Climate change is a direct source of conflict. discuss.



1. Introduction

According to Article 1 of the United Nations Framework Convention on Climate Change 1992, climate change is "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." An increase in the global temperature may have non-linear effects with disproportionate consequences (Scheffran et al, 2014). It could set in motion cascading events which may overburden nation-states' ability to adapt (Scheffran et al, 2014), particularly to flooding, drought and natural disasters (Smirnov et al, 2018; Gleditsch, 2012).

The former UK Secretary of State for Climate Change and Energy, Ed Davey (2012), warned that climate change multiplies threats around the world by increasing resource pressures, particularly in weak states, and creates political instability (Davey, 2012). Equally, the president of Gabon, Ali Bongo Ondimba, cautioned that in Africa climate change will have devastating consequences and will cause political unrest in 13 countries and additionally armed conflicts in over 20 countries without preventative steps being taken (Foreign Commonwealth Office, 2012; Selby and Hoffman, 2014). Developing states may be particularly hard hit (Raleigh, 2010), e. g. due to lower agricultural yields, migration and disturbance of social interactions (Homer-Dixon, 1991). Davey and Ondimba are advocates of the "climate-conflict nexus" (Scheffran et al, 2014, 370) thesis which has become a central tenet within the environmental security literature (Dabelko and Simmons, 1997; Barnett, 2000). This thesis posits that climate change may have a profound https://assignbuster.com/climate-change-is-a-direct-source-of-conflictdiscuss/

impact on international security by affecting a country on the macro level and reinforcing social rifts between communities (Rodrik, 1999), causing security risks which range from food insecurity, freshwater scarcity to environmental migration (WBGU, 2008).

For instance, Burke et al (2009) conducted a study which found that only a slight increase in temperature, namely of one degree Celsius, would have a significant impact on African farmland. Such temperature increase would heighten the risk that civil war erupts by 50% (Burke et al, 2009). Also, a historical investigation undertaken by Zhang et al (2007), which looked at the Northern Hemisphere between 1400-1900 AD, identified that colder temperatures were connected with a decrease in agricultural harvest, population decline and ultimately war. Research also found that a worsening climate led the Maya civilisation to fall apart (Kennett et al, 2012). A comprehensive meta-study which based its findings on 60 studies also suggests that more severe precipitation or a one-degree warmer temperature is linked to a 14% higher risk of inter-group conflict (Hsiang et al, 2013). Although the methodology of this study was criticised for suffering from bias in respect of the sample selection (Buhaug et al, 2014).

However, the environment-conflict thesis has been questioned, e. g. by Selby and Hoffman (2014a) and Barnett (2000). Barnett considers that it is a theoretical, as opposed to an empirical notion. The scientific community is divided on whether climate change is a direct source of armed conflict as studies confirm that this is sometimes the case but not always (Gleditsch, 2012; Scheffran et al, 2012; Smirnov et al, 2018). Also, the discourse pertaining to "climate-conflict linkages" is marred by policy-dominated https://assignbuster.com/climate-change-is-a-direct-source-of-conflict-discuss/

assumptions (Selby and Hoffman, 2014, 747). For instance, Barnett (2000) explains that the thesis has led to various theories which, for instance, postulate that conflicts arise due to environmental resources, such as water, being in short supply, or population growth.

It is against this background that the second section of this discussion analyses how a conflict is defined. The third section investigates the factors and forces which drive violent conflicts. Various policy assumptions are scrutinised in sub-sections 3. 1-3. 5 which the literature has linked with climate change causing conflict, namely the connection with natural resources, population growth, trade and market disintegration, economic and political marginalisation, and government capacity and political instability. The examination in sections 3. 1-3. 5 helps with scrutinising whether climate change is a primary causative factor or just an impact factor. The fourth section investigates whether climate change causes conflicts through the lens of post-colonial theory. The conclusion presents the synthesis of the findings in order to address whether climate change is a direct source of conflict.

It is argued that climate change is not a direct and primary source of conflict and only a potential "threat multiplier" (European Commission, 2008, 2; Report on National Security Implications of Climate-Related Risks and a Changing Climate, 2015) (Gleditsch, 2012). While it may worsen existing instability, trends and tensions which regions and states have to already deal with (European Commission, 2008), there is insufficient evidence which demonstrates that it is "an important driver of conflict" (Gleditsch, 2012, 7).

2. Defining a conflict

A conflict can cover a host of situations and studies define what falls under this term differently (Scheffran et al, 2014). In general terms, a conflict is a situation where two actors have incompatible expectations which clash (Bonacker, 2009; Scheffran et al, 2014). Violence erupts when differences are insurmountable, parties engage in actions which conflict with the expectations of the other and cause losses to both sides and thereby lead to each party resorting to more serious actions, including violence (Bonacker, 2009; Scheffran et al, 2014). Violence can be defined as intentionally using power or physical force, actual or threatened, against another community, group, person or oneself and which is likely to cause or causes deprivation, death, injury, maldevelopment or psychological harm (Krug et al, 2002).

Structural violence is more subtle and indirect and forms part of the societal matrix and impacts the way in which life chances and resources are distributed (Galtung, 1969; Scheffran et al, 2014). It is a broader concept than violence in the context of an armed conflict and covers more circumstances (Scheffran et al, 2014). In contrast, an armed conflict is one where there is a dispute over the territory and/or government and two parties (one of which is the government of the state) employ force and a minimum of 25 people die in relation to the battle (Gleditsch et al, 2002).

Most of the quantitative literature which examines whether there exists a potential "climate-conflict nexus" looks at violent conflicts between the state and armed civilians or an armed group, within a country and in the Southern hemisphere (Scheffran et al, 2014, 370). These studies do not

focus on individual violence or conflict between states (Scheffran et al, 2014). Various qualitative studies adopt a similar approach (Scheffran et al, 2014). For instance, Kahl (2006) defines a conflict as organised violence which takes place on a large scale in a sustained manner in a state and can range from terrorism, revolution, insurgency, ethnic war, civil war to rebellion.

Nevertheless, a more inclusive approach is to not just look at violence where one actor is a state but to also include communal violence on a small-scale (Scheffran et al, 2014). Two large studies (Theisen, 2012; Fjelde and von Uexkull, 2012), as well as some case studies, adopt such an approach and look at violence between social groups or armed organised groups (Adano et al, 2012; Schilling et al, 2012). Violence may also not consist of killing and this could also be included as part of what could be deemed a conflict related to climate change (O'Loughlin et al, 2012). However, currently, not much research has been conducted which investigates whether there is a nexus between climate change and small-scale violence (Scheffran et al, 2014). Also, the environment-conflict scholarship fails to acknowledge that not every conflict is bad and is not necessarily characterised by violence (Barnett, 2000), but can also result in co-operation. In other words, the term ' conflict' is narrowly construed. This arguably results in many different cases being artificially excluded from the important field of studying the causal link between climate change and conflict.

The next section analyses what acts as a catalyst for violent conflicts due to the narrower definition of *conflict* in the literature.

3. Factors and forces which drive violent conflicts

A discussion of whether climate change is a direct source of conflict requires an understanding of the factors and forces which drive violence. Generally speaking, human action is impacted by "motivation, capability and the natural and societal context" (Scheffran et al, 2014, 373). Those who engage in violence must pursue a particular objective, be able to cause violence and there must exist an environment which is conducive of promoting violence (Scheffran et al, 2014). The environment is, e. g., shaped by economic development, power structures, political conditions, and the ethnic make-up, and can be discordant or cooperative (Scheffran et al, 2014). Violence often provokes further violence and can spiral out of control (Scheffran et al, 2014). Each group can utilise its abilities and resources productively or destructively (Scheffran et al, 2014).

The climate change-conflict literature has identified core intersections which link climate change with conflict. These junctures may be to varying degrees factors and forces which may contribute to an environment conducive to conflict. The next sub-sections analyse these junctures in order to answer whether climate change is a primary cause of conflict.

3. 1 Natural resources

Environmental and resource issues, such as land scarcity, have been linked to war and conflict (Gleick, 1990; Scheffran and Battaglini, 2011). Gleick (1991) considers the environment as one of the various dimensions of resources and embeds it within the resource conflict discourse (Barnett, 2000). Also, Mandel (1994) treats environmental and resource concerns as

2000). Also, Mandel (1994) treats environmental and resource concerns as https://assignbuster.com/climate-change-is-a-direct-source-of-conflict-discuss/

the same in the context of security and conflict. Moreover, the distribution of scarce resources has been identified as a cause of conflicts in countries, such as Mali, Darfur and Somalia (Byers and Dragojlovic, 2004; Schwartz and Randall, 2003).

However, there is no reason to assume that when resources become scarcer that a conflict follows (Theisen, 2008). Also, such an approach is misperceived, as strictly speaking the issue is not climate change but "resources of economic value" (Barnett, 2000, 272). A price can be assigned to a scarce resource in many cases, highlighting that frequently the issue is economic, rather than environmental (Simon, 1981; Barnett, 2000). The "resource/environmental" argument is also contradicted (Barnett, 2000, 272) since it is cheaper to engage in trade than war in order to gain access to resources (Lipschutz and Holdren, 1990). Also, impoverishment due to environmental change may make the launching of war less likely (Barnett, 2000). Furthermore, resource scarcity may not explain why an ethnic majority and an ethnic minority compete for resources (Klopp, 2001; Raleigh, 2010).

An example of the climate change-natural resource-conflict assumption is the future water war thesis, particularly in the Middle East (Starr, 1991; Cooley, 1984). However, this theory conflates many different issues, such as political and ethnic tensions, with that of changes within the environment (Barnett, 2000). Also, research suggests that water scarcity promotes cooperation (Deudney, 1991; Libiszewski, 1997). The academic literature on conflict, resources, and degradation is thus divided over the impact of climate change on conflict (Raleigh, 2010).

Population growth has been considered a further factor which decreases scarce resources which have been further depleted by climate change and which contributes to conflict, as discussed next.

3. 2 Population growth

A common contention is that increases in the population will overstretch the resources of the environment, bring about deprivation and in turn trigger instability and conflict, either implicitly due to environmental migration (Theisen et al, 2013) or directly because of rivalry over scarce resources (Myers, 1987; Barnett, 2000). However, while environmental degradation can be caused by population growth, it is challenging to evidence how conflict is directly caused by this (Barnett, 2000).

The Project on Environment, Population and Security investigated how population growth, migration, renewable resource scarcities, and conflict are interconnected (Homer-Dixon, 1996). It was found that in certain situations, scarce renewable resources, e. g. water and cropland, can lead to instability and violence, by having a social impact, e. g. by causing migration and poverty and these latter factors are normally considered the direct causes of conflicts (Homer-Dixon, 1996). In other words, environmental scarcity has an intermediate social impact, for instance, by leading to lower economic productivity, population displacement, weakened states, which can cause insurgencies, ethnic conflicts and coups d'états (Homer-Dixon, 1996). However, the project findings are merely hypothetical and amount to "environmental determinism" (Smil, 1997, 109; Barnett, 2000). Such reductions lean heavily on Malthusian population theory which is largely

considered flawed since it disregards important factors, such as technological advances (Mayhew, 2016). The "population-environment-conflict" debate arguably represents the interests of industrialised states and disregards that lifestyle has an important impact on the environment (Barnett, 2000, 280).

Another important theme within the literature is the role which trade and market disintegration play as discussed next.

3. 3 Trade and market disintegration

Olsson (2016) puts forward a model which links climate change with market disintegration in vulnerable agrarian environments. For instance, in Darfur, the available land resources declined since the 1970s due to less rainfall (Olsson, 2016; Chavunduka and Bromley, 2011). The over 30-year long drought was partly responsible for disintegrating markets, a failing economy and the ensuing increase in social hostility which eventually resulted in war (Olsson, 2016). Trade and market integration are important to create relationships among communities and lower the chance of conflict, as opposed to self-sufficiency (Dalgaard and Olsson, 2019; Rohner et al, 2013; Olsson, 2016).

Olsson's model only applies to situations where the natural resources are declining within an economy which is located " in a vulnerable environment" (2016, 2). "[A] vulnerable environment" is an economy where production greatly depends on the climate, e. g. the temperature and rainfall, and where individuals can only meet their basic needs (2016, 2). When resources decline due to climate change, trade becomes more difficult and over time https://assignbuster.com/climate-change-is-a-direct-source-of-conflict-discuss/

results in markets failing (Olsson, 2016). Access to a resource is no longer mutual but becomes conflictual (Olsson, 2016).

Hence, economic cooperation becomes adversely impacted by climate change (Olsson, 2016). It amounts to a negative shock which may adversely affect economic growth (Rodrik, 1999). Two groups which compete for a natural resource may no longer cooperate and trade and give up their Ricardian comparative advantage and stop specialising in a particular production, such as meat and crops (Olsson, 2016). The most powerful group, whether militarily or economically, is likely to take the resource and thereby causes conflict (Olsson, 2016). There is a shift away from a market regime to autarky i. e. economic integration collapses (Olsson, 2016). Adverse environmental circumstances may thus impact the way in which societies engage in economic exchange (Olsson, 2016). Nonetheless, this model only applies to those countries which rely heavily on utilising natural resources for their production structure (Olsson, 2016).

Another prominent juncture is the topic of economic and political marginalisation, discussed next.

3. 4 Economic and political marginalisation

discuss/

It is not uncommon for the disadvantages from climate change to be unevenly allocated (Bailey and Bryant, 2003). This is problematic since the most important determinants which heighten the risk of armed conflict are the economic and political conditions of countries (Raleigh and Urdal, 2007). When ethnic communities are economically and politically excluded, they have fewer alternatives available to deal with the adverse consequences of https://assignbuster.com/climate-change-is-a-direct-source-of-conflict-

climate change (Raleigh, 2010). For instance, in Kenya, conflicts arose between poor and marginalised pastoral groups who needed to feed and water their herds in difficult climatic conditions (Scheffran et al, 2014). During the Kenyan droughts in the 1980s, those areas which were deemed to be politically important received more relief aid and were prioritised (Raleigh, 2010). When communities are marginalised and suffer from inadequate disaster response by their government the probability of violence in order to gain access is heightened (Raleigh, 2010). Communities are forced to migrate in order to access relief (Raleigh, 2010). Poverty rises and the population finds it more difficult to cope (Raleigh, 2010). Communities with a history of hostility, including with their neighbours, may experience more conflicts (Raleigh, 2010).

Hence, while climate change can act as a catalyst for conflict, it may arise from disregarding the economic and political needs of smaller ethnic groups (Raleigh, 2010). Consequently, climate change itself does not cause conflict but instead increases inequalities and hostility (Pervis and Busby, 2004). Raleigh (2010) argues that in Sub-Saharan Africa, climate change can heighten the probability of conflicts in communities which are economically and politically marginalised. However, the conflict literature does not posit that those communities which are most marginalised initiate rebel movements (Raleigh, 2010). Nonetheless, they may engage in violence with other communities or be a victim (Raleigh, 2010). Intergroup conflict is often employed to access critical resources in countries with unstable or barely available governments (Raleigh, 2010). Partaking in the political economy thus impacts the response of communities when ecological change occurs

(Raleigh, 2010). Political exclusion, inequity and marginalisation may explain why conflict erupts but not always (Raleigh, 2010).

Closely related to economic and political marginalisation is the topic of government capacity and political instability, discussed next.

3. 5 Government capacity and political instability

Homer-Dixon (1994) and Baechler (1999) argue that climate changes undermine political stability in underdeveloped and poor countries. Communities with weak and dysfunctional political institutions and which suffer from resource scarcity and face poverty, economic and other issues are more affected (Pelling and Dill 2006; Theisen, 2008). Economic development is thus another related prerequisite which provides the base for government capacity (Meze-Hausken, 2000) and enables a government to facilitate that its community can adapt and work together collectively, creatively and effectively (Adger, 2003). In contrast, political instability renders those at risk of climate change more vulnerable (Raleigh, 2010). Scholars which investigate environmental security consider physical vulnerability a core characteristic which links negative climate change with conflict (Raleigh, 2010). Communities which are rich (Cutter, 1996), have access to infrastructure, markets and which receive aid are able to better cope and are less vulnerable (Eriksen et al., 2005; Raleigh, 2010). Accordingly, the political situation in a country shapes the post-disaster response (Pelling and Dill, 2006; Raleigh, 2010). Environmental change may increase existing societal issues which in turn may overpower the capacity of the government to adequately respond, may undermine the government and cause instability, e. g. in the form of riots and protests and civil wars (Scheffran et al, 2014).

Hence, when vulnerable groups are marginalised, they may strategically opt for self-governance and resort to violence in order to obtain resources (Sabates-Wheeler et al., 2008; Raleigh, 2010). However, linking climate change and conflict with bad government is problematic since it results in a failure to thoroughly engage with analysing the topic of disempowerment (Raleigh, 2010; Barnett, 2000).

These various junctures which are commonly assumed to link climate change with conflict are not the only factors which contribute to conflict. This is highlighted by post-colonial theory, as discussed next.

4. Post-colonial theory

discuss/

Post-colonial theory helps with examining power relationships between the global North and South (Spiegel, 2017) and "analyzing new forms of colonialism that have sprung up in the wake of globalization" (Maxwell, 2009, 16). When investigating whether climate change is a direct source of conflict through the lens of this theory it becomes apparent that the discourse has embedded Western neoliberal and realist perspectives which results in the exclusion of other critical perspectives (Barnett, 2000). A historical perspective has not been integrated in the literature, e. g. that it is the modern way of life, particularly in the West, which has promoted climate change and fostered ecological and social degradation (Smil, 1997; Barnett; 2000). Furthermore, colonial imperialism and unjust trade are only some of the many different factors which have been neglected within the https://assignbuster.com/climate-change-is-a-direct-source-of-conflict-

environment-conflict debate (Barnett, 2000). The global South has been depicted as barbarous (Barnett, 2000). The world has been portrayed in such a way that the interests of the North must be defended against the anarchy, which is endemic in the South while ignoring that the North has been complicit in causing climate change (Barnett, 2000). For instance, no crime of ecocide has been promulgated at the international level in order to hold multinational corporations to account (Higgins et al, 2013).

Also, an analysis of the Darfur conflict highlights that it is an overgeneralisation (Butler, 2007) to consider that Darfur is an illustration of how an ecological disaster can cause a social breakdown, as identified by UNEP, 2007. This masks the underlying interests, for instance, during the cold war, by the Soviet Union and the US, and today, by China and the US to compete over the oil and gas resources of this region which the ruling Arabic elite tried to take control of (Scheffran et al, 2014). Oil production led to environmental degradation and droughts made the life of farmers and pastoralists more challenging (Scheffran et al, 2014). Socio-economic marginalisation, resource scarcity, divided herders and farmers, a refugee problem which heightened health and environmental issues, such as deforestation (de Waal, 2007), and a failure by the ruling elite to compensate the citizens of the oil-rich region are all factors which have caused the Darfur conflict (Scheffran et al, 2014). Nonetheless, societal failures may be the result of the destruction of the natural environment by man (Diamond, 2011). However, the issue is that generalisations divert attention away from political and economic reasons behind conflicts (Verhoeven, 2011; Scheffran et al, 2014). Furthermore, a framing of climate change as a security issue by

e. g. the CNA Military Advisory Board (2007), as well as policy and NGO actors (Selby and Hoffman, 2014; Gleditsch, 2012) is problematic. Powerful states may use climate change events as a cover to gain access to resources.

The climate change-conflict discourse has been grounded in a particular historical narrative formed by a Western perspective which perpetuates a North-South divide and a historical narrative of colonialism that is pro-Western (Gemmene et al 2014; Selby and Hoffman, 2012).

5. Conclusion

The above discussion highlights that climate change can have a negative impact on natural resources, such as cropland, may challenge a growing society with scarce resources, may undermine trade and lead to market disintegration, may heighten economic and political marginalisation and overstretch government capacity and weaken political stability. Also, apart from the factors discussed in section 3. 1-3. 5, there exist other pathways of violence which may link violence and climate change in multifaceted ways (Scheffran et al, 2014). For instance, those in power may use violence to adopt practices which adversely affect the environment and which groups violently resist (Scheffran et al, 2014). An illustration of this are environmental harms, particularly environmental degradation from natural resources exploitation, which may contribute to genocide by causing mass migration and widespread famines (Scheffran et al, 2014). For instance, Rwanda has been cited to highlight a connection between environmental causes and genocide (Moodley et al, 2010).

However, a distinction must be drawn between climate change being a threat multiplier and an impact factor, as opposed to a primary cause. A significant climate change can result in it becoming a more important driving factor in conflict (Hsiang et al, 2013). However, in some cases, it may even be dangerous to consider it a threat multiplier as it is based " on ideas and paradigms that have been shown to be outdated and even wrong" (Young et al, 2019, 14). For example, Kevane and Gray (2008) have pointed out that there was no association between precipitation and conflict in Darfur, despite this often having been asserted, e. g. by Chavunduka and Bromley (2011). Equally, the Syrian conflict appears to have been unrelated to climate change (Selby et al, 2017). Nonetheless, irrespective of the specific pathways which can be affected by climate change, it is likely to have a certain effect on conflict, even it is only incidental (Selby et al, 2017).

However, it appears inappropriate to conclude that climate change is a direct and primary cause of conflict or even an important factor (Gleditsch, 2012). Conflicts are multi-dimensional and are caused by a variety of factors (Scheffran et al, 2014). The underlying direct causes for conflict are mostly created by already existing social and political factors (Meierding, 2013; Raleigh and Urdal, 2007; Salehyan and Cullen, 2014; Selby et al 2012, Seter et al 2016). However, "militarized responses" to climate change may cause conflict (Gleditsch, 2012, 7).

References

Adano, W., Dietz, T., Witsenburg, K. M., and Zaal, F. (2012) Climate
 Change, Violent Conflict and Local Institutions in Kenya's Dryland.

Journal of Peace Research, 49, 65-80.

- Adger, N. (2000) Institutional Adaption to Environmental Risk Under the Transition in Vietnam. *Annals of the Association of American Geographers*, 90, 738-758.
- Adger, W. N. (2003) Social Capital, Collective Action, and Adaptation to Climate Change. *Economic Geography*, 79, 387–404.
- Baechler, G. (1999) Violence Through Environmental Discrimination.
 Dordrecht, Netherlands: Kluwer.
- Barnett, J. (2000) Destabilizing the Environment-Conflict Thesis.
 Review of International Studies, 26, 271-288.
- Bonacker, T. (2009) 'Konflikttheorien', in Kneer, G., and Schroer, M.
 (eds). Handbuch Soziologische Theorien . Wiesbaden: VS-Verlag, 179–197.
- Burke, M. B., Miguel, E., Satyanath, S., Dykema, J. A. and Lobell, D. B.
 (2009) Warming Increases the Risk of Civil War in Africa. *PNAS*, 106, 20670-20674.
- Buhaug, H., Nordkvelle, J., Bernauer, T., Bohmelt, T., Brzoska, M.,
 Busby, J. W., Ciccone, A., Fjelde H. and Gartzke, E. (2014) One effect to rule them all? A comment on climate and conflict. *Climate Change*, 127, 391-397.
- Butler, D. (2007) Darfur's Climate Roots Challenged. Nature, 447, 1038.
- Byers, M. and Dragojlovic, N. (2004) Darfur: A Climate Change-Induced Humanitarian Crisis? *Human Security Bulletin*, October.
- Chavunduka, C. and Bromley, D. W. (2011) Climate, Carbon, Civil War and Flexible Boundaries: Sudan's Contested Landscape. *Land Use Policy*, 28, 907-16.

- Cooley, J. (1984) The War Over Water. Foreign Policy, 54, 3-26.
- CNA Military Advisory Board (2007). National Security and the Threat of Climate Change. 1-35. Available from https://www.cna.
 org/CNA_files/pdf/National%20Security%20and%20the%20Threat
 %20of%20Climate%20Change. pdf [accessed on 21 June 2019].
- Cutter, S. (1996) Vulnerability to Environmental Hazards. *Progress in Human Geography*, 20, 529-539.
- Dabelko, G. and Simmons, P. J. (1997) Environment and Security: Core
 Ideas and US Government Initiatives. SAIS Review, 17, 127-46.
- Dalgard, C.-J. and Olsson, O. (2013) Why Are Rich Countries More
 Politically Cohesive? Scandinavian Journal of Economics, 115, 423-448.
- Davey, E. (2012) Speech to Climate and Resource Security Dialogue for the 21st Century conference, Lancaster House, London, 22 March 2012. Available from https://www. gov. uk/government/speeches/edward-davey-speech-to-climate-resourcesecurity-dialogue-for-the-21st-century-conference [accessed 20 June 2019].
- Deudney, D. (1991) Environment and Security: Muddled Thinking. The Bulletin of Atomic Scientists , 47, 23-8.
- de Waal, A. (2007) Sudan: International Dimensions to the State and its Crisis. London: Crisis States Research Centre.
- Diamond, J. (2011) *How Societies Choose to Fail or Succeed.* New York: Penguin.
- Eaton, D. (2008) *Violence, Revenge and the History of Cattle Raiding Along the Kenya-Uganda Border*. Canada: Dalhousie University.

- Eriksen, S., Brown, K. and Kelly, M. (2005) The Dynamics of Vulnerability: Locating Coping Strategies in Kenya and Tanzania.
 Geographical Journal, 171, 287-305.
- European Commission (2008) Climate Change and International
 Security: Paper from the High Representative and the European
 Commission to the European Council. Brussels: European Commission,
 1-11. Available fromhttps://www.consilium.europa.
 eu/uedocs/cms_data/docs/pressdata/en/reports/99387. pdf[accessed
 20 June 2019].
- Fjelde, H. and von Uexkull, N. (2012) Climate Triggers: Rainfall
 Anomalies, Vulnerability and Communal Conflict in Sub-Saharan Africa.

 Political Geography, 31, 444–53.
- Foreign & Commonwealth Office (2012) Conference report, A climate and resource security dialogue for the 21st Century. Thursday 22 Friday 23 March 2012, WP 1167, 1-9. Available from https://www.wiltonpark.org.uk/wp-content/uploads/wp1167-report.pdf [accessed 20 June 2019].
- Galtung, J. (1969) Violence, Peace, and Peace Research. Journal of Peace Research, 6, 167-91.
- Gemenne, F., Barnett, J., Adger, W. N., Dabelko, G. D. (2014) Climate and security: Evidence, emerging risks, and a new agenda. *Climatic Change*, 123(1), 1-9.
- Gleditsch, N. P., Wallensteen, P., Eriksson, M., Sollenberg, M. and Strand, H. (2002) Armed Conflict 1946–2001: A New Dataset. *Journal of Peace Research*, 39, 615–37.

- Gleditsch, N. P. (2012). Wither the weather? Climate change and conflict: Introduction. Journal of Peace Research, 49(1), 3-9.
- Gleick, P. (1990) Environment, Resources, and International Security and Politics. In Eric Arnett (ed.). Science and International Security.
 Washington: American Association for the Advancement of Science, 501–23.
- Gleick, P. (1991) Environment and Security: The Clear Connections.
 The Bulletin of Atomic Scientists, 47, 17–21.
- Higgins, P., Short, D. and South, N. (2013) Protecting the Planet: A
 Proposal for a Law of Ecocide. *Crime, Law and Social Change*, 59, 251–66.
- Homer-Dixon, T. (1991) On the Threshold: Environmental Changes as
 Causes of Acute Conflict. *International Security*, 16, 76–116.
- Homer-Dixon, T. (1994) Environmental Scarcities and Violent Conflict:
 Evidence From Cases. *International Security*, 19, 5-40.
- Homer-Dixon, T. (1996) The Project on Environment, Population and Security. Environmental Change and Security Project Report 2, 45-48.
- Hsiang, S., Burke, M. and Miguel, E. (2013) Quantifying the Influence of Climate on Human Conflict. Science, 341(6151), 1-14.
- Kahl, C. H. (2006) *States, Scarcity, and Civil Strife in the Developing World.* Princeton, NJ: Princeton University Press.
- Kennett, D. J., Breitenbach, S. F. M., Aquino, V. V., Asmerom, Y., Awe, J., Baldini, J. U. L., Bartlein, P., Culleton, B. J., Ebert C. and Jazwa, C. (2012)
 Development and Dinsintegration of Maya Political Systems in
 Response to Climate Change. *Science*, 338, 788-791.

- Kevane, M. and Gray, L. (2008) Darfur: Rainfall and Conflict.
 Environmental Research Letters, 3, 1–10.
- Klopp, J. (2001) Ethnic Clashes and Winning Elections: The Case of Kenya's Electoral Despotism. Canadian Journal of African Studies, 35, 473-517.
- Krug, E., Dahlberg, L., Mercy, J., Zwi, A. and Lozano, R. (2002) World
 Report on Violence and Health. Geneva: World Health Organization.
- Libiszewski, S. (1997) Integrating Political and Technical Approaches:
 Lessons from the Israeli-Jordanian Water Negotiations. In Nils Gleditsch (ed.). Conflict and the Environment. Dordrecht: Kluwer Academic Publishers, 385-402.
- Lipschutz, R. and Holdren, J. (1990) Crossing Borders: Resource Flows, the Global Environment and International Stability. *Bulletin of Peace* Proposals, 21, 121–33.
- Mandel, R. (1994) The Changing Face of National Security: A
 Conceptual Analysis. Westport, Greenwood Press.
- Maxwell, A. (2009). Postcolonial criticism, ecocriticism and climate change: A tale of Melbourne underwater in 2035. *Journal of Postcolonial Writing*, 45(1), 15–26.
- Mayhew, R. J. (2016) New Perspectives on Malthus. Cambridge:
 Cambridge University Press.
- Meierding, E. (2013) Climate Change and Conflict. Avoiding Small Talk about the Weather. *International Studies Review*, 15(2), 185–203.
- Meze-Hausken, E. (2000) Migration Caused by Climate Change: How Vulnerable are People in Dryland Areas? *Mitigation and Adaptation* Strategies, 5, 379-406.

- Moodley, V., Gahima, A. and Munien, S. (2010) Environmental Causes and Impacts of the Genocide in Rwanda: Case Studies of the Towns of Butare and Cyangugu. *African Journal of Conflict Resolution*, 10, 103-19.
- Myers, N. (1987) Population, Environment, and Conflict. Environmental Conservation, 7,
- 15-22.
- O'Loughlin, J., Witmer, F., Linke, A., Laing, A., Gettelman, A. and Dudhia, J. (2012) Climate Variability and Conflict Risk in East Africa, 1990–2009. PNAS, 109, 18344–18349.
- Olsson, O. (2016) Climate Change and Market Collapse: A Model Applied to Darfur. Games, 7(1), 1-27
- Pelling, M. and Dill, K. (2006) Natural Disasters as Catalysts of Political Action. ISP/NSC Briefing Paper 1. London: Chatham House.
- Pervis, N. and Busby, J. (2004) The Security Implications of Climate
 Change for the UN System. Environmental Change and Security Project
 Report, 10, 67-73.
- Raleigh, C. (2010) 'Political Marginalization, Climate Change, and Conflict in African Sahel States. *International Studies Review*, 12(1), 69-86.
- Raleigh, C. and Urdal, H. (2007) Climate Change, Environmental
 Degradation and Armed Conflict. *Political Geography*, 26, 674-694.
- Report on National Security Implications of Climate-Related Risks and a Changing Climate (2015) Response to Congressional Inquiry on National Security Implications of Climate-Related Risks and a Changing

Climate. Available from https://archive. defense. gov/pubs/150724https://assignbuster.com/climate-change-is-a-direct-source-of-conflictdiscuss/

- congressional-report-on-national-implications-of-climate-change. pdf [accessed 20 June 2019].
- Rodrik, D. (1999) Where did all the growth go? External shocks, social conflict, and growth collapses. *Journal of Economic Growth,* 4, 385-412.
- Rohner, D., Thoenig, M. and Zilibotti, F. (2013) War Signals: A Theory of Trade, Trust, and Conflict. Review of Economic Studies, 80, 1114–1147.
- Sabates-Wheeler, R., Devereux, S., Mitchell, T., Tanner, T., Davies, M. and Leavy, J. (2008) *Rural Disaster Risk-Poverty Interface*. Brighton, Sussex: Institute for Development Studies, University of Sussex.
 Available fromhttps://opendocs. ids. ac. uk/opendocs/handle/123456789/2550[accessed 20 June 2019].
- Salehyan, I. and Cullen, H. (2014) Climate shocks and political violence.
 Global Environmental Change, 28, 239–250.
- Scheffran, J. and Battaglini, A. (2011) Climate and Conflicts: The Security Risks of Global Warming. *Regional Environmental Change*, 11, 27–39.
- Scheffran, J., Brzoska, M., Kominek, J., Link, P. M. and Schilling, J. (2012)
 Climate Change and Violent Conflict. *Science*, 336, 869–71.
- Scheffran, J., Ide, T. and Schilling, J. (2014) Violent climate or climate of violence? Concepts and relations with focus on Kenya and Sudan. *The International Journal of Human Rights*, 18(3), 369-390.
- Schilling, J., Opiyo, F. and Scheffran, J. (2012) Raiding Pastoral
 Livelihoods: Motives and Effects of Violent Conflict in North-western
 Kenya. *Pastoralism*, 2, 1-16.

- Schwartz, P. and Randall, D. (2003) An Abrupt Climate Change
 Scenario and its Implications for United States National Security.
 Washington, DC: Environmental Media Services.
- Selby, J. and Hoffman, C. (2014) Rethinking Climate Change, Conflict and Security. *Geopolitics*, 19(4), 747-756.
- Selby, J. and Hoffman, C. (2014a) Beyond scarcity: Rethinking water, climate change and conflict in the Sudans. *Global Environmental Change*, 29, 360-370.
- Simon, J. (1981) *The Ultimate Resource.* Princeton, NJ: Princeton University Press.
- Smil, V. (1997) China's Environment and Security: Simple Myths and Complex Realities. SAIS Review, 17, 107–126.
- Smirnov, O., Steinwand, M. C., Xiao, T. and Zhang, M. (2018) Climate Impacts, Political Institutions, and Leader Survival: Effects of Droughts and Flooding Precipitation. *Economics of Disasters and Climate Change* , 2, 181-201.
- Spiegel, R. H. (2017) Drowning in Rising Seas: Navigating Multiple
 Knowledge Systems and Responding to Climate Change in the
 Maldives. Pitzer Senior Theses, 76, 1-111. Available from
 https://scholarship. claremont. edu/cgi/viewcontent. cgi? referer=
 https://www. google. com/&httpsredir= 1&article= 1078&context=
 pitzer_theses [accessed 20 June 2019].
- Starr, J. (1991) Water Wars. *Foreign Policy*, 82, 17–36.
- Theisen, O. M. (2008). Blood and Soil? Resource Scarcity and Internal Armed Conflict Revisited. *Journal of Peace Research*, 45(6), 801-818.

- Theisen, O. M. (2012) Climate Clashes? Weather Variability, Land
 Pressure, and Organized Violence in Kenya, 1989–2004. *Journal of Peace Research*, 49, 81–96.
- Theisen, O. M., Gleditsch, N. P. and Buhaug, H. (2013) Is Climate
 Change a Driver of Armed Conflict? Climatic Change, 117, 613–25.
- UNEP (2007) Sudan, Post-Conflict Environmental Assessment. 1-358.
 Available fromhttps://postconflict. unep. ch/publications/UNEP_Sudan.
 pdf[accessed 20 June 2019].
- Verhoeven, H. (2011) Climate Change, Conflict and Development in Sudan: Global Neo-Malthusian Narratives and Local Power Struggles.
 Development and Change 42, 679–707
- WBGU (2008) World in Transition Climate Change as a Security Risk.
 London: Earthscan.
- Young, H., Fitzpatrick, M., Marshak, A., Radday, A., Staro, F. and
 Venkat, A. (2019) Lessons for Taadoud II: Improving Natural Resource
 Management. A Feinstein International Center Desk Study, April 2019,
 1-97. Available from https://fic. tufts.
 edu/wp-content/uploads/TaadoudIIDeskStudy2019-6. 26FINAL. pdf
 [accessed 20 June 2019].
- Zhang, D. D., Brecke, P., Lee, H. F., He, Y.-Q. and Zhang, J. (2007)
 Global climate change, war, and population decline in recent human history. *PNAS*, 104, 19214-19219.