: 23 & Vultee, 2010: 35). This leaves an incredible amount of power in the hands of just a few members of the elite. Their intentions for securitizing an environmental issue may not always be pure. Because securitizing issues often allows states to take advantage of the lack of democratic processes, political elites may take advantage of this in order to achieve goals other than what is being securitized. How do these elites frame environmental issues as security threats? This is a different approach to that of securitizing military issues, as will be discussed below.

Securitizing the environment, or specifically water, is a unique process as it is an object and there is not always an identifiable enemy. Political elites are able to securitize the environment through describing resource provisions in existential ways. It is then important for them to link the resource in question with surrounding conflicts (Fishhelder, 2011: 13). This highlights the point that securitization is a speech act and that it requires a significant amount of framing. Elites manage to frame such issues through the use of the media; when it comes to environmental resources, they identify symbols which are used to detail resource dependence and the looming volatility if the scarcity were to worsen. Elites also make links between resource scarcity and issues of high politics; even if there are no direct links, the portrayal represents direct links. It is the jobs of the elites to create a real fear of political instability and human insecurity. This requires them to place environmental issues "beyond normal politics", which ultimately means placing them "beyond public debate" (Fishhelder, 2011: 14). Most securitization decisions are made on impulse and always seem to involve a willingness to sacrifice democratic procedures.

The Pros of Securitizing the Environment

One of the pros of securitizing the environment is that it puts environmental issues on the political agenda (Fourie & O'Manique, 2012: 249). There is evidence that when environmental issues are securitized, the state mobilizes power and policy makers more rapidly in order to find new ways in which to protect the environment. There is a foundational assumption, however, that the securitization of the environment will only succeed if elites link environmental issues with poverty, health, housing and security (Fishhelder, 2011: 16). Nevertheless, securitization of the environment brings about rapid action that aims to resolve the threat and can be extremely successful. In low-income countries the intervention of their own government in making environmental resources a security issue is sometimes the only way for the state to take note that its people are suffering. If securitization of environmental issues becomes as popular as the securitization of conflict, then one could see that the dominant system of abuse of the global environment is no longer sustainable and could be the catalyst for real change.

Securitization of the environment is not as straightforward as dealing with many other security threats. It entails "several peculiarities and does not follow the fixed format suggested by the Copernhagen School" (Trombetta, 2010). One of the difficulties/peculiarities has been summed up as follows: "One of the most striking features of the environmental sector is the existence of two different agendas: a scientific agenda and a political agenda" (Buzan *et al*., 1998: 71). The scientific agenda aims to prove (through scientific evidence) that an environmental issue is worthy of the high politics actions. The international community, more than ever before, is demanding scientific proof on matters of environmental security. This is not a bad thing, when one takes into account how many other issues have been securitized merely because they were politically manipulated for ulterior motives (Trombetta, 2010). This approach to environmental issues highlights the point that "some threats are more real than others, thanks to scientific proof. The only drawback of this approach is that it takes much longer. Acquiring scientific evidence is not a quick process and may delay actions which would result in the situation worsening. Another difficulty lies in the fact that environmental issues involve a multitude of actors" (Trombetta, 2010: 95). Not many other issues that are securitized involve a multitude of actors, when it comes to the environment; there are many discourses and power struggles that ensue. Nevertheless, it is the position of this thesis that there is great heuristic utility in the concomitant securitization of water because it could save thousands of lives, this is discussed further in Chapter 4.

Conclusion

Chapter 1 raises the question of whether Green Theories within IR provide an analytically useful alternative/addition to the conservative theories of realism and liberalism, specifically with regards to environmental issues. This chapter has highlighted the point that Green Theories can do so. It is through a drastic change in the way people see themselves within the natural world which could hinder environmental degradation.

Global environmental politics and theories are a relatively new field within IR. Many components of environmental politics have been merged to construct a grand theory that neatly outlines values and norms (Princen, 2008: 1). As one can see from this chapter, there has yet to emerge just one concise theory, but this is not surprising as there is such a diversity of perspectives on even the most foundational definitions of 'nature' and the 'environment'. The close yet simultaneously opposing links between anthropocentrism and ecocentrism (or biocentrism), the intertwined relationship of the local environment and the global environment make it impossible to promise that one grand Green Theory will emerge in the future. Green Theory is unlike any other IR theory because of this diverse nature of its components; however, as environmental degradation continues the many Green Theories are in constant use.

The beginnings of environmental awareness in the 1960s precipitated the emergence of the many different types of Green Theories. It was through the works of people such as Rachel Carson, the Club of Rome and various UN conferences that people were made aware that industrialisation and economic greed were having an adverse effect on their natural habitat. After this awareness took hold, divergent explanations of why the environment was suffering also emerged. These beliefs or approaches have been labelled Prometheanism and the Survivalist approach. Prometheanism contends that technology and human adaptability can put a halt to environmental depletion. The Survivalist approach believes that the growth of the human population is to blame for environmental degradation and believes that only through changing patterns of consumption can the planet return to being healthy. Both approaches borrow much from neo-Malthusianism and Cornucopianism, which were discussed in Chapter 2.

Traditional security threats are never going to be side-lined, but environmental security will continue to become more significant as the world continues to experience flood, droughts, natural disasters, desertification and many other environmental issues. This chapter has examined the subject of environmental security and the idea of 'securitizing' the environment.

It has examined the theory behind Securitization, involving both the sociological approach and the philosophical approach, which revealed that securitization is only possible if certain criteria are met and if the political elite are able to frame environmental issues successfully through discourse and use of the media. It has also studied the concepts of high and low politics and how they relate to issues of environmental securitization. Through analysing the notions of high and low politics, this chapter has highlighted the way that the environment straddles the blurred boundaries between high and low politics. It also showed how the presence of high politics within current international relations is still dominated by Realist Theory which remains a dominant paradigm when it comes to comprehending issues of security.

An outline of the pros and cons of securitizing the environment was also provided. Much information was available on the pitfalls of securitizing the environment, but on the other hand, not much was available on the pros of securitizing the environment. This signifies that many academics are sceptical about securitizing the environment, even if it might bring about greater awareness of the plight of the environment and the societies that benefit and survive from it. A small section of the chapter considered the reasons why it is increasingly challenging to securitize the environment. The characteristics of environmental issues such as the multitude of actors that are involved and the fact that scientific proof is often required for governments to take action make it a hard task to securitize environmental issues.

Green Theories provide a new, fresh approach to engaging with the environment. Through theories such as anthropocentrism and ecocentrism one can see that Green Theories do relate to environmental issues from an alternative perspective compared to that of the Realist and Liberal theories that still dominate IR. It is through Green Theories that people have to start questioning whether their needs are more important than those of animals or ecosystems. They provide a framework which give people and components of nature equal status. This may be the way forward. If people globally can change their reality by noticing that the environment is just as important as they are, then maybe the real “solutions” (which are holistic) can begin to be implemented. The Green Theory perspective is increasingly divergent from that of Realism and Liberalism. However, if Green Theories’ characteristics were incrementally consolidated with those of Realism and Liberalism, especially in terms of production, then the world would see improvements in terms of decreasing or eliminating environmental degradation.

The relationship between Securitization Theory and the environment is challenging, because not many can agree as to whether Securitization Theory should be utilised to address environmental issues. It is true that if issues of the environment are securitized, they would be solved more efficiently, but at what cost? Governments would become aware of environmental degradation and mobilise rapidly, yet in the process they would be ignoring democratic processes and might be motivated by ulterior motives which harm the environment further. High politics and its involvement in environmental security could result in neglecting human rights, yet it may save a particular resource from depletion.

Chapter 4: The Conflict in Darfur and its Links to Water Scarcity

Introduction

> Water, like religion and ideology, has the power to move millions of people. Since the very birth of human civilisation, people have moved to settle close to it. People move when there is too little of it. People move when there is too much of it. People journey down it. People write, sing and dance about it. People fight over it. And all people, everywhere and every day, need it.
>
> -Mikhail Gorbachev

So far this thesis has presented the main opinions on the topic of water scarcity and conflict; it has studied at length all the elements which make up such a wide-ranging topic. Chapter 2 highlighted the foundations of the topic and fully explained several elements such as types of scarcity and types of conflict. These are all elements which feature within this final chapter and the analysis of the Darfur conflict. Chapter 3 provided the theoretical underpinnings of this thesis; they allow for a deeper comprehension of the conflict in Darfur and the normative assumptions of what could have been different. Chapter 4 provides a background to the conflict in Darfur and a thorough analysis of all the role players in the conflict. It is the intention to apply ideas developed in Chapters 2 and 3 to the case of Darfur. This gives different perspectives on the conflict while also highlighting the real relationship between water scarcity and conflict.

Ethnic clashes in Sudan between the Arab population and Black African population date back several decades. These two populations have long been competing over scarce water and other natural resources. In Darfur, which is located in the western region of the Sudan, the conflict between these two groups intensified in 2003, when two African groups from Darfur rebelled against the Sudanese government. The government had just granted concessions to the Sudan People's Liberation Movement (SPLM); this led to these two groups demanding "inclusion in a new power-sharing arrangement between them and the government" (Du Plooy, 2005: 1; Leach, 2013: 1). The Sudanese government responded to this rebellion by training and arming Arab militias, which were known as the Janjaweed. The Janjaweed were allegedly sponsored and supported by the Sudanese armed forces. The Janjaweed rode into villages in Darfur and executed thousands of people. They were responsible for murdering,

raping and disfiguring thousands, which led many people from Darfur to flee to neighbouring countries such as Chad. This conflict has taken approximately 50 000 lives and forced 1.2 million people to become refugees (Bassil, 2013: 3).

This chapter asks whether the conflict is a manifestation of tensions that have been present since the partitioning of Africa in the 1880s. It looks at what other elements, other than ethnic tensions, were at play in the conflict in Darfur. By examining why these groups were pushed to take violent actions against one another, one can decipher the nature of the conflict and what elements catalysed the conflict. The events which led to these groups into conflict are important and are analysed in this chapter. These "events" are linked to ethnic and religious clashes, the biased policies of the Sudanese government and competition over scarce resources such as water (Ye'or, 2002: 204). These are the elements that this chapter examines. It is through studying such elements that this chapter is able to provide an answer to the question that was posed in Chapter 1: Is there evidence that water scarcity in particular can be associated with armed conflicts in diverse ethnic communities in Africa, specifically in the Sudanese province of Darfur?

The chapter explores elements such as ethnic and religious divisions, exclusionary governmental policies and tensions over water sources. The region of Darfur is focused on more than the situation in the south. Firstly, the chapter outlines the background of the conflict, as well as study what the conflict entailed. Secondly, the various elements that led to the conflict are explored through studying the "role of ethnicity, together with the environment and actors" (Du Plooy, 2005: 1). Thirdly, the chapter assesses whether "high politics" was involved in this environmental conflict and whether the involvement of the international community can be seen as the securitization of the environment.

Sudan's Political Background

Britain and Egypt took control of Sudan in 1989. They did not, however, take control of Darfur, as it was ruled independently by a sultan. Britain took charge of southern Sudan and Egypt of northern Sudan. This turned out to be a flawed decision, as it emphasised the differences between the two regions. Egypt promoted and embraced Islamic rules and values in the predominantly Arab north, while Britain advanced the cause of Christianity and the use of English in the south. Britain eventually took over control of Darfur in 1916. It was only after the end of the Second World War in 1945 that both Egypt and Britain considered giving Sudan complete independence. They prepared for this step through "uniting" Sudan's range

of communities into one state. They made Khartoum, a city in the north, the capital and chose wealthy northern Arab men to run the government. This was moment when the years of Darfur and the south not being included in local politics began. Independence was eventually granted in 1956; however, it was mired in instability as building a stable government proved almost impossible (Levy, 2009: 16; Sharkey, 2003: 4-5). Sudan endured several coups d'état, which will be briefly outlined below.

In 1958 General Ibrahim Abboud led a coup d'état and overthrew the government. Abboud's government, however, proved to be just as instable as its predecessor and lasted only until 1964. Abboud and his military government were overthrown and replaced with a civilian government. Not five years later, in 1969, the civilian government was also overthrown and replaced with military rule led by Colonel Jaafar Nimeiri. The Nimeiri-led government remained in place for 16 years. The next coup was led by General Omar Hassan Ahmad al-Bashir and the extremist Islamic Front (NIF) in 1989. None of these governments paid any attention to the issues of Darfur. With a lack of rich resources or minerals, Darfur was not important to any of these governments (Tutlam, 2013: 47-54; Levy, 2009: 16).

The administrative structure of Sudan and more specifically Darfur provide a new perspective on why the conflict escalated in 2003. Under colonial rule Sudan was divided into provinces. After 1916 Darfur was further divided into districts: el Fashir, Kutum, Nyala, Um Kaddada, Zalingei and Geneina. Darfur, much like all the other provinces, was administered by military leaders. This ensured that there was a Governor-General in Khartoum who was assisted by regional governors. El-Fashir was the seat of the regional governor for Darfur. A district commissioner was assigned to the remaining districts. At a later date the military cadre were replaced by civil administrators; however, the territorial divisions and responsibilities remained the same under colonial rule. When independence was granted, extreme instability ensued. The continuous changes of government, administrative boundaries and titles at local and regional levels proved to be destructive to stability. These changes are closely linked to the disturbances that followed in Darfur (Abdul-Kalil, Mohammed & Yousuf, 2007: 56).

It is important to note here that even though the majority of victims in the conflict in Sudan and Darfur have been non-Arab-speaking black Africans, there have also been Arab victims, and Arab communities that strongly disagreed with the violent policy of Arabization. Extreme Arabization policies began when Abboud was in power and as each successive Arab government came to power, Arabization intensified. In 1983 Khartoum passed the "September laws", which legalised strict Islamic law across Sudan. Islamic extremist groups

were constantly being formed in the 1980s, all which had increasing influence over the government and the policies that were approved. Khartoum became the hot spot for the radical Islamic community and even became the home to Osama bin Laden from 1991-1996. Peaceful Islamic governments around Sudan all cut Sudan off and it became a pariah within Africa and the world (Murdico, 2004: 33; Levy, 2009: 18).

Background to the Conflict in Darfur

The Sudanese government has been marginalising black Africans in Darfur economically and politically for decades. This has led to extreme underdevelopment in Darfur, exacerbated by the fact that the government was sponsoring and arming "militias from Darfur's Arab nomadic tribes" (Du Plooy, 2005: 2). The militias would attack the black African farming communities. This highlights the power of the government; it was capable of manipulating the ethnic divisions between the Africans and the Arabs, even when the population of Darfur is mostly Muslim. Through pitting these different ethnic groups against one another, the government has been able to act out its own bias against the black African population in Darfur, inciting a hatred which did not exist before its rule. This has led to hatred and competition over every possible resource (Olsen & van Beek, 2015: 72; International Crisis Group, n.d.).

The violence started with two allied rebel groups active in Darfur at the time. These rebel groups were the Justice and Equality Movement (JEM) and the Sudan Liberation Army (SLA). In 2003 JEM and SLA attacked several government military bases and facilities. Much like the rest of the conflicts in Sudan, the conflict in Darfur was caused by the marginalised ethnic groups turning against their government, which was clearly discriminating against them, and attempting to gain back some power (Bartrop & Jacobs, 2014: 695). One major event that could be seen as a catalyst for the first outbreak of violence was the "peace process between the government and the country's main rebel group in the South of Sudan, the SPLM" (Du Plooy, 2005: 3). This event angered the groups in Darfur because they knew that they would have little to no power if there was a concrete agreement between the South and the North. The JEM and SLA had successfully conducted many government attacks in the early months of 2003; however, the government did retaliate. A campaign by the government to suppress the insurgency involved the Janjaweed militias. Khartoum aided the Janjaweed financially and militarily; they attacked any civilians who were perceived to be part of the insurgency or merely inactive supporters of it (Dagne, 2010: 22).

Each successive government that ran Sudan used the Janjaweed as military weapons to suppress any insurgencies and the black Sudanese population. They were "a counter-insurgency proxy force which attacked civilians", while on many levels tried to cover up the government's true involvement (Du Plooy, 2005: 3). The Janjaweed are estimated to be a group of 20,000 Arabic camel-herders from the North. It is through the Janjaweed and the government that Darfur has experienced increasingly high amounts of displacement of people, "indiscriminate killings, looting and mass rape" (Hoffmann-Holland, 2010: 130; Tubiana, 2007: 69). These attacks are part of an attempt by the government to eradicate communities that are suspected of supporting and harbouring rebels in Darfur. The attacks, however, only occur on black African communities; Arab communities are ignored. It is clear today that the relationship that once existed between the African and Arab communities is now destroyed beyond repair because of the government and their use of the Janjaweed (Berhanu, 2011: 190).

It is important to note here that there has never been any actual evidence that the SPLA and the Darfur rebels are in fact linked. This is not to say that the SPLA does not see that a rebellion helps their cause. They see that a rebellion pressures the government, which might yield to accepting a more promising peace agreement. Therefore, it is extremely likely that the SPLA encouraged and supported Darfur rebels to cause an insurgency (Arnold & LeRiche, 2013: 200). The Sudanese government, however, sees these two groups as one and the same. This supports the conclusion that it is impossible to distinguish the Darfur rebellion from the Naivashaa negotiations which were being run by the Regional Intergovernmental Authority on Development (IGAD). On 8 April 2004 the Khartoum government and the Darfur insurgents signed a ceasefire in N'djamena. This was an agreement overseen by the government of Chad, the African Union (AU) and the United Nations (UN). The negotiations did not proceed smoothly, as they were handled badly by the parties involved and in 2005 people were still waiting for the ceasefire to take effect (UNMIS, 2012).

The agreement can be seen as a failure since the Khartoum government refused to reign in the Janjaweed; this was a key point in the agreement. Even though the agreement is still seen as a failure, it did offer a helpful framework that could end tension and hatred on the ground and aid in the delivery of humanitarian aid to the refugees and displaced people; it promised to build a trustworthy, internationally-run forum to eradicate the roots of the insurgency. The implementation of the agreement would focus solely on the refugees first, as their plight was the most severe (Ciment, 2015: 299). An assessment of whether the agreement has been

successful to this day will be offered later in the chapter. The causes of the conflict will now be examined.

Causes of the Conflict

There has been a tradition in Sudan of different ethnic groups co-existing peacefully. This all changed when the government in Khartoum introduced divisive policies in the 1980s. It was through these policies that the government was able to "manipulate ethnicity diversity" (Sorenson, 2016: 21). This is when tensions began to grow and conflict resulted. The policies favoured the interests of central, elite politicians and their provincial friends. The conflict is the result of 20 years of these divisive policies carried through by successive governments; it is through these policies that the government was capable of retaining power and causing the conflict. But there are many other variables involved when it comes to the relationship between water scarcity and conflict; this section will showcase all the elements involved in the conflict in Darfur.

The Environment and Ethnicity

It is hard to notice any other variables in the conflict in Darfur other than ethnic tensions; however, there are elements that are not purely ethnically motivated. It is believed that this conflict also has roots in the fact that there has been competition over water and land in Darfur since the 1970s. The competition has been exacerbated by the intense desertification in the North of Sudan and the "drought that has affected Darfur on-and-off since the 1970s" (Du Plooy, 2005: 4; Matthew, Brown & Jensen, 2009: 9). Groups which were affected by the desertification in the North moved incrementally to more fertile land. Firstly, the geographical context of Darfur will be examined.

Darfur is situated in the Sahelian region in western Darfur. The population is 8.5 million, with the majority residing mostly in southern Darfur because of the extremely dry conditions in the north. "Isohyets[10] for the region decrease from 800mm in the south to 50mm or less in the north" (Bromwich, 2015: 378). The isohyets, are however, interrupted by the presence of the Jebel Marra massif, which is located in the centre of the region. The Jebel Marra massif with an elevation of 3088 m acts as a naturally occurring water tower. Darfur has a unique drainage pattern which consists of ephemeral rivers or "wadis" which flow out of the Jebel Marra to the Central African Republic, the Chari Basin in Chad and to the Nile in the northern area. In

[10] Isohyets are the lines on maps which join areas of equal rainfall. All areas along an isohyet experience the same quantity of rainfall (Reddy, 2005: 127).

many instances the wadis cannot reach big water courses and in these cases the water either drains into aquifers or merely evaporates. The Sahel lies between the extremely arid Sahara Desert in the North and the flourishing, vegetation-packed Sub-Saharan Africa to the South. This helps one to understand why the Sahel has such inconsistent rainfall patterns as it was caught between the dry North and the wet South (Bromwich, 2015: 378).

Figure 4.1: Geographic Map of Sudan

This map shows where the Sahel is in relation to Darfur. It also shows the Jebel Marra mountain range, indicated as “Marra Mtns” on the map. One can also see by looking at the key at the bottom left of the map that Darfur is an extremely dry area, with no signs of green anywhere near it.

The variability of rainfall in Darfur has been explained through its geographical location and it also attributed to climate change; however, what has yet to be examined is the groundwater sources in Darfur. Northern Darfur consists largely of Nubian sandstone, which makes for large aquifers of fossil water. In the south there is the Baggara Basin, which collects water from the south-flowing wadis. One may now wonder why Darfur had so many issues with water scarcity; however, these underground sources of water were so far away from populated areas that they have not been turned into useable sources for the people. There are some much

smaller underground aquifers, which are key to the water supply of El Fashir and El Geneina. The Jebel Marra consists of volcanic rock; however, in the flatter foothills, which are well populated, there are rocks which are fractured allowing for potentially good boreholes. Nevertheless, what one can extract from such boreholes relies heavily on "their being connected to a network of fractures with sufficient recharge and storage capacity" (Bromwich, 2015: 378). Unfortunately, this results in the boreholes not producing much water at all.

The most giving wells are those which are found along the wadis. They are "water-rich alluvial deposits" which are found close to the many wadis which run off the Jebel Marra. These particular aquifers are crucial for their role in feeding the underlying aquifers within the fractured rocks which surround them. Therefore, it is easy to see that groundwater sources (and rainfall water) are more plentiful when in close quarters to wadis. These facts on groundwater variability are important as they explain the spatial variability within the Darfur region, which consists of water-rich wadis which are used for crops and villages, and the "drier interfluvial rangelands used less intensively for crops and more for migratory livestock production", which support a lower population density (Bromwich, 2015: 378).

The 2003 conflict, even though not solely caused by lack of water, had a major impact on the water sector in Darfur. The greatest impact was found when the demand for water in the city centre rapidly increased. The city of Nyala originally housed an estimated 400 000 people, but this figure tripled during the conflict. Groundwater in Nyala was constantly in short supply as the city was on top of basement complex geology with no fractures. During the drier months, Nyala experienced extreme shortages of water and often had to deal with empty wells. A report by the UNEP stated that 800,000 internally displaced people were at "risk of groundwater depletion" (Bromwich, 2015: 381-382).

More than resulting in depleted water sources, the conflict also ensured that secure-water collection areas became targets in warfare. Collaboration between the different tribes or ethnic groups had long ended and a consequence of this was that pastoralists and displaced people were unable to access water points. The IDPs (internally displaced persons) were not safe anywhere other than inside their camps; in all other areas it was the African pastoralists who were not safe to travel to water sources. The only way in which these groups were able to survive was through organisations such as UNICEF. UNICEF worked tirelessly to provide water, sanitation and hygiene (WASH) services to more than 2 million people during the conflict and during times of extreme restrictions by the Khartoum government. This UNICEF

action saved hundreds of thousands of lives from death by dehydration. Nevertheless, there was one difficulty which concerned UNICEF:

> Humanitarian work is rights-based and draws on Sphere standards for humanitarian programming, under which the volume of water to be provided is widely interpreted as being 15 litres per person per day. Anecdotal reports indicate that this may be more than rural Darfurians are accustomed to using, leading to some distortions in aid provision and a disincentivization of return (Bromwich, 2015: 382).

This was a great concern, as when organisations such as UNICEF have to withdraw support to areas like Darfur, this dependence can become a major issue in peace talks and negotiations. The difficulty for all organisations which bolster the Darfurian's water sector during the conflict is how to invoke higher expectations of access to water, while also giving communities the ability to live within their means during drier seasons when scarcity is common (Bromwich, 2015: 382).

Darfur is considered to have a green belt, which means groups from the North moved to Darfur. The presence of these nomadic groups in Darfur caused tensions with the "already existing farmers in the area, whose herds grazed on the land" and drank the water (Du Plooy, 2005: 4; Matthew *et al*., 2009: 9). This led to incremental degradation of the environment and an absence of development aid from Khartoum. The combination of environmental degradation and lack of development aid led to Darfur becoming completely impoverished and ignored. Ever since independence in 1956, Khartoum has continuously shifted borders in order to ensure that it gains the most economically, which further deprived Darfur of natural resources. When rich oil-fields were discovered in the 1970s, this became a serious issue. Copper-mining also had a major impact on where borders were moved to. In Darfur and the South, issues of oil, copper and water "only built upon the pre-existing problems of identity" (Leach, 2011: 159).

There are many elements to the conflict in Darfur; however, the United Nations Environmental Programme (UNEP) stated that, through studying the conflict over many years, it found that water scarcity, climate variability and rapid loss of fertile land play an important role in the conflict (Matthew *et al*., 2009: 9). It is this lack of water and fertile land which has been exacerbated by the arrival of environmentally displaced people. Other environmental contributors to the violence are deforestation and overgrazing, which have led to a loss in vegetation cover, which has in turn led to rapid decrease in topsoil quality and quantity. The declining annual rainfall in Darfur has meant that "sixteen of the twenty driest years on record have occurred since 1972"; this has had a major impact on conflict between

groups trying to survive (Matthew *et al*., 2009: 9). In the Darfur region more than 75 per cent of the population relies on environmental resources for survival.

The UN Environmental Programme reported that there was scientific evidence that "long-term regional climate change" was affecting Sudan (UNEP, 2011a). This climate change manifests through a drastic decline in rainfall, specifically in Darfur. The rate of climate change which was recorded in the northern region of Darfur was unprecedented; the UNEP report noted that the conflict which broke out in 2003 had definite links to this unprecedented rate of climate change. On top of the high rate of climate change, years of conflict and ethnic tensions have ensured that environmental services have become completely obsolete. It is the conclusion of the UNEP that the move away from conflict would only be successful if investments in environmental management occurred alongside peace talks (UNEP, 2011a). Robin Bovey, UNEP's Sudan Programme Manager, stated that in order "to support stability in Darfur, major investment is needed to improve surface water management – for example the construction of rainwater harvesting infrastructure and small dams" (UNEP, 2011b).

There is a danger in typecasting Darfur as a scarcity-related conflict, as often this becomes the only issue that audiences focus on. They see the one variable, water scarcity, and ignore the multitude of other variables that prevail (Bromwich, 2015: 376). When the international community eventually came to know of the true atrocities which were taking place in Darfur, there was a struggle between labelling it an ecological crisis or a political crisis. At the time of the conflict in Darfur, the international audience was increasingly interested in issues of the global environment and were also wrapped up in a culture of political activism (many people in Western countries only came to know of the conflict from U2 music videos and Bono's heartfelt plea for donations to Darfur). Influenced by both political activism and global environmental issues, this audience found it difficult to make sense of the conflict and find something specific to blame. This highlighted the zero-sum game: environmental narratives of the conflict were said to be distractions from the political background, and political narratives in turn hid the need for detailed analyses of manipulation by high-ranking political elite (Bromwich, 2015: 375).

Much like a time before Africa had colonial borders imposed on it, in Darfur there are still numerous ethnic groups that live in both Darfur and Chad. Historically, trade between these two countries led to a great deal of migration across this porous border. While the populations of both countries remain predominantly Arab, there are still great ethnic, linguistic and cultural divisions in the area. There are two methods to depict the ethnicity of Darfur's

population – through language and through occupation. The indigenous population (non-Arab) do not possess Arabic as a lingua franca and migrated to the Darfur region from the Lake Chad region many centuries ago. There are also those which claim Arab descent and they speak Arabic. The other distinction is that between pastoralists and agriculturalists (Tidwell & Zellen, 2015: 184).

Many see that the distinction between pastoralist and agriculturalist as blurred and containing great amounts of overlap; however, there are also noteworthy nuanced differences. Darfur's pastoralists are predominantly of Arabic descent and they preside over the northern belt. This area is incredibly arid and is also inhabited by semi-nomadic and nomadic camel herders, which include Arab ethnic communities such as the Rizeigat, Irayqat, Mahariya, Beni Hussein and the African Zaghawa (Brosche & Rothbart, 2012: 51; Tidwell & Zellen, 2015: 184-185). The eastern and southern regions of Darfur are also inhabited by Arabic cattle herders: the southern Rizeigat (Baggara), Beni Halba and the Habbaniya. It is the pastoralists from the North (the Rizeigat, Mahariya, Zaghawa and others) which relocate to the South in search of water in the dry months. This is when tensions were the highest and when conflict usually ensued (Kalayjian & Paloutzian, 2009: 194; Brosche & Rothbart, 2012: 51).

In the 1980s the Sahel region experienced an on-and-off drought which severely increased desertification. The droughts also caused "the southern migration of the Arab pastoralists", which in turn caused water disputes with the African agricultural groups. The disputes were usually sparked when the cattle and camels of the pastoralists would trample and damage the fields of the non-Arab farmers who lived in the southern region of Darfur (Jones, 2014: 29; Cordell & Wolff, 2009: 109). The resultant tensions would often be resolved through the leadership of traditional leaders from both sides. Negotiations between the traditional leaders were successful when compensation for ruined crops and depleted water sources was paid. Negotiations also entail a detailed agreement on a schedule and route map for forthcoming dry seasons (Du Plooy, 2005: 5).

There are an estimated 36 dominant tribes found in Darfur, but this figure is difficult to pinpoint exactly; others believe that the number is far higher because of sub-divisions of tribes and the smaller clans that make up such tribes (Kalayjian & Paloutzian, 2009: 194). The population, however, is usually divided into two important blocs, non-Arabs and Arabs; non-Arabs are locally referred to as either "Zurga" or "blacks". It is important to note that after centuries of inter-marriage and coexistence the distinction between Arabs and non-Arabs should not be made on the basis skin colour "as members of both groups are dark-skinned"

(Du Plooy, 2005: 5). The Zaghawa are the only non-Arab, African group that herds camels. All other native African groups survive off animal husbandry and subsistence farming (Brosche & Rothbart, 2012: 51-52). The insurgents, or rebels, believe that the root cause of the conflict is the Arabization movement of consecutive governments. The rebels are not Arabic and when they fled to Khartoum after the severe droughts in the 1980s, they were perceived as a major threat by the Arab-led government and considered as second-class citizens.

When trying to understand the conflict, it is important to take into account the concept of "Dar", or tribal homeland. Indigenous groups which settled in Sudan centuries ago each "settled in an area and they each had their own Dar" (Ray, 2009: 48). The dominant tribes decided the settlement of other groups and gave themselves administrative status. This was destroyed when the Khartoum government altered this tradition and started to disrupt this peaceful coexistence. The increased escalation of violence can also be attributed to the lack of development and governance within Darfur. The government is believed to have deliberately weakened Darfur through making the African administration look ineffective to the people of Darfur; meanwhile Khartoum was withholding development. It was the African administration which was able to quell disputes over water and grazing land (Ray, 2009: 48).

Over the last 30 years Darfur has experienced several conflicts over resources between and amongst Arab and non-Arab groups; these conflicts have been exacerbated because of the lack of development initiatives by the Khartoum government (Ray, 2009: 97). In the past, traditional leaders were able to dissipate tensions and keep any conflicts short; however, in 2003 a culmination of policies of division, resource depletion and lack of development led to a different type of conflict altogether.

> With the rapid onset of environmental degradation, coupled with the government's manipulation of the ethnic fabric of the region, an alarming shift in the nature of conflict became evident, with ethnicity being a main mobilising factor (Du Plooy, 2005: 6)

There is a significant difference between the two kinds of conflicts which were resolved by traditional leaders. Such conflicts contained low-level violence and were sporadic in nature. When the divisive government policies came into effect in the late 1980s, things changed for the worse. The violence escalated and was primarily ethnically-based; often external groups would involve themselves in order to show support for one side over the other. It was in the period from 1987 to 1989 that people who were violent identified themselves as either 'non-Arab' or 'Arab' during the conflict between the Arabs and the Fur (an African tribe). The

government's policies were first seen in the civil war of the 1980s between the government and the SPLA (Lobban, 2010: 94-95).

Cleverly the government noted that through arming the southern militias to fight the SPLA, they were strengthening their own military position in the South, which was instrumental in the government taking control of the oil fields in that region (Wennmann, 2010: 38). The government was able to turn several groups of south Sudanese against the SPLA through manipulating ethnic, political and socio-economic divisions. The government was capable of doing so because they could afford to support such groups financially and militarily. This "divide and conquer" style policy led to decades of violence amongst the people of the South, and the consequences can still be witnessed today. It is the same method that was used in Darfur in 2003; the Khartoum government armed the Arab tribes in Darfur, who used violence to quell the insurgency. It was a successful operation for the government as it destabilised the population base of the SPLA insurgency, which itself contained the threat of the insurgency spreading to the central and northern regions of Sudan. The military also relied heavily on tribal forces during its fight with the SPLA in the 1980s (Leach, 2012: 120). The rebel forces in Darfur in 2003 had no support militarily or financially except for the minimal amount of arms they would get from their neighbouring state, Chad (Black & Williams, 2010: 58).

Political leaders in Darfur also took advantage of the ongoing conflict. Both Arab and non-Arab leaders grabbed at the opportunity to advance themselves economically, politically and socially when the conflict broke out. They did so through launching many manoeuvres which exploited not only their own people, but mostly exploited the "government's proxy war strategy" within Darfur. These leaders had become increasingly influenced by Chad and how Chadian politicians openly used conflicts to catapult their own careers. Conflicts in Chad resulted in many Chadian exiles using Darfur as a "training ground for ethnic militias" (Black & Williams, 2010: 58; Du Plooy, 2005: 6). The exiles would go onto take power in Chad and become elite members of the new governments. This is true for both President Hussein Habre and his successor, President Idriss Deby (Amnesty International, 1996).

The Zaghawa, who make up a large portion of JEM, put immense pressure on the government. The Zaghawa have never been clear as to whether they were participating in the rebellion of 2003 in order to redress local grievances or in order to eventually take control of the government. They are a small, economically-challenged community; however, they are trans-national traders who were the most organised group in Darfur. JEM was founded after

the SLA in 2003, but were more organised. The JEM had a robust political agenda, while the SLA had a stronger military force. This made them well-balanced allies in the attacks against the government in 2003 (Human Rights Watch, 2004: 12; Bartrop & Jacobs, 2014: 695).

The conflict in Darfur did not remain within the borders of Sudan, as Janjaweed attacks were also taking place in Chad. In 2004 attacks were being reported to be well inside Chad borders and were leading Chadian leaders to plead with Khartoum for them to halt Janjaweed attacks on the people of Chad. This did not help in stopping the attacks, as the government believed many Chadians were supporters of JEM and SLA (Human Rights Watch, 2004a: 40). These attacks have also caused a great deal of instability in ethnic terms. When the conflict began in Darfur, ethnic tensions were ignited in Chad as well. Some Chadian ethnic groups "share blood ties with Darfurians, and who previously had a working relationship with the people of Chad" (Du Plooy, 2005: 7). With the conflict breaking out, skirmishes were taking place on the south-eastern borders because villages found on the south-eastern borders were ethnically divided. Along with Janjaweed attacks, these villages were influenced by the hatred they could see amongst the Darfurians (Human Rights Watch, 2004a: 40).

The Janjaweed

In order to fully comprehend the Janjaweed, it is important to study migration within the region and how that related to Sudan and specifically Darfur. The Janjaweed originated from the "Abala" camel-herding, nomadic tribes who had migrated to Darfur from West Africa, Chad and north Darfur in the 1970s (Haggar, 2007: 113). Long before the conflict Sudan and more specifically Darfur had a long past of peacefully accepting settlers from all over the region. There were far more Western Africans than Chadians, who proved to be dangerous as they had many ties to armed groups who had fought for power in Chad. They were not successful and migrated to Darfur and soon began to look for ways to gain power in Darfur. They were more than Chadian militias looking for power; they also set up bases in Darfur during their many attempts to take over the Chadian government. This strongly influenced the way that Darfurians saw their own government and the methods through which to gain power (Haggar, 2007: 119-120). These migrants, along with others from Libya, were all prone to use violence and became extremists who were the perfect subjects for Khartoum to recruit for the Janjaweed.

The Janjaweed built on a "tradition called 'Hambati' or 'social bandits' taken from among the Arab tribes" (Jurdi, 2016: 86; Wusu, 2006: 50). These 'Hambati' were admired for being thieves and vagabonds who had been exiled from their communities because they had gone

against entrenched traditions. They were nevertheless envied for their freedom and bravery. Other members of the Janjaweed were professional criminals, some whom had been released from prison so that they could join the Janjaweed. Through using the Janjaweed, the government was able to further exacerbate ethnic tensions and create a raider culture, all the while turning a blind eye to the mass rapes and lootings which the Janjaweed actively engaged in (Wusu, 2006: 50).

The Janjaweed originated when local Darfurian politics met with "the military mobilization of Chadian Arabs under Libyan sponsorship during the 1970s and 1980s" (Haggar, 2007: 113-114). The Darfur-specific Janjaweed only became active in 2001 and 2003, when Arab leaders came to an agreement. This agreement involved both Chadian migrants and Sudanese residents; both these groups had come under the supervision of both regional authorities and the central government. This supervision led to the expansion of the conflict into southern and eastern Darfur in 2004, when more and more Arab men joined the Janjaweed movement. The Janjaweed are considered to be members of the Juhayna group of Sahelian and Saharan Arabs, whose ideology is a Arab nationalist ideology. This is the key to explaining why the Janjaweed were able to secure support from successive Sudanese governments. Haggar (2007: 114) writes:

> The justification given for this support is the belief, held by members of Sudan's ruling elite, that the Arab tribes' involvement in controlling Darfur constitutes the only guarantee that Darfur will remain part of the Republic of the Sudan … many suspect that the overall plan is to create an "Arab belt" across all of western Sudan, displacing the non-Arab population.

The role of the Janjaweed is to ensure a strong Arab presence in Darfur, at least, and at most, to obliterate the demography of Darfur. As one can see through UN mission reports and Human Rights Watch reports, the results of the Janjaweed assaults look to be more in line with obliterating the demography (Haggar, 2007: 114).

The government's "scorched earth strategy" aimed at eradicating any and all supporters of JEM and SLA was acted upon by the Janjaweed. In the Janjaweeds' attempts to suppress all forms of dissent they commit increasing numbers of human rights violations. Members of the Janjaweed would either be armed with G-3 assault rifles or AK-47s and they would ride into villages on camels or horses, all provided by the government (Roach, 2009: 210). It was reported that when the conflict first began each member was paid $100, but as the conflict continued they would gain compensation from looting. This sent a message to surrounding countries such as Central African Republic and Chad that Khartoum supported robbery and

looting, therefore attracting many criminals from these countries to enter Darfur and join in the pillaging and terrorising. Information on the Janjaweed and its control and command structure is still challenging to come by, but it is known that there are three divisions which were developed by the government: the Hamina (traditional leaders), the Border Guard and the Strike Force (Jurdi, 2016: 86).

It is important to take note that much of the government forces and armies were often seen as being part of the Janjaweed. The original Janjaweed "have become part of a wider phenomenon of 'Janjaweedism' in Darfur, which includes armed groups that were not previously identified as Janjaweed" (Haggar, 2007: 113). In total there are six pro-Khartoum groups in Darfur that are somehow linked with the Janjaweed: the nomad protection forces, the "Peace Forces (Quwat al Salaam)", the Um Kwak attacker forces, the Um Bakha irregular forces, the Popular Police Force and the Popular Defence Force (Haggar, 2007: 113; Gebrewold, 2016: 169). This list does not include the official police force or the national army, but these institutions still have strong relations with the Janjaweed.

Actions of the Janjaweed caused a dire humanitarian crisis in Darfur, with more than 110,000 people of the Zaghawa and Masaalit tribes fleeing into neighbouring countries to seek refuge. In addition, more than 750,000 people, predominantly Fur, were internally displaced in Darfur (Chacko, 2004: 1389; Tubiana, 2007: 68). The internally displaced were at extreme risk of being victims to attacks which would involve abductions, rape, assault and murder. Further encouraged by their freedom to loot and rape, the Janjaweed started practising cross-border attacks into Chad, where they knew many Darfurians had fled to; this only worsened the conflict within the region (Humans Rights Watch, 2004b). As one can see, "the government's alleged recruiting arming and otherwise backing of bands of Janjaweed militia has built on and drastically escalated ethnic polarisation in Darfur" (de Waal, 2007: 7; Du Plooy, 2005: 7).

Ironically, urban migration was the most popular form of survival for the Zaghawa, Fur and Masaalit during the conflict. For these IDPs, their entire livelihoods change. The Janjaweed still restricted the movement of such IDPs, ensuring that they could not make money as they were not able to migrate for work, travel for trading or move their livestock to fertile areas for grazing and water. The large numbers of Zaghawa, Fur and Masaalit who did migrate to urban centres either joined other migrant networks or chose to live in IDP camps (set up and run by humanitarian organisations). In late 2006 it was recorded that IDPs made up 4.1 million Darfurians, of whom 2.06 million joined migrant networks and 2.10 million lived in IDP camps (Young & Jacobsen, 2013: 130).

Given the severity of the Janjaweed attacks, their expansion across Darfur and into Chad as well as their relationship with official government institutions, it seems like disarming the Janjaweed and finding peace would be impossible. What is important to take into consideration is the involvement of regional politics, the migration of armed Chadian militias, and how the Chadian civil war influenced destabilisation in Sudan. The adoption and spread of Janjaweedism after the rebellion in 2003, ensured that the conflict continued. Khartoum's attempts at militarizing both Arab and non-Arab groups in all areas of Darfur led to a situation whereby native administration became indistinguishable from militia command. Even tribal organisation was seen as one in the same as military organisation. This phenomenon of blurred groups and blurred intentions made peace talks nearly impossible and definitely played a role in prolonging the conflict (Haggar, 2007: 139).

The Politics and Internal Conflicts in the Insurgent Groups

The Insurgent Groups

African ethnic groups such as the Masaalit, Fur and Zaghawa all predominantly form the rebels groups. These communities are the main targets of Janjaweed attacks. The UN reports that approximately one million people have fled their homes since the conflict started in mid-2003. The Arab-centred migration into black African Fur, Masaalit and Zaghawa pastoral land, and the over-use of water sources led to these groups taking up arms in order to defend themselves and their land. They were the groups which the government had neglected and did not care to defend, hence they were forced to defend themselves. In response to these black African communities taking up arms, the government increased financial support to Arab groups and the Janjaweed (Ryle, 2011: 139).

Both rebel groups, the SLA and JEM, claimed they formed in order to "redress decades of grievances over perceived political marginalisation, socio-economic neglect, and discrimination towards African Darfurians by successive federal governments in Khartoum" (Levy, 2009: 25). The SLA first emerged in February 2003, under the initial name of the Darfur Liberation Front (DLF). After the DLF took control of Gulu, it changed its name to the SLA. The SLA made many demands in the early months of its emergence, including a halt to tribal militia (Janjaweed) attacks, the socio-economic development for Darfur and a "power-sharing deal with the central government" (Stapleton, 2013: 130). The government responded by labelling the group as bandits and denied any opportunities to negotiate.

In retaliation, in April 2003 the SLA organised surprise attacks on El Fashir, the capital of north Darfur. The surprise attacks were a great success as they destroyed helicopters and Antonov aircraft, while looting arms depots and important fuel deposits (Hagan & Rymond-Richmond, 2009: 208). It was in this attack that the SLA kidnapped a Sudanese air force colonel and interviewed him on an Arab television news station, El Gezira. This had a major impact on letting the government know that the SLA were serious (Daly, 2010: 280). Immediately after the El Fashir attack the SLA went on to attack the second largest town in north Darfur, Mellit. Here the aim was to loot government stocks of arms and food. The government did not sit idly by as these attacks were taking place; they retaliated through firing black African governors and administrators in Darfur and started to build military strength.

In 2004 political talks began to take place; however, they were mired in confusion as the rebel groups did not know how to deal with international actors who wanted to be mediators. This confusion ultimately led to the rank and file halting all negotiations and rejecting the possible deal, while their delegations accepted the deal. This indecision and confusion were also caused by "serious infighting between the military and political wings of the two respective groups" (Du Plooy, 2005: 8). As the peace talks proceeded, one could see the serious rifts between the JEM and SLA, with the government cleverly using this to its own advantage. Noting that something had to change, the SLA attempted to fix issues through holding consultations between the military coordinator and its chairman. The JEM, on the other hand, handled issues in a much more authoritarian manner. The JEM dismissed all dissident commanders and political cadres who were suspected of being disloyal. Despite all the infighting within the SLA and JEM, the international community saw that they were the only real hope for the conflict in Darfur to end and therefore took their leadership seriously and attempted to help in all ways possible (Bartrop & Jacobs, 2014: 724).

The government's brutal counter-insurgency methods ensured that more young men joined groups such as JEM and SLA. This was confirmed by the lack of young men found in refugee camps or camps for the internally displaced. This highlights how the rebel groups were successful in recruiting young men in communities which were the most vulnerable to government and Janjaweed attacks. This resulted in the rebel groups focusing more attention on their diplomatic and political profile. Elite members of the SLA did so through conducting missions to Central African Republic, Uganda and East Africa in an attempt to gain logistical and diplomatic support for their cause. The JEM rebels, however, focused on attacking the Janjaweed instead of raising their political profile. One can see that there were major

differences in the ways in which these groups conducted themselves; however, they appeared to coordinate their attacks, which led to many onlookers to believe they would merge into one group (Crocker, Hampson & Aall, 2005: 180).

Both the SLA and JEM agree that the government and the way in which it is able to alter borders to suit itself disturbed the "traditional balance of power and peaceful coexistence between Darfur tribes" (Du Plooy, 2005: 9). They were also in agreement that Sudan needed to have democratic elections (de Waal, 2007: 194-195). They saw that Darfur's issues were founded in larger national issues and that a political solution was strongly linked to nation-wide problems of governance and power. This originally manifested itself in calls for proper representation of Darfur within the Khartoum central government. Both the SLA and JEM strongly pushed for further investment in their region and greater access to national resources. The SLA was a secular group which strongly disagreed with the Islamic sharia law which had been imposed on Sudan. JEM did not take a firm stance on this topic and veered away from offering any opinion on sharia law. JEM stated that they would back any legal system which was democratically selected by the people of Sudan. Most of the differences between the SLA and JEM were superficial and could easily be worked out when peace talks started. Nevertheless, these differences could only be reconciled if the two groups knew that they had accomplished the biggest goal: shared power and a more fair central government (Stapleton, 2013: 130).

The Sudanese Government

Both the rebels and the government were under serious internal stress when political talks began in 2004. The government, however, continued their divisive policies which targeted only Darfur at the time. They were still dedicated to their "divide and conquer" methods of keeping the insurgency at bay. Another method the government used was undermining the ethnic alliances which had formed between tribes such as the Zaghawa, Fur and Masaalit, which were the groups which made up both the SLA and JEM. The government also launched a smear campaign which described the rebel groups as being the protagonists of the ethnic cleansing of the Arab race from Darfur. All the while they remained supporters of the Janjaweed and encouraged new attacks and assaults every day. In the government's attempts to alienate the Fur, Masaalit and Zaghawa from one another, it tried to reconcile the Masaalit and Fur with their Arab neighbours, all the while isolating the Zaghawa, whom the government saw as the real threat and initiators of the insurgency (Gebrewold, 2016: 170).

At the talks the government's attempts to precipitate infighting between the SLA and JEM became clearer. It is reported that the government openly exploited JEM-SLA differences at the talks, a move which met with moderate success. Several factional issues were also present within the government itself at these 2004 talks.

> In March 2004, the government arrested 10 middle-ranking army officers on suspicion of plotting a coup. These officers all stemmed from western Darfur and the neighbouring Kordofan region. A few days later, it detained the Islamist leader, Hassan al-Turabi, and 6 top figures in his dissident Islamist faction, the Popular Congress (PC), which the government accused of inciting regionalism and tribalism in Darfur. The PC consequently denied the charges and accused the government of manufacturing the coup allegation as a pretext to repress the PC and justify a military campaign against the people of Darfur. The detained officers were mostly air force pilots, and it had been suggested that they were arrested, in part, for refusing to bomb civilian targets in Darfur. Indiscriminate aerial bombings were apparently independently verified by observers as playing a key role in the government's military campaign in Darfur (Du Plooy, 2005: 10).

These events led the government to become divided when the time came for the talks in 2004. With a history of many coups, the government was extremely suspicious of other political groups within the army. The government ensured that coups were never started through using strict pre-emptive purges as well as recruiting only officers and other official who were known to be loyal supporters of the government (Mohammed, 2007: 199). It would have been considered suicide to plan a coup against the government; this therefore made it highly unlikely that the PC had done what the government was accusing them of. Nevertheless, the PC was not quiet about their disdain for the fact that the army had become politicised. They were the group within the government that called for democratic practices and an end to the oppressive regime. The alleged coup took up a great deal of time as the government felt the need to deal with the dissension amongst its own members and supporters. This did not help at all as a northern secessionist group formed in April 2004 which was comprised of members from the ruling party itself (Baltrop, 2011: 126; Jok, 2015: 48).

The main cause of fissures within the government had to do with the way in which they would be able to retain power after the peace talks were concluded, and how the agreement will be implemented. The divisions in the ruling elite came to light during these talks, yet it is important to note that they were not divided on issues of ideology, but rather on issues of control and who would maintain control if a peace deal was reached. Dealing with all these issues the government became tougher in their on-the-ground managing of the crisis in Darfur. The crisis was further catalysing the internal divisions within the government and definitely led to serious infighting. This infighting, however, could also be attributed to

government officials trying their best to position themselves so that they would be in powerful positions no matter the outcome of the Naivasha peace talks (Grunfeld & Vermeulen, 2014: 173-).

The Darfur Crisis and the International Community

It would be foolish to see the crisis in Darfur and the IGAD process as two separate entities, because they were certainly linked. The evidence of human rights abuses committed on the people of Darfur became more noticeable at the end of 2003. The international community that was involved with IGAD and seen as partners to the government became sceptical of their alliance with Khartoum. The international community stalled for awhile and became focused on how they could act against the abuses being perpetrated in Darfur at the time. This, however, gave the government time to "take advantage of the situation and pursue its military campaign" (Du Plooy, 2005: 12). The government further delayed international involvement by claiming that it was the SLA and JEM who had caused ceasefire talks to end in N'djamena; however, it was the government that had refused to show up. In causing confusion as to whether the rebels were to blame or the government, the international community halted its actions once again. The army was able to launch a brutal attack on JEM and SLA during this time, and they were also able to force their terms upon the rebel groups (Farazmand & Pinkowski, 2006: 973-974).

Khartoum did put on a good show for the international community during the IGAD process; they sent a great deal of political and logistical resources to Darfur in order to "help" with the conflict. Simultaneously, however, Khartoum was also reporting that the situation was not as bad as it seemed, all the while making sure the military was in place in Darfur. Nevertheless, the Darfur conflict only got worse and the government could no longer control what was seen by the international community or how they would respond. As the conflict in Darfur was exacerbated, the Sudan regime rapidly undermined its relationship with the international community and lost much of its diplomatic gains achieved at the IGAD conference. As is common with oppressive governments, Khartoum tried everything they could to ensure that the international community would not learn of the extent of the conflict in Darfur. They did so through establishing a Crisis Management Committee, which focused on deflecting international criticism of the government's actions in Darfur (Dullaghan, 2015; International Crisis Group, 2004: 15).

The Crisis Management Committee had the responsibility of monitoring and responding to international reactions to issues which were taking place in Darfur. The sole purpose of the Committee was to ensure that the government could put an end to "the internationalisation of the situation" (Du Plooy, 2005: 12). It is ironic as the government created an "international mechanism to deal with the internal political issues created by the rebels" (Du Plooy, 2005: 12-13). This formed part of the larger strategy to hide the real nature of the conflict from the rest of the world. Khartoum proved its intolerance of criticism by banning several Sudanese newspapers such as the *Khartoum Monitor* and *Al-Ayam*. They even went as far as to forcibly close the offices of the Al Jazeera Arab television network. It was clear that the government was attempting to "reinforce the utilisation of its own directives to the media, in order to limit it to the government's version of events" (Du Plooy, 2005: 13).

The censorship had a major impact on the independently owned press in Sudan. There were no longer any independent press offices or media houses which did not strictly follow the official prescriptions given to them by the government. These restrictions formed part of the massive disinformation campaign which the government had embarked on with the introduction of international observers to Darfur. In order to fully contain all details about Darfur, the government also implemented Moreso travel restrictions which ensured that relief and foreign aid workers were kept away from Darfur and all areas that were experiencing violence against the government. Any foreign workers who were able to observe the truth and tried to report on it to the international community were in real danger of being put in preventative detention by government officials (Guha-Sapir, Degomme & Phelan, 2005). It is reported that between 2003 and 2004, the Sudanese government stopped all international humanitarian aid and assistance to internally displaced people in Darfur. In addition, the government did not provide any aid from its own coffers to innocent civilians during the conflict. For four months the government was also reported to have completely restricted the movements of international aid workers who were already in the country. All international aid workers were confined to the locations they were already in (Eichstaedt, 2011: 89; Kamal El-Din, 2007: 92-93).

Response from the international community to the crisis in Darfur was slow and ineffective for the most part. This is not because the international community decided to turn a blind eye, but rather because of the government's stringent position on not allowing international aid workers to enter the Darfur region. Nevertheless, the international community only become fully aware of the human rights abuses which were taking place a year after the conflict had started. Many commentators believe this is because President Bush and his administration

were too focused on the Middle East at the time. Much attention was still being drawn to the peace talks still taking place between the government and the SPLA (Totten & Markusen, 2013: 190). The United States (US) did not want to take stringent actions against the government concerning Darfur as they believed the government would retaliate by ruining the peace talks with the SPLA. Nevertheless, in August 2004 the US openly condemned the murders and mass rapes which were occurring in Darfur; the US even went as far as to label the conflict as genocide. The UN also took a strong, forceful stance on the human rights abuses which were taking place in Darfur, for which they condemned the government. There was a consistent thread of reports written by the UN Resident Humanitarian Coordinator which detailed the daily violations that civilians in Darfur were victims to. The African Union (AU) and the Arab League (AL), however, did not publish any statements until well after a peace agreement was signed (Grimm, Lemay-Herbert & Nay, 2016: 89).

The UN Human Rights Commission, deeply concerned about civilians in Darfur, put together the "Chairman's Statement", which was agreed to by most of the Commission members. The statement got so much support that it was "adopted with 50 in favour, one against (US), and two abstentions" (Ukraine and Australia) (Du Plooy, 2005: 14). In addition to this, many reports were actually held back from being published until the UN and European Union (EU) delegations could gain access to Darfur. The most important action occurred on 30 July 2004, when the UN Security Council (its most power department) passed a resolution which demanded the end to government-sponsored Janjaweed attacks within 30 days. If the Sudanese government did not stop these attacks, then the Security Council announced that it would have to take action. When the 30 days were over, it was reported that the Sudanese government had failed to meet the resolution's requirements. In response the UN sent in more peacekeeping forces and the wheels for a ceasefire were put into motion (UN, 2006).

The resulting peace processes were complex and took many years to conclude or take hold. The main purpose of this chapter was to give an account of the conflict in Darfur and to assessing whether the links with water scarcity are comprehensive, hence the peace process itself will not be explored further. The following sections look to integrate what has been studied on the Darfur conflict and to apply theories from previous chapters to specific intricacies of the conflict. This will include analysing whether the environment, specifically water, was securitized in Darfur during the conflict. The type of scarcity which led to the conflict as well as the type of conflict the violence in Darfur could be classified as will be studied. The sections below will therefore attempt to integrate the case study of the Darfur

conflict with the theories that have already been described in this thesis. The next section of this chapter will address the research questions which were posed in Chapter 1.

Environmental Securitization and Green Theories in Darfur

The Darfur conflict is a good example of water scarcity having links to conflict as it highlights that water scarcity can lead to high levels of politicization and major abusers of power. Nevertheless, for the Khartoum government the issues around water scarcity remained secondary to those of retaining power control over the differing ethnic groups. As one saw in Chapter 2, the relationship between water scarcity and conflict is not a direct one; water scarcity is neither a necessity nor substantial enough to start armed conflict on its own. There is rather a causal relationship which involves two steps. Water scarcity interacts with the political, social and economic conditions that are present. This determines whether conflict ensues. Homer-Dixon (1991: 8) states that the most common type of conflict to ensue as a consequence of water scarcity is "ethnic clashes arising from population migration and deepened social cleavages due to environmental scarcity". This provides a clear insight into the conflict in Darfur.

Environmental scarcity is a "scarcity of renewable resources, such as cropland, forests, river water, and fish stocks" (Homer-Dixon, 1991: 9). The scarcity occurs because there is a surge in demand and/or a decline in supply which leads to unequal distribution of the resource. Such changes mean that increased poverty, growing social tensions, mass migrations and a weakening of political institutions and governance make the fabric of a society increasingly fragile and instable. This instability is the trigger for the violence or the intensification of a current conflict. All of these elements are seen in Darfur in 2003. As a result of climate change the North experienced major food shortages, in late 2002 and early 2003, because of the drought, which in turn led to mass migration to southern Darfur. In southern Darfur the supply of resources such as water was already incredibly low also as a result of the droughts. With increased demand on the resource from northern migrants, social tensions were exacerbated. The involvement of the government, with its manipulative ethnic-based policies, was almost a guarantee that violence would erupt (Friere, Lopes & Nascimento, 2008).

Darfur experienced supply-induced scarcity, as mentioned in Chapter 1. Supply-induced scarcity is "caused by degradation and depletion of an environmental resource" (Homer-Dixon & Percival, 1998: 280; Onyekuru & Marchant, 2013). One can also identify the ecological marginalisation and resource capture that resulted from this specific type of

environmental scarcity. Ecological marginalisation is present when increased "consumption of a resource combines with structural inequalities in distribution" (Homer-Dixon & Percival, 1998: 280; Peterson & Pardo-Guerra, 2006: 135; Tovey, 2007: 25). During the Darfur conflict there were incidents which involved the weaker population (Zaghawa, Fur, Masaalit etc.) being denied access to water. This led their migrating to urban centres and seeking refuge in the IDP camps. A consequence of this was that the water sources in urban centres became increasingly degraded. All of this ensured that the Zaghawa, Fur and Masaalit were ecologically marginalised.

More than the African communities being ecologically marginalised, they were also the victims of resource capture by the government and the Janjaweed. Resource capture is specific to cases when the "increased consumption of a resource combines with its degradation" (Homer-Dixon & Percival, 1998: 280). This has been identified as being the case in Darfur. Once this occurred, powerful groups such as the Janjaweed or government elite ensured that the distribution of water favoured them (Peterson & Pardo-Guerra, 2006: 135; Tovey, 2007: 25). With the dangerous combination of supply-induced scarcity, ecological marginalisation and resource capture, it is no wonder that so many young men in African communities took up arms in order to ensure their survival.

"The root of the Darfur conflict is a struggle over controlling an environment that can no longer support all the people who must live in it" – this is the opinion of environmentalist, Wangari Maathai, a 2004 Nobel Peace Prize winner. The conflict in Darfur is often regarded as the first "climate change conflict"; this section aims to place the conflict in Darfur within an environmental securitization framework (Friere *et al*., 2008). As pointed out in Chapter 3, securitizing the environment is not always beneficial and can cause nearly all aspects of life to become militarized. What occurred in the Darfur conflict is that much of the process can be seen as a case of securitization of the environment; however, the issue of the environment was side-lined as the government remained exclusively focused on ethnic, economic and political issues as the prevalent elements of the conflict. It was the internal divisions and factional disagreements which took centre stage (Freire *et al*., 2008).

Once again one can see the reluctance of states to regard environmental issues as being of equal significance to those of national security. Darfur is a case where there was a clear denial of environmental security; it was pushed to the back burner in order to give more attention to the physical manifestation of the issues. It was stated in Chapter 2 that environmental security can provide a more comprehensive account of new and different "typologies of vulnerability

as well as the potential for conflict and violence with which these vulnerabilities could be associated" (Trombetta, 2008: 586). The conflict in Darfur signifies a missed opportunity; could have been the first case where environmental security was put to use, but instead it was side-lined in the face of traditional security threats once again.

The social-constructivist make-up of securitization theory ensures that with cases like Darfur much comes down to "the successful process of labelling an issue a security issue" (Trombetta, 2008). In the case of Darfur there was not the slightest attempt to label the issue of water scarcity as a security threat. If the Khartoum government had labelled the issue of water scarcity a "security" threat, then emergency action would have been taken, because it would have been seen as an existential threat. Exceptional measures would have been taken, which may have broken many rules and required a degree of authoritarianism; however, considering how many lives have been taken and ruined since the start of the conflict, this may have been a better option for all Darfurians.

When it comes to securitization there needs to be a referent object or objects, which are "referred to by the securitization actor as constituting a threat, and functional actors, those who influence decisions in the process, but are not securitization actors" (Freire *et al*., 2008). When one studies Darfur, it becomes evident that the political elite, or those who had the power to securitize water or land, did not regard this as on their agenda at all. Rather they securitized the threat of the JEM and SLA. Balzacq (2012: 60) stated that "securitization is a pragmatic act, i.e. a sustained argumentative practice aimed convincing a target audience to accept, based on what it knows about the world, the claim that a specific development is threatening enough to deserve an immediate policy to curb it". If this is the case, then one can see that Khartoum initially saw that the African tribes were the threat; therefore, it implemented policies which marginalised those communities economically in order to ensure the safety of their audience, the Arab communities. This transformed as violence started. It was through the Janjaweed that the government violated the rules; for many months this was accepted by onlookers, because they believed government rhetoric that convinced them the JEM and SLA were the major threats. The political elite were once more seen as being "uncommitted to the process of securitization of environmental matters" (Freire *et al*., 2008).

Regardless of a clear, identifiable threat – water scarcity – the domestic securitization actors, mostly the political elite, as well as functional agents with the agency to influence the securitization process in Darfur, have not yet done anything to start the process. Therefore, one can see that the environment-security nexus has gone unrecognised and ignored.

Unfortunately, this ensured that one of the most fundamental challenges to finding the real causes of the conflict in Darfur went unnoticed. As noted in Chapter 3, the Copenhagen School requirements for securitization include an audience which is willing to believe securitization actors that a threat is cause for concern and action. In Darfur and Sudan there was no audience that was aware of the connection between the conflict and water scarcity; therefore there was no one to mobilize. It was the international community that noted the link. The European Union recognised it when it published the Report on Climate Change and International Security in 2004. The Report, referring to the conflict in Darfur stated that,

> Climate change is best viewed as a threat multiplier which exacerbates existing trends, tensions and instability. The core challenge is that climate change threatens to overburden states and regions which are already fragile and conflict prone (Freire *et al*., 2008).

This quote highlights the need for "internalizing environmental threats as security issues" (Freire *et al*., 2008). Despite international awareness of the links between environmental and water scarcity to the conflict, domestic actors still did not see environmental scarcity as a key element for the security of Sudan and more specifically Darfur. The conflict in Darfur was increasingly influenced by the power politics of realism. There was no consideration from the political elite that security issues were a result, or even related, to matters of environmental security (Friere *et al*., 2008).

The realist approach to the conflict in Darfur ensured that there was a winner and a loser. This might have been different if the dominant theory had been Green Theories and not realism. If Darfurians and the Khartoum government had an awareness of ecologism, one cannot help but wonder if the crisis would have occurred. Through the holistic approach to environmental problems which ecologism takes, issues such as water scarcity would not have been ignored when conflict started or in trying to find a viable solution. The relationships between the political, social, cultural, economic, geographical and biological would all have been assessed in trying to locate the source of the issues with the environment. All of these elements are interdependent and directly or indirectly affect the environment every day.

Although the Darfur conflict remained predominantly realist in nature, there were elements to the lifestyles of Darfurians which echoed the ideals of eco-anarchism. Darfurians lived in their organic communities which rely on subsistence farming for survival. This was the consequence of lack of development, which was in fact imposed by the government. Through the imposition of a social hierarchy, the benefits of living in these "organic" communities were replaced with unnecessary divisions based on race and ethnicity. Had the divisions not

existed, one could surmise that Green Theory may have become the dominant theory in Darfur, not through a direct decision but rather through evolving naturally. Had Green Theory prevailed in such areas, issues and competition around the lack of water might have been handled better, as they were when traditional leaders took control many decades ago. This might have happened because the people would have been more spiritually connected to nature and therefore taken more peaceful measures to resolve all environmental issues.

Green Theories would have provided people with a more holistic perspective of where they belong in relation to the natural world. If the Sudanese had adopted an ecologist perspective, then people would not have seen their own needs as being more important than the needs of the environment. There would have been a deep respect for the environment, which could have translated into less harmful measures being imposed on the environment both before and during the conflict. Green Theories provide an alternate perspective to that of the zero-sum nature of realism. The characteristics of the conflict in Darfur were certainly in the realist mould. The descriptive characteristics (as opposed to normative or prescriptive characteristics) of Green Theories, however, could have ensured that issues around water scarcity were converted into instances of cooperation and not conflict.

Types of Conflict and the Darfur Crisis

As indicated in Chapter 1, conflict is defined by the 2015 Conflict Barometer as the "clashing of interests" between at least two parties, whether these parties are groups of states, organisations or organised groups (Heidelberg Institute for International Conflict Research, 2015). The number of fatalities has proven hard to determine in the conflict in Darfur; however, in 2014 the UN reported that an estimated 450,000 people lost their lives in the conflict since 2003 (World without Genocide, 2015). This is a vast number and it has far-reaching implications for how the conflict would be labelled and thus how the international community would respond to it. According to the Uppsala Conflict Data Program (UCDP), for violence to be considered an armed conflict, there must be 25 battle-related deaths per year; Darfur definitely experienced this number of casualties. The Darfur conflict would also be considered a major conflict as the number of fatalities more than exceeded 1,000 per year (Edstrom & Gyllensporre, 2013: 16).

According to the UCDP, the conflict in Darfur was classified as an intra-state conflict. Intra-state conflicts occur when the government and non-governmental groups engage in violence against one another. In the case of Darfur, there were obviously the rebel groups, JEM and the

SLA. Although, this may seem like the obvious classification of the conflict in Darfur, it does overlook the fact that the conflict did spill over into Chad. For it to be considered a true intra-state conflict, the conflict in Darfur should have remained within the borders of Sudan (Landman, 2013: 117; Gleditsch *et al*., 2016: 16). Therefore, the better classification of the conflict in Darfur would be an international intra-state conflict. This is a more comprehensive classification as it takes into account the fact that many Chadian migrants were involved in supporting both of the rebel groups in the conflict. It also explains how the international community involved themselves through the UN in what seemed like them aiding the rebels, although they were mere peacekeeping troops (Landman, 2013: 117 & Gleditsch *et al*., 2016: 16). It is the evolution of the Darfur conflict which places it within this classification, because if it had not escalated in the manner that it did, then the external (international) actors would not have become involved.

It is important to note that although the rebel groups had major grievances with the government, according to Homer-Dixon and Percival (1998: 280), there needed to more than just grievances to spur them into violence. These elements include: a strong group, collective identity and the inclination of aggrieved groups to believe that the only way to get their grievances heard was through violence. The JEM and SLA definitely possessed both of these elements. All other measures to get the government to treat them fairly or as equal to their Arab neighbours were unsuccessful. Both groups consisted predominantly of African pastoralists, which aided them in bonding and forming a collective identity. One could also argue that the abuse and assaults these groups experienced as a result of the Janjaweed attacks also helped in them forming a common identity.

"Civil violence is a reflection of troubled relations between the state and society" (Homer-Dixon & Percival, 1998: 280) – clearly once can see that it was the unhealthy relationship between the government and the African communities that gave rise to the grievances. The nature of the Sudanese government entailed authoritarianism and human rights abuses. This type of state cannot be fully representative because it continually ignored African grievances and actively sought to harm such communities through attacking their villages. The power distribution between the groups that were competing for water sources was completely unfair as the government afforded the Arab groups special treatment and support. This is what caused the violence to continue until external forces saw what was really happening in Darfur.

Chapter 1 noted a disagreement among academics about the purported links between water scarcity and conflict, and how societies are able to either adapt to scarcity or turn to violence.

Matthew *et al.* (2004: 858) believe that environmental scarcity and stress resulted in a vast range of social reactions; however, this could be eliminated by a type of double-loop learning. They suggested that ecological and social systems would perform double-loop learning from one another and they would both be able to change as a result of such interactions with one another. The result of the double-loop learning would be equilibrium between scarcity and social tensions. Matthew *et al.* (2004: 859) even went on to claim that it is extremely rare that a society should lose its adaptive capacity and break down into protracted conflict over a resource. This may be true, but it seems to be difficult to accept when applying it to low-income countries such as Sudan. The adaptive capacity of a country such as Sudan to respond to competition over resources is exceptionally diminished.

This could be caused by the government's general lack of concern for areas such as Darfur, or one could look as far back as colonial times. During colonialism, countries such as Sudan were set up to fail as the social fabric was manipulated so much that by the time independence came around the damage was already irreparable. Had the south and north not been split between Egypt and Britain, perhaps future leaders would not have used the differences between these two areas and ethnic bases as their opportunity to rule abusively and with impunity. This highlights once more that there is an ingenuity gap between countries that can adapt and those which cannot. Darfur is one of the many countries which cannot adapt to resource scarcity, because it lacks technological innovation as well as a representative, fair government. Many African states face the same problem; they lack the funds which are required when it comes to research and development to promote better management of environmental resources.

This gap and the inability of low-income countries to deal with adaptive capacity precipitates a rhetoric which over-exaggerates water scarcity and labels all conflicts that have anything to do with water as "water wars". The fearful rhetoric in today's media around the topic of water scarcity can easily point to a conflict such as Darfur and label it a water war. It is the contention of this thesis that the Darfur conflict did not fit the requirements for it to be labelled a real water war. The conflict in Darfur cannot be attributed to water scarcity which led to violence. It was not just water scarcity which brought about the violence, as pointed out repeatedly throughout this thesis. It was a contributing factor, yes, but not the only or decisive factor. The Janjaweed did take control over water sources, yet they did not physically ruin these sources in order to weaken the JEM and SLA. The Janjaweed did not damage the sources in any way, because they knew that water was so scarce that ruining such sources would also be detrimental to their own survival.

Transboundary water sources did not become conflict hotspots either. According to Turton (2000: 36), the conflict in Darfur should rather be called and considered a "quasi-water war" or rather a conventional conflict which had water implications. Such incorrect labelling, as mentioned in Chapter 2, has had major consequences for African economies. Newspaper articles labelling the conflict in Darfur as a "water war" spread an incorrect, irrational fear of investing in African states. Although the future of African water supplies is in jeopardy, this does not mean that a dialogue conducted in over-exaggerated term should further inhibit African states from attempting to close the ingenuity gap through external investments.

In Chapter 1 a diagram entitled "Pathways to Conflict" indicated how most scarcity-related conflicts could be explained. In an attempt to illustrate how this diagram applies to Darfur, the original diagram will be presented first, followed by the diagram as it applies to the Darfur conflict.

Figure 4.2: "Pathways to Conflict" applied to Darfur

Pathways to Conflict

Direct Effect

Environmental Stress → Migration from Region A → Conflict in Region B

Indirect Effect

Environmental stress → Conflict in Region A → Migration from Region A → Conflict in Region B

Pathways to Conflict in Darfur

Direct Effect

Environmental Stress (droughts) → Migration from North Sudan → Conflict in Darfur

Indirect Effect

Environmental stress (droughts) → Conflict in North → Migration from North → Conflict in Darfur

These diagrams (taken from Gleditsch *et al*., 2007) highlight that there may have been some conflict amongst the Arabs of the North over access to water before they migrated to Darfur in search of water. This possibility, however, is not backed up by any empirical sources. Nevertheless, the possibility provides a more layered perspective of history of Sudan and what possibly came before the conflict. In order to provide more alternative perspectives on the conflict or what led up to it, Homer-Dixon (1991) provides another helpful framework which classifies the conflict, this will be discussed below.

Homer-Dixon (1991) provided a helpful framework to account for conflicts associated with resource scarcity, much like in Darfur. Homer-Dixon and the Toronto Group proposed three scarcity-related types of conflict. It is the position of this thesis that the conflict in Darfur can be classified as a "group-identity conflict". A group-identity conflict takes place when people are forced to migrate because of environmental disruptions such as droughts and floods. Tensions occur because differing ethnic groups meet under stressful conditions and this often causes group hostilities. Naturally, the native group will want to defend its access to resources such as water. Against this backdrop one can usually observe the groups attack each other's identities and use violence to act out discriminatory feelings. It is also within these types of scarcity-related conflicts that leaders are often able to manipulate followers into fabricating environmental scarcity in order to justify further attacks against the other group (Homer-Dixon, 1991: 109). This provides a different perspective on the conflict in Darfur. It is easy to call the government the villain within the context of the conflict in Darfur, but it might be amiss to believe that the rebel groups themselves did not use water scarcity issues to further their cause.

Conclusion

The conflict in Darfur had been in the making for many years. The government imposed biased policies across the country which favoured one group over others. This created tensions that had never been present before between the black African tribes and the Arab populations. These tensions manifested as competition over natural resources, specifically water. The government responded to an insurgency from both the JEM and SLA by arming, training and financially supporting the Janjaweed. These Arab bandits have been recognised as being the perpetrators of mass rapes, assaults, murders and many other crimes against humanity. The government used the Janjaweed to successfully spread fear and terror to all

communities which were believed to be supporting the insurgency; these communities were predominantly black African tribes such as the Zaghawa, Fur and Masaalit.

The conflict in 2003 also highlighted how a colonial history of Sudan had a damaging effect on the modern state, especially in Darfur. The country was split into two, with Egypt and Britain controlling the respective sections; ethnic differences were easily manipulated to polarise the population. Successive independent governments used this polarisation in order to ensure their control and power over the country. This phenomenon was further exacerbated by the political manoeuvrings of district cadres and administrative officers who were only out to benefit themselves. Policies of Arabization also further worsened the lives of many non-Arab Darfurians.

The Arabization of Sudan also made sure that regions such as Darfur were developmentally neglected, as the black population were of no concern to the government. The lack of development in Darfur ensured that when the droughts brought northern migrants into Darfur, the already scarce natural resources were exploited and never tended to. Many decades before, conflict over water and land had been resolved by traditional leaders, who always seemed to manage to find a compromise between the two parties. In 2003, however, this was not possible as too many variables were involved that led to competition over resources, which became extremely violent.

Water had always been scarce in Darfur, but with the influx of migrants from the north and rainfall being variable as a result of climate change, in 2003 there was hardly enough to go around. Groundwater supplies were also not consistent and sometimes unreachable due to the geological make-up of urban areas in Darfur. Through the involvement of humanitarian organisations which supplied water to IDPs, thousands and thousands of lives were saved from dehydration during the conflict, even though the government tried its best to block such international efforts. Issues with access to water were also highlighted by the Janjaweed presence and attacks against certain tribe members if they tried to collect water. For this reason, millions of Darfurians decided to live in IDP camps, where they were given more than enough to survive.

The international response to what was occurring in Darfur during the conflict took longer to emerge than expected. This was because of the restrictions of movement imposed on foreign aid workers in Sudan. At the time that information did leak out about the atrocities which were occurring, many powerful states (such as the US) were more concerned with other matters. Through the tireless work of organisations such as the UN, the true nature of the

conflict was revealed and all who turned a blind eye were heavily condemned by the rest of the international community. The subsequent peace talks were mired in infighting within the rebel groups. The government was not immune to this either, as it was also divided over how to proceed. With the help of the international community talks eventually proceeded without too much infighting.

This chapter has taken the case of the Darfur conflict and applied the theories which were discussed in Chapters 2 and 3. Through this, one can see that the environment in Darfur was not securitized, but rather the ethnic tensions (high politics) were the main focus of securitization. Securitization did not even come from the Sudanese government, but rather from international observers. It is clear that the Darfur conflict type was an international intra-state conflict, which also had elements of group-identity conflict because of competition over scarce water resources. Different perspectives on the conflict were also provided using the work of Gleditsch *et al*. (2007) and their proposed "Pathways to Conflict".

This chapter highlighted and discussed the elements which were involved in the research question stated in Chapter 1: Is there evidence that water scarcity in particular can be associated with armed conflicts in diverse ethnic communities in Africa, specifically in the Sudanese province of Darfur? As one can see, water scarcity played a major role in the Darfur conflict, but it was definitely not the only element at play. Ethnic tensions which were manipulated by the government had been building up for a long time, and without ethnic tensions competition over water resources would not have led to such a bloody conflict. It was the mixture of ethnic tensions, lack of development, environmental degradation and unfair government policies which ensured that the conflict in Darfur became as vicious as it did. It can be argued that with an absence of just one of these elements that the entire conflict would have played out differently, or possibly would not have occurred in the first place.

Chapter 5: Conclusion

Introduction

African problems always seem to have their roots in colonial times. The partitioning of Africa has had major implications for the continent's development and internal relationships. There was no consideration given to whether communities were being split up by the new borders, or whether completely different communities were being lumped together. This has ensured that modern African states remain at odds within themselves as ethnic tensions only grew. The colonial legacy that has remained imprinted on Africa encouraged issues such as water scarcity and competition over resources to influence ethnic tensions to turn violent. Although much can be attributed to the unfair partitioning of Africa and colonial rule, there is also the issue that independent African countries have seriously lacked governance skills. African governments, especially Sudan's, can be seen as being run by an elite which looks out for themselves rather than the people. Elements such as water scarcity, ethnic tensions and bad governance are a toxic mixture which leads to the deaths of thousands of people.

Darfur was a prime example of this toxic mixture and it highlights major warning signs for the rest of the world. Protracted armed conflicts are the result of ignoring this toxic mixture. Many would say that this conflict is an issue of not prioritising water scarcity and that water scarcity needs to be securitized early so that the military can resolve the issue swiftly. However, pushing water scarcity into the realm of "high politics" can have unwanted side effects, yet it could have saved thousands of innocent lives in Darfur. As one can see throughout this thesis, the Khartoum government ignored all opportunities to securitize water or even attempt to resolve competition over the resource. This topic is important, because globally a resolution about how to resolve issues around scarce resources holistically has yet to emerge.

Chapter 1 asks how credible IR scholarship which has framed the purported link between violent conflict and water insecurity is. It is the contention of this thesis that such scholarship in increasingly credible, especially in countries which are considered "low income". Darfur is a good example, because it contained other elements which amplified the relationship between water scarcity and conflict. There are many countries that possess these same elements and are at risk of conflict. The relationship between water scarcity and conflict may be indirect; however, it is substantial and should receive attention as the earth continues to warm up.

The theoretical foundation of the conflict in Darfur was realist because it possessed a "loser" and "winner" mentality which the government adopted. The way in which the conflict unfolded might have been different if Green Theories had been more dominant. The level of environmental degradation might have been much less had the Sudanese possessed greater awareness of the interconnected make-up of ecosystems and the place of people in it. People around the world would benefit from setting aside the dominant theories of realism and liberalism and consider a new perspective, maybe a greener one. As shown in Chapter 2, the nature of both realism and liberalism ensures that the environment comes second to questions of either economic gain or state power. Studying the wider effects of such dominant paradigms highlights the point that the current global order is flawed because it does not respect nor protect the environment. This is important, because it means that if not altered these theories could lead to an increasing amount of conflicts like Darfur.

Chapter 1 asks questions that are important for the field of IR, because they highlight the point that moving forward will become impossible if cases like Darfur are not taken into account. This field of study still attracts great attention from experts; for instance Burgess, Owen and Sinha (2016) published an article in October 2016, "Human Securitization of Water? A Case Study of the Indus Water Basin", which questions whether securitization of water will aid conflicts or would it rather disregard the other elements involved in water-scarcity-related conflicts. This is an important question, because an estimated 4 billion people face water scarcity for a few months every year. If a holistic approach to resolving water scarcity is not found, then the fearful discourse around water and wars may become accepted as the norm by academics and civil society alike. It is imperative once more to study the relationship between water scarcity and conflict because the international community has yet to work out a blueprint of how to approach the relationship. One may believe that because water scarcity is just one element in conflicts, it does not matter whether it is securitized or pushed into "high politics"; however, this would neglect the fact that by removing the water scarcity element, conflicts may be reduced and many lives may be spared.

Summary of Thesis

This thesis started off by providing a blueprint for how the research problem and questions were going to be addressed. It did so by first highlighting what information would be included by giving a brief overview of the topic of climate change, conflict, environmental degradation and the impacts all these elements have on low-income countries such as Sudan. Chapter 1 summarised and contextualised all the topics which were later discussed more extensively: a

review of what academics believe the relationship between water scarcity and conflict is, Green Theory and Securitization Theory, and the case study of the conflict in Darfur. Chapter 1 highlights that the objective of this thesis is to indicate how climate change and its effects, such as water scarcity, have an increasingly detrimental impact on the stability of low-income countries. The use of Darfur as a case study highlighted the point that the international community needs to come up with better solutions when it comes to dealing with water scarcity. Simply classifying water scarcity as a security threat is not easy and there are several consequences; however, merely ignoring climate change and its incrementally damaging effects is also going to have irreversible side-effects. Dominant theoretical paradigms have led us to climate change and have ensured that the human population regard themselves as the most important component of the ecosphere. Human greed and liberal economics has ensured that the needs of the environment come second to meeting the needs of human consumption. Chapter 1 suggests that maybe Green Theory would be better at addressing environmental issues.

Chapter 2 provided a review of the topic of water scarcity and conflict. It analysed academics' opinions and findings on whether the relationship between water scarcity and conflict is as it is made out to be in the media. The relationship between these two elements involved many other topics which later made it clear that although water scarcity is not the cause of conflicts, it is a significant contributor. The chapter starts with a broad net, which at first explains the relationship between climate change and conflict. There is a link, as when people are forced to migrate because of floods and rising sea levels, recipient areas for these new migrants come under social, economic and environmental stress. Water scarcity and conflict is the next relationship which is studied. Prominent environmental specialists such as Homer-Dixon, Postel, McMichael and Tignino all provide different perspectives in what they believe is the true nature of the relationship between water scarcity and conflict. The dominant perspective is that, although there is not a direct relationship, water scarcity does play a role in causing conflict.

Chapter 2 studied the varying perspectives of the neo-Malthusians and Cornucopians. While the neo-Malthusians blame population growth for environmental degradation, the Cornucopians believe issues like water scarcity can be overcome by technological innovation and that scarcity is managed through adaptation by populations. These perspectives provide great insight into how many people view issues such as environmental degradation. The chapter goes on to describe different types of scarcities and different types of conflicts. These all help with comprehending the conflict in Darfur and why it was classified in a certain way.

A section on environmental security was also provided in Chapter 2, because it highlights the fact that issues such as water scarcity are yet to receive the necessary attention in the traditional outlines of what a security threat entails.

Much of the misconceptions in the media about the situation of drying water sources around the world come from the fact that cases such as the Darfur conflict are incorrectly considered "water wars". For this reason, water wars are conceptualised more precisely in Chapter 2. It highlights that what was experienced in Darfur was a pseudo-water war, and should rather be considered a conflict which possessed a causal relationship with water scarcity. Implications of climate change will involve either conflict or cooperation. Although cooperation is the obvious choice, it does come with consequences which impact heavily on state sovereignty. The aim of Chapter 2 was to highlight that the undeniable consequences of climate change, yet to show fully what the security implications might be. Violence will be turned to increasingly if environmental issues are not properly addressed.

Chapter 3 consists of an outline of the theoretical components which underpin this thesis. Theory and its utility of describing and explaining real life events, power relations and institutions was the sole purpose of Chapter 3. The many different strands of Green Theory are studied as well as Securitization Theory. Global environmental theories are relatively new to IR and this chapter highlights how Green Theorists have yet to construct one grand theory which neatly incorporates such values and norms. The section on Green Theory highlights a multifaceted theory which comprises of different perspectives even on the meaning of "environment". This has resulted in several different strands of Green Theory. Nevertheless, the chapter described the dominant strands and outlined each of their beliefs, norms and values. The prescriptions that each strand suggest would all work toward making human populations more aware of the environment and their impact on it. This could have major implications for reversing environmental damage and halting future conflicts over resources.

As environmental issues seem to be continually side-lined by traditional security threats, the next section in Chapter 3 highlighted how things could be different if resources were to be securitized and placed within the realm of "high politics". This section proved to be heavily influenced by the intricacies of Securitization Theory. This provided a helpful framework when analysing the Darfur conflict and deciding whether the issue of water had been securitized during the conflict. Once more, as this chapter shows, environmental issues still seem to straddle high and low politics. IR needs to address this blurred placement of environmental issues as with the intensification of climate change comes the continued

presence of environmental security and possible conflict. Securitization is not always the answer as is highlighted in Chapter 3. There are many unwanted and unfair consequences involved if environmental resources are to be securitized in the future. These include the involvement of the military in aspects of the environment, not something Green Theorists believe will help, and the undemocratic practice of potentially invading a country because of such issues.

Chapter 4 gave a detailed account of the conflict in Darfur. The 2003 conflict could be traced decades back to when the central government began favouring the Arab communities over the African communities. This favouring had physical manifestations such as lack of development in African regions, no funding for scarce resources, and policies which directly generated ethnic hatred between the Africans and the Arabs. The droughts intensified ethnic tensions, when large numbers of Arab herders made their way to Darfur in search of water and grazing land. This put immense stress on the environment and was a catalyst for the conflict. It is not surprising that in 2003, after years of neglect, two dominant rebel groups (JEM and SLA) emerged and sought to enforce change for the region of Darfur. The government did not stand idly by while these groups tried to form an insurgency, rather they enlisted the help of the Janjaweed (Arab militias), who went on to commit several crimes against humanity during the conflict by raiding and raping any villages suspected of supporting the JEM and SLA.

Chapter 4 analysed many perspectives on the conflict, providing comprehensive background on the conflict, the causes of the conflict (environmental stress, ethnic tensions, unfair government policies etc.) and the Janjaweed. These elements provided a base of understanding and also allowed for theories previously discussed throughout this thesis to be applied to the conflict. The chapter details what drove the JEM and SLA and also analysed the involvement of the international community. The next section in the chapter went on to apply Securitization Theory and Green Theories. It took a diagram from Chapter 2 (“Pathways to Conflict” from Gleditsch et al., 2016) and directly applied it to Darfur and the matter of migration for environmental resources. The different types of conflict were also applied to Darfur, which neatly outlined what type of conflict Darfur faced; this allowed great insight into the conflict and possible reasons as to why it was as violent as it was. Most of ideas which had been presented in Chapters 2 and 3 and applied to Darfur provided a different, or untold, perspective on the conflict. Through application of such ideas and theories, Chapter 4 could highlight that Darfur is a case where water scarcity was a factor in the conflict, but not the only or even a major factor.

Research Problem and Questions Answered

The research problem in Chapter 1 states that it is a possibility that water scarcity has the ability to influence ethnic tensions which have existed at least since the partitioning of Africa and ponders on whether an absence of good governance combined with tensions can erupt into protracted violence. It is the contention of this thesis that, yes, water scarcity does have the ability to push ethnic tensions into armed conflict, especially when there is a lack of good governance. Chapter 4 and the case of Darfur make this conclusion irrefutable. Because the international community has yet to accept that issues such as water scarcity might be better placed within the realm of "high politics", issues like this will continue to occur.

IR scholarship as stated in Chapter 1 remains divided when it comes to issues such as ethnic insecurities (high politics) and environmental objectification (low politics). There is yet to be consensus on whether environmental issues which accompany environmental objectification should be securitized and therefore pushed into the realm of high politics. The consequences which may ensue have yet to be experienced and therefore IR scholarship cannot provide a judgement on the topic.

The IR scholarship which has framed the purported link between water insecurity and violent conflict is increasingly credible. It is the position of this thesis that such IR scholarship is credible because of the evidence provided in the case study of the Darfur conflict. It is also the position of this thesis that there is heuristic utility in the concomitant securitization of water because it could save thousands of innocent lives and halt ethnic tensions from turning into protracted armed conflicts. This is not to say that the consequences of securitization may not bring worse consequences than conflict. This will be discussed further.

Even though water scarcity has never (as yet) caused a conflict on its own does not mean that it should not be regarded as a major threat to peace all over the world. The case of Darfur is not isolated. There are dozens of countries which are considered "low-income countries", which have intense ethnic tensions and lack good governance. If climate change continues at the current rate, then all of these countries are at great risk of becoming violent. This will have major implications for IR and global stability. If water were to be securitized within such countries, emergency help would be available, yet the consequences might have far-reaching implications. Many might never have to go without water, but they may later be faced with deteriorating democratic practices, diminished state sovereignty and authoritarian management of water supplies. These consequences could all lead to conflict and dehydration

as well. The securitization of water is still a contested idea and its effects remain to be seen, however, its heuristic utility may outweigh such negative consequences.

Green Theories, although mismatched and often difficult to define, do provide an analytically useful alternative/addition to the conservative theories of realism and liberalism especially when it comes to environmental issues. Through seeing that the humans have gone wrong in their implicit belief that they are more important than the environment, one can see that Green Theories do offer an outline which might change the relationship between humans and the environment. If Green Theories gain traction as normative theories rather than descriptive ones, then environmental degradation would not be as bad as it is today. Green Theories, if they were to become as strong as liberalism, would ensure that people see the environment as of equal importance to themselves and therefore make more attempts to protect it. The world would take a step back from dizzying mass production and notice that using the natural resources for economic gain at such a rate ensures that the future will be one of dehydration, famine and general destruction.

There is plenty of evidence that water scarcity is associated with armed conflicts within diverse ethnic communities in Africa. One can see this in the case of the Sudanese province of Darfur. In Darfur in 2003, the physical absence of water triggered ethnic tensions to become violent. It was the element of competition over extremely limited supplies of water which triggered a larger ethnic clash. Water became a supply which manifested the government's twisted policies and ethnic prejudice. These are the elements which ensured that violence broke out in Sudan.

Research Gaps and Concluding Remarks

There are still elements that have yet to be resolved in this thesis and the wider academic field on the topic of water scarcity and conflict. For instance, it has been impossible to answer the question as to whether environmental issues would be addressed more efficiently if they were considered in terms of "high politics". Not one journal, book or article can explicitly answer that question yet. It is a question that needs an answer an imperatively, and an appropriate answer could provide a much needed blueprint for dealing with climate change and scarcity-related conflicts. Green Theorists might also be advised to form a position or framework on conflict and share their stance on how such eventuality might be avoided. Conflict around resource scarcities are becoming more regular and more severe, and if the international community does not work out some method to deal better with scarcity, then the world could

be heading for more instability and violence. The Securitization discourse could prove to be completely rational and serve as an early warning sign.

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