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The Violence Induced by Climate Change: An Evolving Controversy

Josephine Kurdziel

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Josephine Kurdziel
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Professor Toulouse
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Abstract

Climate-induced violence has become more prominent and scrutinized in research, media, and discussion in the last decade with the emergence of new patterns of violence. Conflicts have been scrutinized particularly in key regions and countries such as West Africa, the Middle East, and Central Asia, which are the focus of the three case studies in this paper. The research is centered on several types of violence such as civil war and terrorism, and then further expanded to how climate change may or may not influence their patterns. Correspondingly, there is also an analysis on the importance of state stability and action and how the global order is responding. Ultimately, this thesis reinforces the argument that states need to provide support to land-based livelihoods in areas affected by climate change.

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Introduction

When we think of climate change, we tend to think of icebergs breaking off into the warming sea, or the worrying high temperatures of the winter season. Pictures of polar bears resting on a singular block of ice, or wildfires raging across acres of forest have been permeating news headlines on this subject for the past decade. It's fair to say that the majority of people both in the United States and the world have accepted and acknowledged the presence of climate change in our world. The issue continues to gain traction in governments and media, but the effects of climate change on other aspects of society have not been as scrutinized in the current zeitgeist.

Particularly, the effect it has on violence and war has not been receiving mass attention. However, there has been growing interest and debate in scholars, researchers, and institutions of the connection between climate change and conflict. Some think that while climate change is a prevailing threat to society, it does not correlate with violent trends in developing countries. Others do find a connection and claim that climate change has induced several severe conflicts in countries where adequate state support does not exist for insecure individuals. Disagreements between the two arguments lie in if there is enough evidence to claim that climate change is actively and currently inciting violence.

On one hand, if this is true and actively occurring, the implications would be devastating according to the current nature of our degrading atmosphere. Immediate policies would be needed for global cooperation, and also individual states would need to implement climate adaptation policies to offset the potential increases in casualties. On the other hand, the focus should not be on specific climate policies but rather fostering economic freedom and prosperity for those affected by violence, which are usually agriculturalists and pastoralists. Political stability is also prioritized, since these services would be rolled out by government institutions.

When I first encountered this problem and debate, I found it convincing that climate change effects can influence certain types of violence. However, each instance in its respective country has its own complex characteristics and progression, which opens up several avenues for contention on the main factor of blame. Therefore, I wanted to study three prominent situations of violence in three different states: Nigeria and the Chad Basin, Afghanistan, and Syria. These states deal with many forms of violence, but the ones I am most concerned with are farmer-herder violence, terrorism, and civil war. These case studies will provide the current data on climate change and violence in these regions and states, as well as comparing this to the economic and political health. Through explicating these cases, I hope to provide a perspective that encapsulates both arguments that then allows for the most beneficial solutions for the states involved. Of course, in a topic so complex and multi-faceted as climate change and violence, there is great difficulty in narrowing down the appropriate approach to an explanation or solution. But, in analyzing specific cases with different types of violence but similar livelihoods and unstable governments there are connections that I found to be illuminating and important.

Methodology

For my research I utilized many reports, articles, and interviews, especially in the beginning, to collect as much information on the areas of interest as possible. I chose the regions of Nigeria, Syria, and Afghanistan because of the severity and uniqueness of their environment and politics. Nigeria and the Chad Basin are increasingly plagued with terrorist groups vying for control, but also farmer-herder conflicts between communities and ethnicities are rampant. Slightly similar is the situation in Afghanistan, where drought is allowing for terrorist groups to take advantage of farmers and control their crops. Syria has a case of water weaponization, showing another aspect of terrorist groups utilizing natural resources for their benefit. I felt that combining these states in my paper would allow me to better explicate the current situation/debate around climate-change conflict. Especially since all of these states are rapidly evolving even today, an analysis of their data is always useful for moving towards understanding and solutions.

Therefore, I will start by looking at previous scholarship on this topic, which can tend to be contradictory. Then, I will present my case studies on Nigeria, Syria, and Afghanistan's climate change and conflict situations. Then, I will discuss my analysis and outlook on these states, and attempt to synthesize previous theories and provide an outlook that isn't staunchly in favor of one or the other side of climate conflict. Three specific types of violence will be analyzed separately, and each provides a lens for understanding the severity of climate change and its development in modern society.

I then attempt to work through different suggestions for solutions made by international organizations and developed countries. Different outlooks will call for different solutions, and trying to synthesize these ideas is ultimately my goal to create the most effective and practical way to move forward in the discourse on this issue.

Literature Review

For my literature review, I will be focusing on scholarship surrounding forms of climate change impacts and violence. One of my main priorities is to highlight not just one form of causal violence from climate change, such as drought-induced community conflict. Rather, I wish to draw examples of violence from different states and circumstances to show how complex climate change can be, and that a multifaceted approach is necessary. Therefore, I will be using *Tropic of Chaos: Climate Change and the New Geography of Violence* by Christian Parenti, "Insurgency, Terrorism and Organised Crime in a Warming Climate" by Katharina Nett and Lukas Rüttinger, and *Research for Sustainable Development: Foundations, Experiences, and Perspectives* by Wiesmann U, Hurni H; with an international group of co-editors. All of these sources draw from several different state situations to formulate their argument, which is my goal as well. They also have very different conclusions based on their research or experience. Through these sources, an explanation of the historical roots of geographic violence in my regions of research will be done, as well as an analysis on the various theories of climate change conflict made by previous scholars.

Tropic of Chaos

One of the main pillars of my theory of climate change violence is that the absence of responsible state power/aid allows for an exacerbation of harmful climate change effects. This is also a theory that is emphasized in Parenti's *Tropic of Chaos*. Parenti's independent research focused on developing countries facing high levels of violence, and also their changes in climate. In his synthesis of prior militarization and counterinsurgency, he explains the importance of past interventions and wars in developing countries. For example, counterinsurgency efforts in Guatemala during its civil war had completely devastated rural communities with the military's scorched-earth campaigns and guerilla warfare. Even after the war ended in the 1990s, crime took the place of war, and it remains as a massive problem in Guatemalan society.[1] This is the case for many Latin American countries, where proxy or banana wars occurred during the Cold War, and left the country's government incapable of a safe state. As Parenti puts it:

"Because counterinsurgency is war that, by design, attacks the social fabric, it has sowed chaos and set the stage for the catastrophic convergence. Leaving corruption, ignorance, crime, and anomie in their wake, small, dirty wars have created societies totally incapable of dealing with climate change. And now, armed adaptation is set to double down on a bad bet by applying more counterinsurgency to the global matrix of crisis."[2]

The last sentence especially stresses the grave outcomes that are being played out in certain regions. In his chapter on Kenya, Parenti explains the situation of militant groups spreading throughout the country in the absence of modern state power. Militant groups utilize small arms like machine guns and grenade launchers to fight other local groups in competition for land, cattle, or power.

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[1] Christian Parenti, *Tropic of Chaos,* (New York:Nation Books, 2011), 33-34.
[2] Parenti, *Tropic of Chaos,* 36.

"As the means of administration and "extraction" collapse, "bands of armed men" fall away from the state and are released freelance into society to survive by their own devices. Taxation becomes theft as soldiers and police revert back to bribery, extortion, and banditry. Where the state is totally absent, gangs arise to govern slums like proto-city-states."[3]

These gangs or militant groups are benefiting from climatic degradations, and Parenti illustrates their danger through his observations. Therefore, he states that the current climate crisis is a political problem, not technical or economic. This especially is seen in his dire forecasts of the future for affected countries. Most prominently, the idea of the "armed lifeboat" is warned as a looming possibility. With migration becoming increasingly common and necessary in climate changing regions, the possibility for xenophobia and violent reactions amongst Western governments and media. Parenti puts it bluntly:

"Our current style of anti-immigrant policing—of which climate change will surely bring more—is eroding civil liberties and thus fundamentally transforming America, returning the nation to its more primitive condition: a herrenvolk democracy based on segregation and routine violence, in which race and nationality mask raw class power. Border militarization and interior enforcement are the legal gray zone where the US Bill of Rights is most radically curtailed".[4]

Insurgency, Terrorism, and Organized Crime

Nett and Ruttinger use a more research oriented approach as opposed to Parenti's on-the ground observational narrative. Their main emphasis is on climate change as a threat multiplier towards fragility and conflict. Non-state armed groups (NSAGs) are the specific entities that are being analyzed to see if climate change is a contributing factor to their rise. Defining and studying NSAGs was beneficial for my understanding of their current activities.

"Many NSAGs do not seek to gain political control, since they can best achieve their goals outside the realm of formal state structures and laws and are characterized by their distance from formal power (Briscoe 2013). Many armed groups today do not conceive of peace or settlement of political disputes as desirable outcomes for a conflict. Instead, economically motivated warfare, in which the group's strategy relies on income from illicit economic activities and thus seeks a perpetuation of violence". [5]

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[3] Parenti, *Tropic of Chaos,* 94.
[4] Parenti, *Tropic of Chaos,* 209.
[5] Katharina Nett and Lukas Ruttinger, *Insurgency, Terrorism and Organised Crime in a Warming Climate* (Berlin: Adelphi, 2016), 5.

The four case studies conducted in the text were very helpful in providing a basis for regional climate and conflict characteristics. This research succeeds in efficiently explaining how climate change manifests into livelihoods and communities, with special attention paid to agriculture. The data used is concise and useful for building an understanding of agricultural patterns, degradation, and adaptation. In response to the rise of NSAGs, they provide multiple solutions and strategies for climate change action. Many of them center around sustainable interventions and peace-building, which Parenti chose to not focus on since he felt they did not suitably address the larger problem of political discourse. However, I felt that Nett and Ruttinger suggested some good points, such as disaster risk reduction. "If underpinned by a plan and political will, disasters and crises can also be used as an opportunity to increase resilience and not only to rebuild better but also to increase legitimacy and even build peace". [6] They make sure to emphasize that these are broad approaches to solutions, and the real change lies in the hands of policymakers. Overall, the format and content of this report was successful and proved to be popular in influencing later scholarship in climate change conflict.

The Missing Link

In "The Missing Link: Environmental Change, Institutions, and Violent Conflicts", Goetschel and Peclard diverge from the previous report's narrative. They argue that establishing a direct link between climate change effects and violence or international security is reductionist and unrealistic. Instead, they stress the missing link "political, social, and cultural institutions in mediating between the two terms of the equation".[7] Institutional responsibility is argued as the main importance in discussions about natural resource conflicts and environmental degradation. Almost all scholarship mentions state institutions' responsibility in mitigating conflicts and addressing livelihood issues or disparities through the lens of environmental causes. However, Goetschel and Peclard take this a step further, stating:

"Climate change may render human interaction and social regulation more difficult, but it will hardly ever directly affect the probability of violence. Climate policy will not bring about peace any more than peace policy will improve the climate".[8]

They don't rebuke the idea that climate change might have some effect on scarcity and conflict, but instead they are trying to shift the focus of climate change causing violence to the state institutions being the main root of violence. I found it important to showcase this point of view as well, since it is echoed in many specific discussions of violence and climate change, particularly with the Syrian Civil War which is brought up in its respective case study.

I agree with the mindset they emphasize: solutions should be grounded in the dimension of realistic significance. For them, that means within political institutions. Examples brought up of water scarcity conflicts and indigenous land ownership rights all were drawn back to problems within the state policies. This analysis will be scrutinized and incorporated into my own findings.

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[6] Nett and Ruttinger, 56.
[7] Laurent Goetschel and Didier Picardhe "Missing Link: Environmental Change, Institutions, and Violent Conflicts" in *Research for Sustainable Development Foundations, Experiences, and Perspectives* (Switzerland: NCCR North-South, 2011), 451
[8] Goetschel and Picharde, "Missing Link", 453.

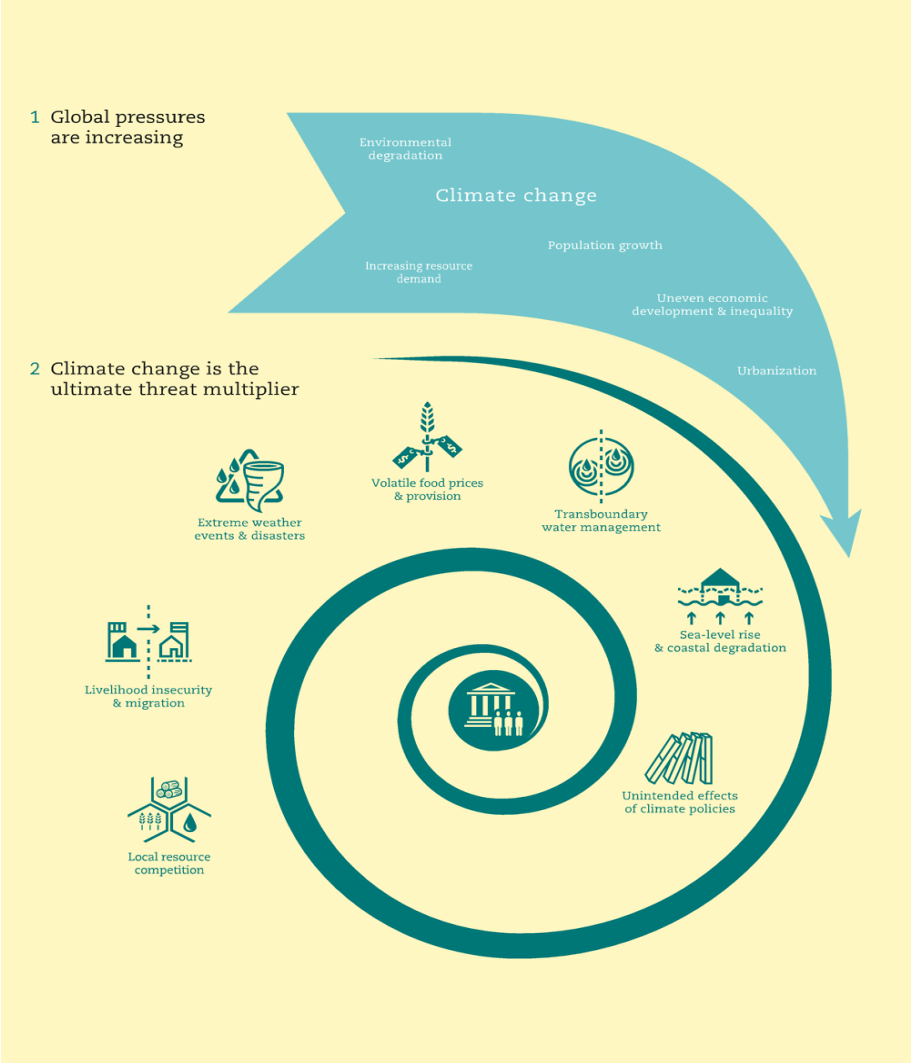
Case Study

To explicate climate induced violence, it is necessary to analyze how it is manifesting in certain regions. The regions have high rates of transnational violence, a decline of state power, and a strong susceptibility to the encroaching effects of climate change. Currently, regions in several corners of the world are experiencing intense outbursts of transnational and political violence, such as in West Africa, Central Asia, and the Middle East. Non-state armed groups have gained more and more control over civilian populations in Afghanistan and Syria in particular, with war crimes and casualties being reported time and time again. Climate change has not been regarded as much of a contributing factor to these state situations, but it becomes a more exacerbated factor after seeing the severity and linkage of changing climate conditions.

There are several indicators that analysts have specified to be predictors of climate change damage and/or violence. Seven indicators of climate fragility risks have been specified by the G7 Foreign Ministries[9]:

Local resource competition- when natural resources dwindle, competition for what remains can become intense.
Livelihood insecurity and migration- Livelihoods that depend on natural resources and terrain can become more insecure after climate change related damage, which causes those with insecure livelihoods to migrate in large numbers.
Extreme weather disasters-These are happening on a more frequent and destructive basis, causing greater vulnerability among affected regions and groups
Fragile food prices and provisions-Because of natural resource and agricultural disruption, it is expected that food prices will rise and market prices will inflate, causing volatility in markets and potentially leading to dangerous disruption and scarcity.
Transboundary water management- climate change has been impacting water sources and distribution, potentially leading to increased competition for control
Sea-level rise and coastal degradation- flooding from rising sea levels can cause unstable migration and displacement of vulnerable groups, potentially causing more situations regarding ocean resources and boundaries
Unintended effects of climate policies- climate change policies have the potential to not be enacted in stabilizing ways, and can have negative effects on fragile regions without proper analysis.

[9] Nett and Ruttinger, 8.



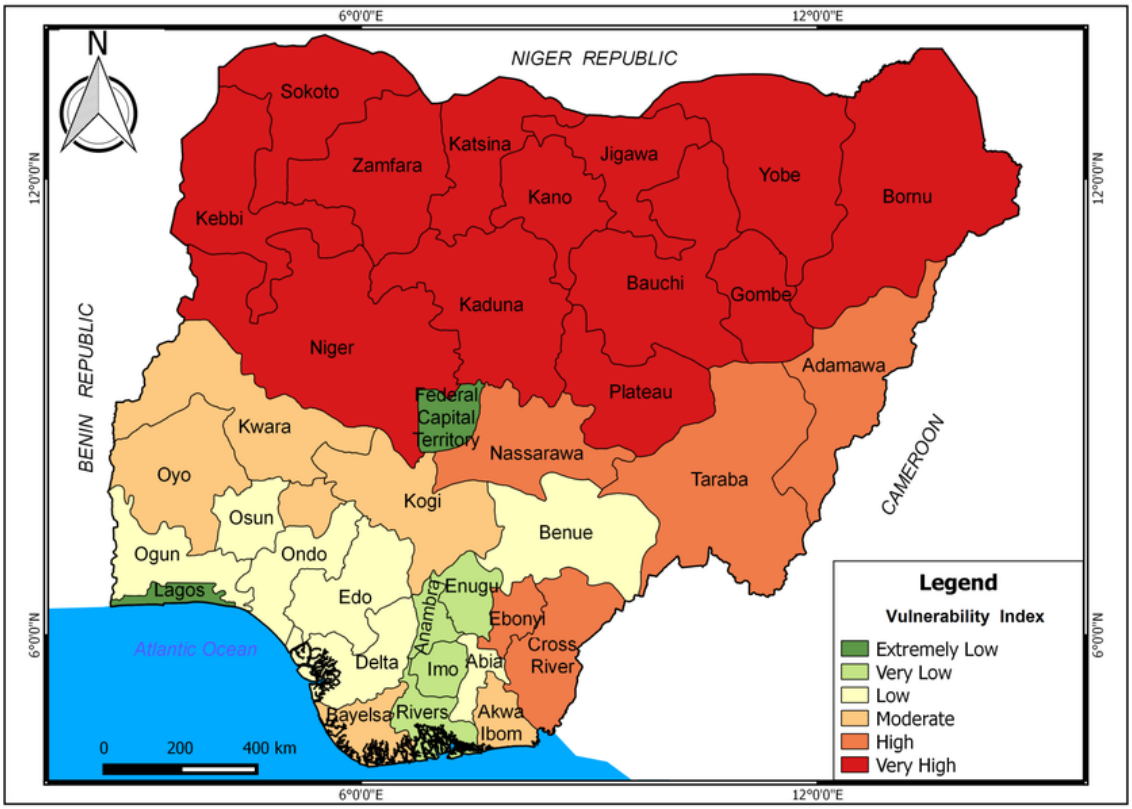
How many different issues climate change can impact
Taken From OECD

These factors are displayed in the following regions/countries I have outlined. However, not all regions are the same in how they react or adapt to climate change. Each area has its own very unique characteristics and background that shapes the course of its popular livelihoods, populations, and conflict. For West Africa, pastoralism and agriculture takes up a majority of the discourse with vulnerability and displacement. In Central Asia, maladaptive practices in agriculture and water management have pushed forth dangerous groups into control. In the Middle East, extremism and civil war have become a discourse for drought-related conflict. All cases have low state capacities for reactive policies and damage control. In this gap, violent groups can take control and conflict can spread.

Nigeria

West Africa's Climate Profile

The UN's International Panel on Climate Change (IPCC) has continually reported on dangerous effects that have emerged in the vulnerable regions of this case study. In their Sixth Assessment Report, West Africa was reported to have increases in river flooding, droughts, and heavy precipitation as a result of monsoons. Surface temperature is increasing more rapidly in Africa than the average global scale as a result of climate change, which shows that this region bears the forefront of global warming.[10] The increase of hazardous flooding and temperature risings lead to more erratic weather patterns and dramatic shifts in terrain and agriculture. Some prominent terrain that is being impacted is the Sahel, or the transition area between the Sahara and the grasslands in the South. Precipitation extremes will be largest during the monsoon seasons over the Sahel, and this can create disastrous effects on water resources and ecosystems.[11] Dry, arid seasons will also become more pronounced and difficult to prepare for. Therefore, some of the most obvious impacts of climate change are seen in agriculture and cattle livelihoods. On top of this, the most prominent form of income is in agriculture for individuals and their families.



Climate Change Vulnerability in Nigeria
Taken from Ignatius, A. Madu, "Rurality and climate change vulnerability in Nigeria: Assessment towards evidence based even rural development policy"

[10] International Panel on Climate Change (IPCC), "SIXTH ASSESSMENT REPORT", Regional fact sheet - Africa.
[11] Alisher Mirzabaev and Jianguo Wu et. al, "Desertification: Special Report on Climate Change and Land", IPCC

The Farmer-Herder Conflict

About 50 million people in Sub-Saharan Africa rely on pastoralism for their income, and about 70% of those individuals are impoverished.[12] Already, there are economic tensions and instability within this area of work, and desertification of already arid regions can aggravate instability. A state that has been actively dealing with emerging conflicts born from changing herding patterns is Nigeria. As a whole, Nigeria's economy relies heavily on climate-impacted areas such as fishing, agriculture, and pastoralism. On top of that, 70% of the workforce is in those job sectors.[13] Therefore, when conflicts arise from these livelihoods, it has the potential to seriously impact thousands of lives.

In particular, the farmer-herder conflict has been a large source of violence and displacement in Nigeria. This conflict stemmed from climate-induced changes in the environment that affected both pastoralists and farmers in the Middle Belt region. The Middle Belt lies across central Nigeria, forming a transition zone between the North and the South. This area has several states that have conflicting ethnic, religious, and cultural differences with no clear group majority. This is unique from the other regions in Nigeria, where the North is predominatly Muslim and the South predominantly Christian. This is a key factor that plays into the current conflict between herders and farmers.

The climate and terrain in this region is heavily intertwined with the actions and livelihoods of the people in the Middle Belt. For pastoralists, the seasons dictate how they move their cattle-in dry seasons they move to the south and in wet seasons they move back to the north. However, the desertification that has been growing in this region is pushing them further and further south onto new terrain. Oftentimes this new terrain the cattle graze on belongs to farmers. Farmers have also expanded their fields to block some migration routes for herders, increasing the competition for good land. On a larger scale, 75% of the entire Sahel region is too dry for cattle to graze, forcing herders all over Sub-Saharan Africa to adjust routes to find water and good grazing.[14]

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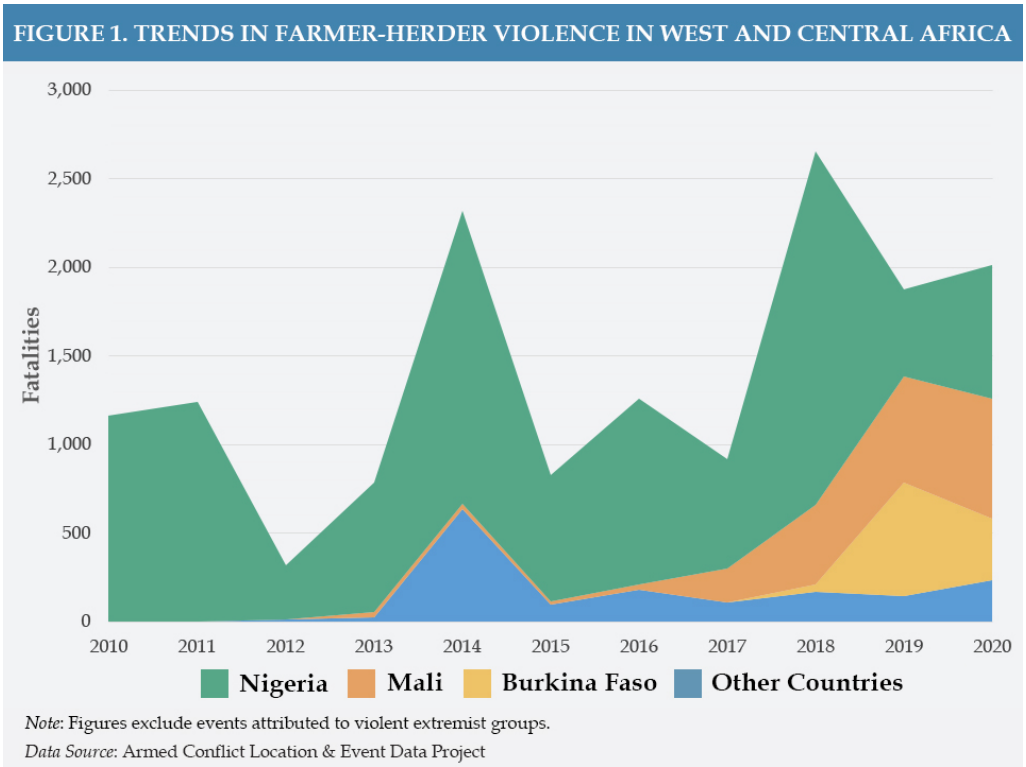
[12] Marta Schock and Christoph Lakner, "The number of poor people continues to rise in Sub-Saharan Africa, despite a slow decline in the poverty rate",
[13] Aaron Sayne, "Climate Change Adaptation and Conflict in Nigeria" (United States: United States Institute of Peace, 2011), 5.
[14]"Where Climate Change Is Reality: Supporting Africa's Sahel Pastoralists to Secure a Resilient Future", The World Bank, 2020.



The increase in fatalities in Nigeria is shown here to be particularly troubling
Taken from Africa Center for Strategic Studies

The Role of the State

The other factor in this conflict is the lack of helpful governmental intervention. Militias have been growing in popularity and power as a result of tensions and economic frustrations, and the government has not implemented any control or prosecution of group attacks. There have also been many failed attempts to combat illegal grazing, which has just been met by herder's anger and migration into neighboring states, consequently causing more conflict. [15] The agricultural sector has received little attention the past few decades from the Nigerian administration because of their shift to being invested in oil in the 1970s and 80s.[16] Though some laws have been passed to regulate herder actions, little enforcement has been completed. Some have accused the government of being overly sympathetic concerning the actions of pastoralists, and not enough protections being implemented for the farmers.

The outcome of these two factors, along with anthropological and social tensions, have resulted in 300,000 people being displaced in the Middle Belt region. This farmer-herder conflict has caused dramatic violence in its own realm, with climate change being an identified factor. Another layer to this issue is its effect on terrorism in the region. In particular, Boko Haram has been a group wreaking havoc in Nigeria, and its growth has been caused by many of the issues discussed prior.

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[15]"Herders against Farmers: Nigeria's Expanding Deadly Conflict", International Crisis Group, 2017.
[16]Ugwumba Egbuta, "UNDERSTANDING THE HERDER-FARMER CONFLICT IN NIGERIA", 42.

Boko Haram's Growth

In areas where Boko Haram is the strongest, around 71% of the population live in poverty and almost 60% of youth are unemployed.[17] The correlation between the two comes to no surprise, since Boko Haram and many similar terrorist organisations look to recruit individuals who live in very weak socio-economic conditions. These struggling agriculturalists and pastoralists are not receiving adequate support from the government, and their livelihoods are being slowly degraded by a changing environment and increasing competition. Boko Haram has economic incentives, as well as political and social rhetoric against government and cultural corruption that resonates with distressed youth and laborers. The impacts of climate change such as displacement, poverty, and unemployment provide the necessary opening for terrorist groups to enter and grow.

Within the area surrounding Lake Chad, there have been several resurgences of Boko Haram and their break-off organization, ISWAP. This area is home to about 17.4 million people, and around 10.7 million of these people require humanitarian assistance.[18]Climate change impacts in this area are debated amongst some analysts, but there are several concerning progressions of weather patterns and water levels. Though several droughts have occurred in this area thus desertifying the terrain, much of the damage was caused by man-made operations. This involved the construction of dams, irrigation projects, and irresponsible/unsustainable methods of water extraction. In the 1970s and 80s the water levels of the lake were reduced to 2,000 km as opposed to 25,000 km, which is about a 90 percent drop.[19] However, it has since grown back to 14,000 km and has remained stable.[20]

Livelihoods in this region have been forced to adapt, or have been eradicated. Some of the most important and popular sources of income in the basin are fishing and agriculture. Desertification has led to major detriments to the agricultural sector, as well as the erratic changes of rainfall which has further destabilized farmers by ruining crops and prompting disease to infect crops and livestock. Fishing has also been a cause for concern, with catches falling from 220,000 tons to 100,000 tons between 1974 and 2011. [21] According to Mohammad Bila, a water level monitor for the Lake Chad Basin Commission, two or three years of normal rainfall can be followed by up to two years of drought. Thus, everytime there is a reduction in the lake, conflict grows and instability flourishes.[22]

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[17] Nett and Ruttinger, 17.
[18] "Shoring Up Stability – Addressing climate and fragility risks in the Lake Chad region", Climate Diplomacy, 2019.
[19] Caroline Varin, "No Opportunity Lost: The ISWAP Insurgency in the Changing Climate of Lake Chad Region", (African Conflict & Peacebuilding Review, 2020), 145.
[20] Natalie Sauer, "Lake Chad not shrinking, but climate is fuelling terror groups: report", Climate Diplomacy, 2019.
[21] Varin, 146.
[22] Megan Darby, Climate change affecting stability across West Africa and Sahel: UN security council, Climate Home News, 2018.

ISWAP and other NSAGs have taken advantage of shifting instability and desperation among groups to serve as a source of income, resources, or safety. ISWAP in particular has been working to create ties with several communities in Lake Chad to fortify their stronghold even with extremism. Methods used include "taxing" trade, stealing fish cattle and crops, and garnering ransoms.[23] Although violence persists, they have provided various forms of support to gain recruits from villages. Recently, the militants have built public toilets, clinics, and dug wells to reach potable water in areas where the government has no presence and have also created trade routes around government blockades.[24]

Afghanistan

Afghanistan's Climate Profile

Afghanistan has experienced startling outbursts of violence and armed conflict in the twenty-first century. The baseline poverty rate is 72%, and is possibly projected to increase up to 97% by mid-2022.[25] Climate change has already deteriorated sectors of the economy, and violence has been slowly filling those gaps. Scarce resources are becoming more and more competitive to hold and the government has been less and less attentive to climate change and its most vulnerable populations.

Climate change in Afghanistan is a rapidly growing, dangerous problem. They are especially vulnerable to multiple climate-related disasters such as flooding, landslides, and droughts. Most of this comes as a result of desertification across the country, causing soil erosion and extended droughts, while snow melts are causing dangerous spring floods.[26] Unpredictable weather patterns are becoming more common, which can be devastating for agriculture and cattle herding, which we already see being the case.

Afghanistan's Agriculture

Agriculture livelihoods make up about 45% of the population in Afghanistan, and up to 60% have agriculture as a part of their income.[27] Reliance on rivers as irrigation is also important, as rivers and streams account for 86% of the irrigation systems within Afghanistan. Drastic changes to conditions of farming have the potential to lead to massive food insecurity, poverty, and violence. Just this year, the drought has caused about 40% of crops to be lost, with the price of wheat(one of the main crops in the region) going up by 25%.[28]

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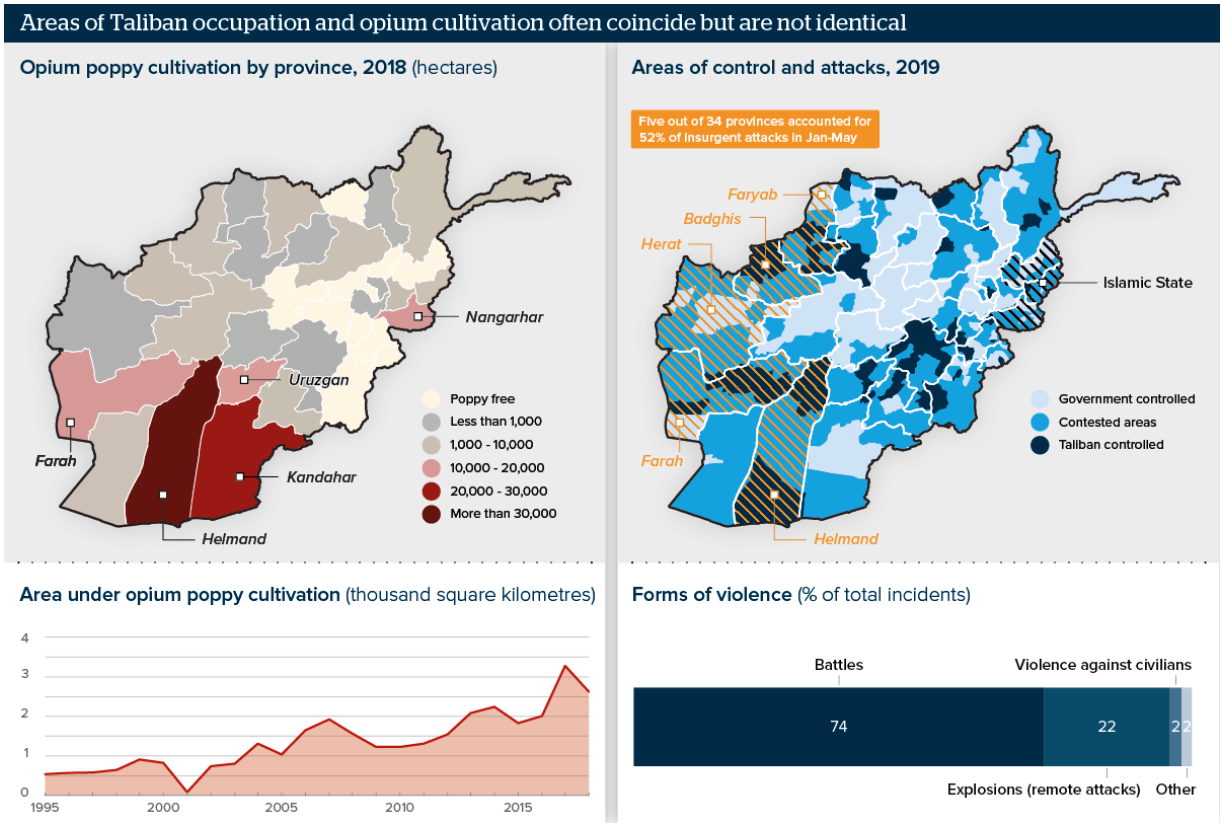
[23] Varin, 150.
[24] Varin, 153.
[25] "97 Percent of Afghans Can Plunge Into Poverty by Mid 2022", UNDP, 2021.
[26] Nett and Ruttinger, 30.
[27] "Climate Change in Afghanistan", C-Adapt, 2016.
[28] Somini Sengupta, "A New Breed of Crisis", *The New York Times*, 2021.

In order to survive, many farmers are turning to illicit crops such as poppy farming. This type of farming is alluring because the poppy plant needs significantly less water than crops such as wheat. Opium farming also provides a much higher cash-based income, which fits in perfectly to farmers needing supportive income. [29] Efforts to stop this widespread crop have not worked, since very little action has been made on the ground where it is spreading, and instead empty promises have been made to reform and replace livelihoods.[30]



The correlation between opium farming and Taliban control
Taken from UN Office on Drugs and Crime; US Special Inspector General for Afghanistan Reconstruction; NATO Resolute

[29] Nett and Ruttinger, 30.
[30] Parenti, 109.

Violence Within Disasters

Natural disasters also push insurgency groups into popularity amongst the vulnerable. According to Germanwatch, Afghanistan is the sixth most affected country by extreme weather disasters in 2019.[31] As mentioned before, floods and landslides are major problems that have resulted in displacement and casualties. There is an overwhelming lack of response to these events because of government incapacity, economic decline, and more prominent security situations. Insurgency and terrorist groups move into these areas affected by disaster and provide some relief. Consequently, they are able to gain more members in these communities.[32]

Lack of Aid or Direction

Afghans have been caught in the middle of extreme violence and instability for decades, which has seriously affected the health, well-being, and positions of Afghan citizens throughout the state. It's therefore important to emphasize how civil and political turmoil, corruption, and conflict serve as major multipliers in climate change impacts. One of the most distressing effects is massive migration flows from high conflict areas. While drought-related effects can push people to leave their homes, a large part of displacement in Afghanistan is due to attacks. The use of IEDs, targeted killings, and destruction of education and health facilities have led to mass distress and displacement among citizens. In 2018, around 550,000 Afghans were forced to leave their homes from violence or loss of livelihoods.[33]

Along with this, unsustainable land and water management have exacerbated the already precarious resource situation. There is an unequal distribution of agricultural holdings controlled by the government, and lack of reinstatement of property by the government as well. This occurs because of land allocations made to powerful, wealthy elites suggesting that land distribution by the government is still based on patronage and power.[34] Water sources have also been mismanaged and destabilized over lack of cooperation and entrenchment. Droughts and snow melt causing diminishing river flow have increased stress on water sources as well. [35]

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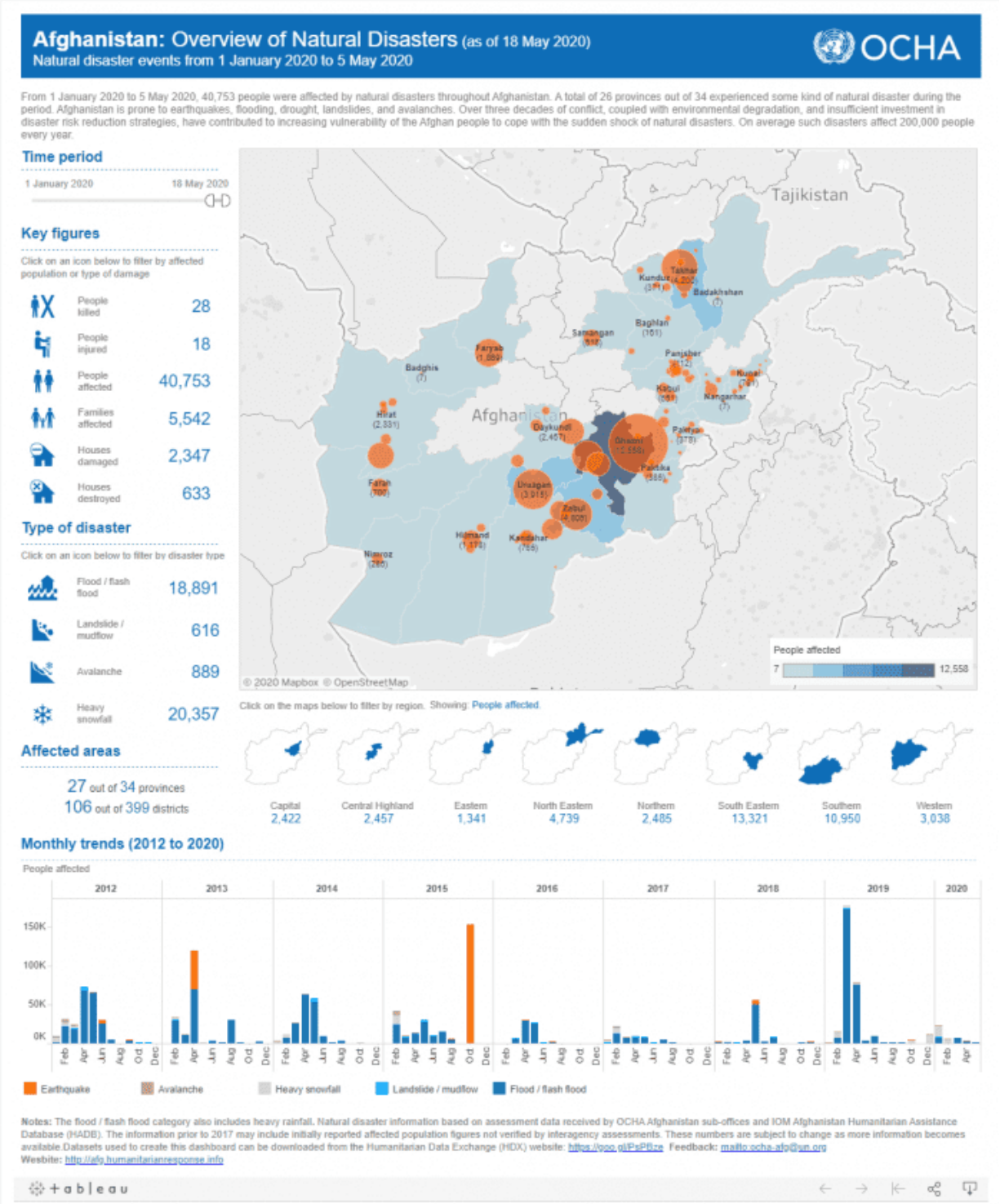
[31]David Eckstein, Vera Künzel, Laura Schäfer, "GLOBAL CLIMATE RISK INDEX 2021", Germanwatch, 2021, 8.
[32] Nett and Ruttinger, 34.
[33] "2019 Afghanistan Humanitarian Needs Overview", OCHA, 2018.
[34]"Afghanistan", Landlinks, 2018.
[35] Andrej Přívara 1, and Magdaléna Přívarová, "Nexus between Climate Change, Displacement and Conflict: Afghanistan Case", *Sustainability* 11, no. 20: 5586., 2019.



This infographic details many different areas and disasters, but the graphs at the bottom emphasize the increasing danger of flooding in several provinces
Taken from OCHA

Taliban

The Taliban's hold on Afghanistan serves as a current crisis that has been arguably aided by climate related changes, and may take a turn for the worse since climate governance is not likely. As explained before, agriculture in Afghanistan has been precarious and unstable for many farmers that heavily depend on fruitful crops for income. When farmers struggle to pay back lenders when their income fails, the Taliban step in to offer a solution and sow resentment of the government. According to a CBS investigation, the Taliban paid recruited fighters $5-$10 more per day than what the average farmer was earning daily.[36]

Now that the Taliban have taken control of the Afghan state, they have made claims that they are focused on fighting climate change, and eliminating poppy production and cultivation. Quite an interesting turn since they have benefited from both in the past, especially the lucrative poppy business. However, they wish to be recognized within the international order as legitimate, and separating from illegal economic practices seem to be a priority.

Syria

Climate Change or Bad Coincidence?

There is some debate on whether drought in Syria was a direct result of climate change, and if it directly influenced the onset of the Syrian civil war. A popular article in the *Proceedings of the National Academy of Sciences* is highly cited as the precedent for the Syrian climate-conflict argument. Specifically, they argue that the 2006 drought served as a catalytic effect contributing to political unrest. Furthermore, the severity of the drought that is implicated in the conflict is more than twice as likely to be a consequence of human interference in the climate system.[37] This was met with some pushback, such as the article by Selby, et al. which argues that there is no clear evidence that climate change played a role in the drought, and that the drought did not cause a mass migration which consequently means that drought migration factors contributed to the Syrian civil war.[38]

The variance of opinions and analysis in this case highlights the discourse of climate-induced conflict especially in regards to high-intensity conflicts such as civil wars. First, I find it necessary to outline the facts of the drought, displacement in Syria, and the onset of the war.

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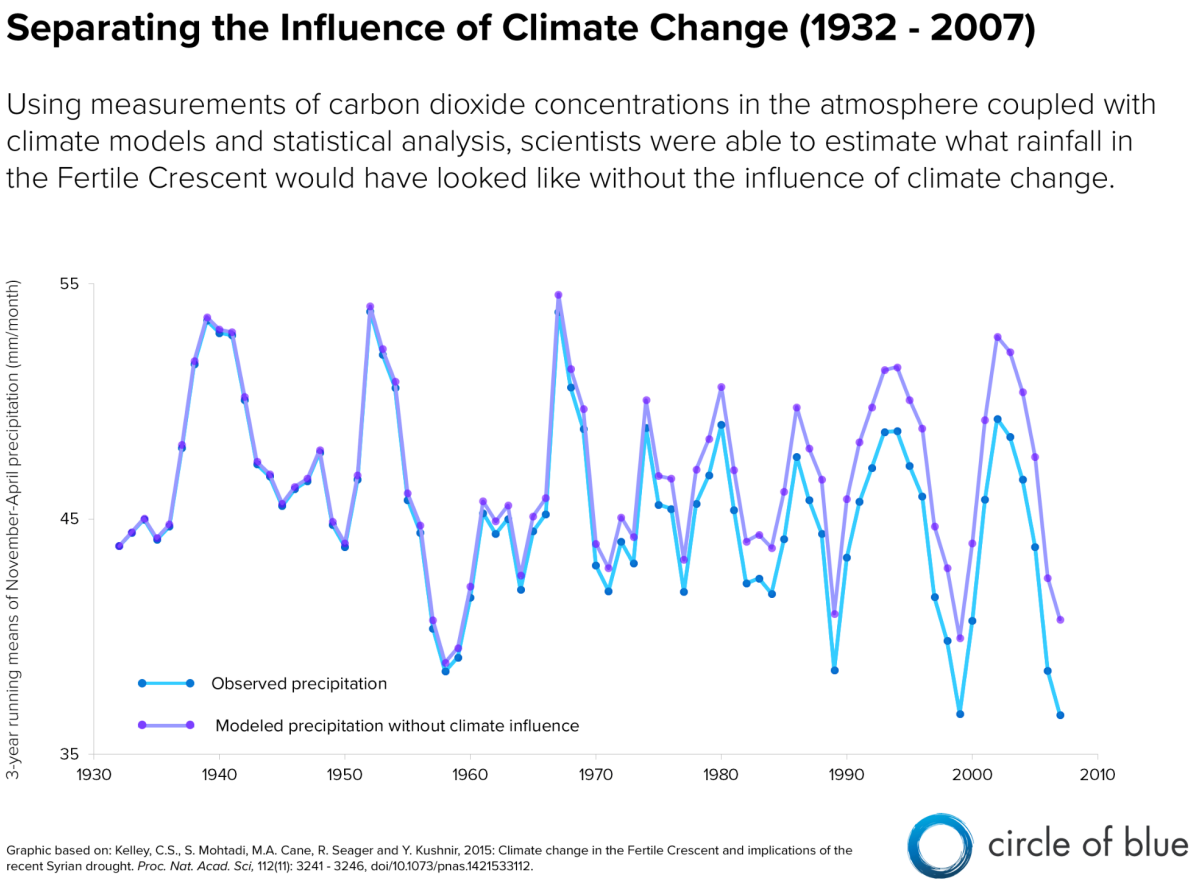
[36] Cara Korte, "How climate change helped strengthen the Taliban", CBS News, August 20, 2021.
[37] Colin P. Kelley et. al, *Climate change in the Fertile Crescent and implications of the recent Syrian drought,* PNAS, 2015.
[38] Jan Selby, Omar S. Dahi, Christiane Fröhlich, Mike Hulme, "Climate change and the Syrian civil war revisited", Political Geography, Volume 60, 2017, https://doi.org/10.1016/j.polgeo.2017.05.007.

Syria's Climate Profile

Syria is located at the center of the Fertile Crescent region, which contains the Nile Basin, ancient Mesopotamia, the Mediterranean and the Red Sea. Syria is also a part of the Mediterranean and Middle East region, giving the state varying climatic trends and geographic characteristics. Major terrains include the eastern Mediterranean, the cold and warm deserts spread throughout the country, and the warm semi-arid agricultural region to the northwest.[39] Syria has historically been subject to large precipitation variability and several drought seasons. In the 19th century, six major droughts occurred in Syria where precipitation was recorded as one-third of what was normal. Agriculture was able to be sustained through these periods through government relief and backup resources, but the seventh drought starting in 2006 was an exception. This lasted four seasons as compared to the usual one season drought, and the precipitation level was the lowest ever recorded in the last century.[40]



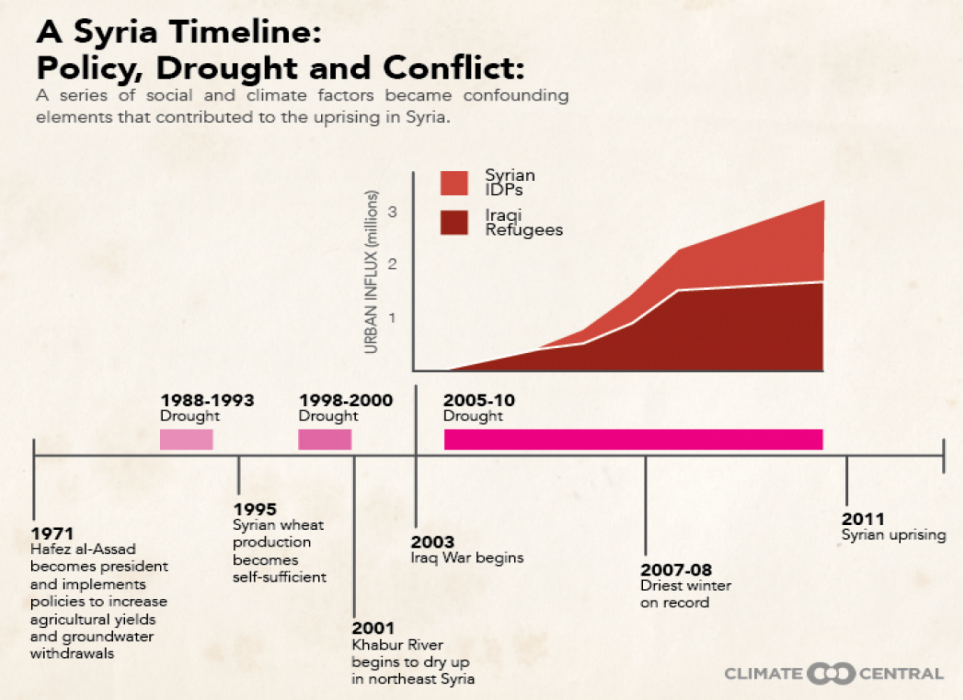
The projected difference climate change has made in Syria's precipitation
Taken from Circle of Blue

[39] Samantha Wilson, "Climate Change and the Rise of Terrorism in Northeastern Syria", ESSAI: Vol. 15 , Article 37, 127.
[40] Shahrzad Mohtadi, "Climate change and the Syrian uprising", Bulletin of the Atomic Scientists, 2012.

Effects of the Drought

This obviously impacted many people's livelihoods. Most of this was concentrated in northeastern regions, where agriculture is most prominent. Between 2006 and 2009, around 1.3 million people were affected by agricultural failures and 800,000 people lost their livelihoods.[41] Wheat and barley yields fell drastically, and livestock also fell. Many herders were forced to sell their herds between sixty and seventy percent below their usual cost.[42] With so many people driven to food insecurity and losing most of their income, large-scale migration occurred, with most of it being recorded as rural-urban. The main cities that received an influx of migrants were Aleppo, Damascus, Dara'a, Hama, and Homs.[43]

With so many people moving towards the South, little was done by the Assad regime to aid those remaining farmers in the North, or to help integrate those displaced in the South. Therefore, scattered illegal settlements sprouted throughout city outskirts that became overcrowded, crime-ridden, and poverty stricken.[44] Water resources also became a massive problem, with unsustainable irrigation techniques and faulty water basins led to water shortages. In Damascus, the city's water basins leaked sixty percent of its water supply, causing migrants to pay inflated prices for water.[45]



In this infographic, the drought does correlate with a rise of IDPs, but the Iraq War does as well
Taken from Climate Central

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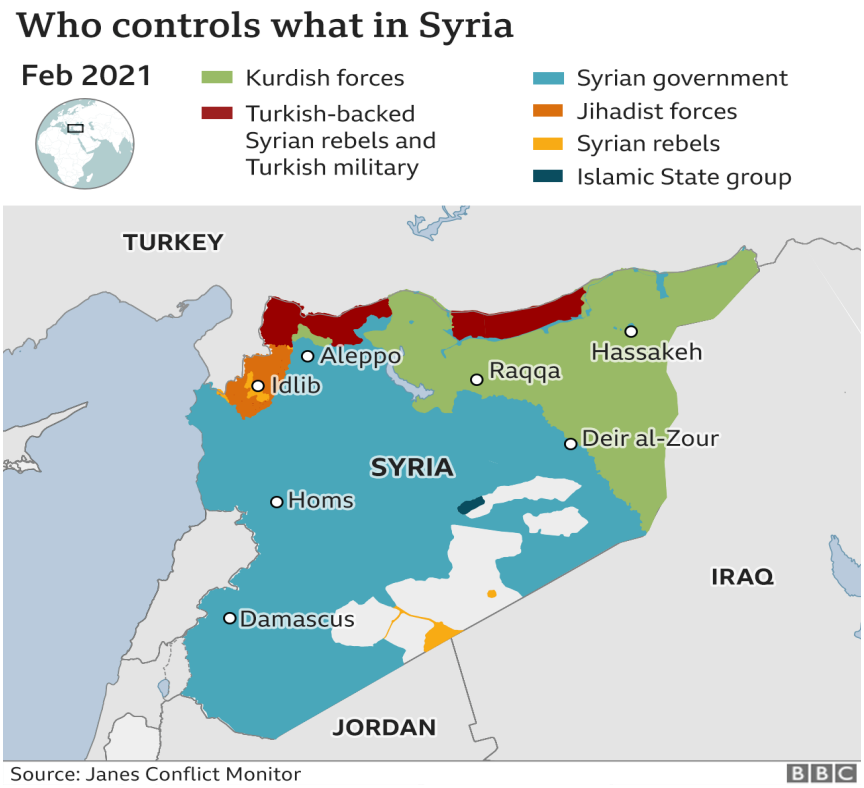
[41] Peter Gleick, " Water, Drought, Climate Change, and Conflict in Syria", Weather, Climate, and Society, 331-340, 2014.
[42] Wadid Erian, "Drought Vulnerability in the Arab Region", ASCAD and ISDR, 2011.
[43] Gleick, 332.
[44] Wilson, 128.
[45] "Why the Water Shortages?", The New Humanitarian, March 25 2010.

ISIS

This precarious environment, whether as a result of climate displacement, government mismanagement and neglect or a combination of both, led to the terrorist group ISIS to grow stronger and take control. They began recruiting in the northeast, where the drought hit the hardest and government support was close to nothing. ISIS saw this opportunity and stepped in to provide social services, irrigation structures, and clean water to vulnerable communities. As a result, they easily recruited individuals from these populations that had high grievances against the Assad regime and government officials.[46]

ISIS also has control over critical dams and water supplies, allowing them to extort populations and gain tighter control. They use dams along the Tigris and Euphrates rivers to flood neighborhoods, cut off electricity or highly tax water supplies, all to gain control over populations.[47] There have also been reports in 2015 of ISIS poisoning water with crude oil in Iraq and Syria. [48] These extremist methods have caused massive outcries across the globe, and especially the tragedies that occurred during the civil war. Therefore, it is understandable why so many scholars and analysts debate over how it developed and how it can be prevented in the future, with one of the main points being climate change.



The current breakup of Syria
Taken from the BBC

[46] Nett and Ruttinger, 24.
[47] Wilson, 129.
[48] Nett and Ruttinger, 26.

Discussion and Analysis

After researching and synthesizing these cases and theories, I learned that there isn't a singular consensus being reiterated among scholars about any country on the issue of climate-induced violence. The complexity of information and root cause will always be debated, especially pertaining to terrorism and non-state armed groups. In my attempt to explicate this problem, I will focus on the three examples of violence that were shown through my case studies: farmer-herder violence, terrorism, and civil war. All three of my case studies have different historical backgrounds, geography, governmental makeup, etc. This renders it inefficient to try and compare or contrast, but rather to find how this issue of climactic violence manifests into society, or if the real issue lies within institutions. Is violence at all influenced by climate change? Is it appropriate to attribute conflict to climate change? How does this influence policy-making, and should the focus be on fixing climate change or fixing inadequate governance?

Ethnic and Livelihood Conflicts

This issue has persisted for centuries, and is not always an indicator for an increase in natural resource conflict. In West Africa where I explained the current farmer-herder conflict within Nigeria, agriculture and pastoralism have coexisted with some disputes, but both parties are usually able to reach a resolution. Many categorize these relationships as symbiotic, with two communities either engaging in host-stranger or host-client relationships.[49] Both of these involve both parties participating in providing some sort of service or goods to facilitate gift-giving and communication that benefits both sides. For example, agriculturalists giving crops to visiting pastoralists who reciprocate with livestock or other supplies in good faith. These are essential in creating resilient and peaceful livelihoods, and creates a channel for resolving conflicts that inevitably arise between these groups.

However, there is a degradation of these relationships which I have summarized in my case study. Instead, more intense conflicts are sprouting as a result of land competitiveness and decreased need for contracts between another group. The question posed here is whether the violence is increasing *as a result* of climate change. Some argue that this is not possible, and the real situation lies in poor land and resource management by the government. Others argue that climate change serves as a stressor for conflict, as its effects cause droughts, irregular weather, and destructive flooding. I have discussed the facts in my case studies, but ultimately the data can always be skewed to favor one argument because of the volatility of this subject.

Looking at this issue through the lens of farmer-herder conflicts in particular, terrain and climate has more of a part to play in these relationships. Both agriculturalists and pastoralists are extremely dependent on the quality and quantity of their land for bountiful and successful seasons. A threat of land degradation or the possibility of land being taken by someone else directly affects their lives. Of course, there is hard and nonnegotiable data about the effects of climate change on the terrain in Africa. However, many of these farmers or herders find fault with government measures that hurt their business.

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[49]Mark Moritz, "Understanding Herder-Farmer Conflicts in West Africa: Outline of a Processual Approach". Human Organization, Vol. 69 No. 2, 2010, 139.

For herders, it's correct that drought related land degradation has pushed them south. Government initiatives also have directly hurt herder's land availability:

"Agricultural Development Projects (ADPs) in the 1970s encouraged the use of water pumps while National Fadama Development Projects (NFDPs) have helped farmers exploit wetlands (river valleys and floodplains) for dry season irrigated agriculture since 1993. High-value crops promoted by the National Fadama Development Projects, notably tomatoes and onions, produce little residue for livestock feeding, further diminishing available fodder."[50]

Many blame the government for hurting herders' business, and it's clear that the government has not established any successful negotiation or dialogue with herders and farmers. When the violence started garnering more attention because of its brutality, the Nigerian administration and police have failed to take on the appropriate responsibility. In fact, Fulani herdsmen have repeatedly called on the government for more grazing space to no avail. Both the farmers and herders criticize the Nigerian police force for answering calls too late and failing to punish agitators and aggressors, which push many herdsmen to seek revenge themselves.[51]

The relationship between climate change and these outbreaks of violence are more directly linked than others. When livelihoods are already fragile and heavily rely on the health of the land, any degradation or significant shift in patterns of precipitation have large consequences of instability. However, these changes should not cause breakouts of intense violence, because the government has an obligation to support its citizens in times of need. Unfortunately, it's clear many of the government's promises to squash violence and promote peace are used to delay actual action and an attempt to save face. This failure helps explain the next large issue of terrorism.

Terrorism

The extremist groups I focused on in my research were Boko Haram and its branches, the Taliban, and ISIS. Each have their own history in their respective regions, and profit off of destabilized populations. The question of climate change effecting terrorism has been growing in public awareness because of public attention to climate change and migration. In my view, the effect on climate change on terrorism falls in line more with an indicator perspective. By this I mean that effects such as drought, flooding, storms, etc. can indicate an opportunity for terrorist recruitment tactics. For example, a drought can cause massive crop failures for farmers, and if they are in a position of weakness already, the probability of them working with or joining an extremist group is much higher. However, the root of their relationship with extremists does not stem from climate change. Instead, their instability from their livelihoods goes back to state failure of welfare, safety, and communication. As discussed earlier, this issue dates back to colonization for these specific countries, ultimately creating a very complex, historical problem.

[50] "Herders Against Farmers", 2017.
[51] John Peter Okoro,"Herdsmen – Farmers' Conflict: Implication on National Development (Nigeria in Perspective)". International Journal of Scientific & Engineering Research, 2020, 7.

Looking at Boko Haram, they originally started gaining support and popularity in Nigeria from their condemnation of Nigerian governmental elites and their corrupt dealings. The leader and founder of Boko Haram, Mohammad Yusuf, also rejected parliamentary democracy on the grounds that it is a vehicle for Western colonization. He was looking to establish a caliphate to promote universal Sharia law, and also gained interest by saying he had international support from other international religious actors.[52] Therefore, originally many Nigerian citizens and others in the Lake Chad region were drawn to this because of their own discontent for government corruption and unfair practices created by other groups.

Another major indicator for terrorist recruitment is unemployment. This was another major tool used by Boko Haram, since the government failed to bridge the unemployment gap through their own services. Even international support failed:

"However, as with service access, the employment situation has been changed only superficially by the relatively upbeat economic environment prevailing since 2000. Not only has it reportedly created few jobs—the World Bank acknowledges that growth driven by foreign direct investment in the extractive sector and agriculture has proved insufficiently inclusive—but it has most importantly benefited mainly the southern metropolitan regions and has barely touched the Lake Chad region."[53]

This mirrors the situation in Afghanistan, with the Taliban creating alternative livelihoods for desperate farmers. The extremist group is operating more on the basis of providing security to establish control rather than ideology, but the root cause is the same. The state has failed to support the land-based livelihoods of their citizens. Climate change pushes the existence of terrorism forward, but it is in addition to state failure, ethnic tensions, and colonial scars.

With terrorism, I believe all of these factors are major causes, but failure of the state in particular is to blame for people's support of terrorism. Especially in these regions, where the presence of the state is almost nonexistent and farmers have no means to rally for aid by themselves. The ever-increasing danger of climate change calls on states to appropriately and swiftly be proactive in their responses to people and places most affected. The specific roles and responsibilities will be discussed later, but the importance of politics and economics is greatest in the next issue of civil war.

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[52] *Crisis and Development: The Lake Chad Region and Boko Haram*(Agence Francaise de Development, 2018), 122.
[53] *Crisis and Development,* 83.

Civil War

Civil war is a conflict that stems from deep tensions, divisions, and inequalities brewing within a nation. Each civil war throughout history, and there have been hundreds, has its own complex history. Therefore, it is impossible to attribute one cause or aggressor for the outbreak of war. Most studies and scholars agree and accept this notion, and I found that virtually all of them mentioned that climate change cannot be the sole cause of a conflict as complex as a civil war. However, in the controversial study done by Kelley et al. on the influence of drought on the outbreak of Syria's civil war, they took a more holistic approach to better back their claim on climate change causing conflicts. In fact, they emphasized their reliance on providing context throughout their research, "Our analysis of the conflict in Syria shows an impact of an extreme climate event in the context of government failure, exacerbated by the singular circumstance of the large influx of Iraqi refugees."[54] Though environmental and geographical factors are usually regarded as an acceptable factor in the development of a civil war, climate change is still argued to not be an actual aggressor. However, Kelley et al. argued against this by stating:

"The strong agreement between observations and climate model simulations in century-long trends in precipitation, temperature, and sea-level pressure adds confidence to the conclusion that in this region, the anthropogenic precipitation signal has already begun to emerge from the natural "noise" and that the recent drought had a significant anthropogenic component."[55]

Therefore, the ultimate claim here is that climate change has the potential to induce massive violence and political wars that otherwise would not have been so severe, or happen at all. With something so brutal as civil war, it's easy to see why so many other scholars and studies have rebutted against these claims. Others see it as inappropriate to attribute something as politically, economically, and culturally motivated like civil war to climate change, since the data overall is new and emerging. There is even more contention surrounding the role of climate migrants in these debates, especially in Syria's case. Many see no causality between migrants from rural to urban areas during the drought as an indicator of the violence that erupted in Dara'a. For example, a competing study done by Selby found that:

"...deepening long-term ecological and economic problems themselves had political and political-economic causes: specifically, the over-expansion and subsequent demise of Syria's oil rents-based model of agrarian development; and state policies – an admixture of colonisation, expropriation, exclusion and neglect – towards an ethnically contested borderland and frontier zone. It was these twin political or political-economic factors–and not, as is often thought, the exceptional severity of northeast Syria's drought–which in this view were the principal causes of the region's agricultural decline and out-migration prior to the civil war."[56]

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[54] Kelley et al., "Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought." Proceedings of the National Academy of Sciences, 2015.
[55] Kelley et al., 2015.
[56] Selby "Climate Change and the Syrian Civil War, Part II: The Jazira's Agrarian Crisis.", Geoforum, 2018, 271

Within the lens of the Syrian civil war, my conclusions align more with Selby's analysis. Of course, anthropogenic climate change has affected virtually every nation on earth. However, the effects of a warming climate and changing weather have yet to be directly correlated with outbreaks of politically motivated violence like civil war. I think that the potential for climate change to worsen and thus adversely affect regions and communities is great, so this should not downplay the danger of climate change. Rather, like most other indicators, climate change should be a part of a comprehensive analysis when trying to understand large-scale violence, and not as a sole inducer.

Solutions and Suggestions

Many scholars fail to decipher what exactly states can do to help mitigate climate induced violence and instability. Instead, the focus is on attributing the problem more on one source or the other, i.e. government corruption or drought. Perhaps the solutions proposed would be different if one was seen as a bigger problem than the other. For example, states should be more involved in climate change initiatives and promise to lessen their emissions or vow to promote welfare services.

First, climate change initiatives should be accepted and applied to all countries, since all will be affected if the climate continues to degrade. However, the question of how developing countries will contribute to reducing emissions is controversial. The top 3 contributors to the global emissions rate is China, the United States and the EU, collectively totalling 41.5%, and the top ten overall accounts for over two-thirds. The bottom 100 countries in comparison only account for 3.6% of global emissions.[57] Specifically from the case studies prior, Nigeria is .23% of the world CO2 emissions total, with Syria being .11% and Afghanistan .03%. [58] All countries have been slowly increasing their emissions over the years, and Nigeria in particular has been of concern. Nigeria's greenhouse gas emissions increased by 25% from 1990 to 2014, compared to the average annual change in total emissions of 1%. [59]

The connection between poverty and greenhouse gas emissions adds another layer of complexity to a countries' responsibility. According to World Economic Forum:

"An increase in carbon emissions observed over 30 years shows that poverty has been reduced within East Asia and Pacific and South Asia, while sub-Saharan Africa has, during the same time period, reduced their emissions and almost doubled the number of people living in poverty."[60]

[57] Johannes Friedrich, Mengpin Ge and Andrew Pickens, "This Interactive Chart Shows Changes in the World's Top 10 Emitters", World Resources Institute, 2020.
[58] "CO2 Emissions by Country", Worldometer.
[59] "Greenhouse Gas Emissions Factsheet: Nigeria", Climate Links, 2019.
[60] Adam Goldstein, "What is the link between carbon emissions and poverty?", World Economic Forum, 2015.

In worldwide climate initiatives run by international organizations, developing countries are not held to the same standards as the highly emitting developed countries. However, they do still need to be aware of the problem surrounding their contributions and leniencies towards emissions, pollution, etc. But arguably, their main focus should be on their own citizens' well beings and attempting to reduce poverty. There is some evidence that investing in renewable energy can fix the issue of emissions vs. poverty, seen in energy sources such as solar or hydropower. Particularly in Africa, new innovations and processes are needed to meet increasing demands for electricity. According to Earth.org:

"Aiming to provide electricity for everyone on the continent would require a significant increase in electricity generation, with only 43% of Africans currently having a reliable power supply. According to the report, electricity demand on the continent will more than double by 2040."[61] Thus, renewable energy can both be used to meet demands and increase development and job opportunity, and also benefit the environment.

However, many developing governments do not have the means to start mass production and development of renewable energy. They are struggling to manage production and management of basic sectors like agriculture, seen in the case studies. The focus must be on good governance and better management of critical resources and livelihoods. Pushing for greater capacity within governments would greatly aid some of the root problems in these conflict situations. For example, in Nigeria the International Fund for Agriculture Development (IFAD) is working with the government to invest in poor, rural communities. Specifically, to strengthen the economy they are:

"Developing the sustainable, climate-resilient economic and financial inclusion of young people in profitable agribusiness; and strengthening institutions at state and community levels to work with private companies in key value chains."[62]

Financial independence, inclusion, and accessibility is key to empowering farmers or pastoralists to better their livelihoods and put themselves in a position to not engage with violent groups. Investing in younger demographics will also be a foundation for a brighter future. While there are countless laws and initiatives for boosting their rural economic sectors developing countries can enact, there should also be a space for hybrid climate-economic policies. The United Nations Conference on Trade and Development outlined the main features in creating climate adaptation development systems:

[61] Carla Delgado, "How Developing Countries Can Reduce Emissions Without Compromising Growth", Earth.org, 2021.
[62] "Nigeria", IFAD

Abandon austerity as the default policy framework to be able to be more flexible in policy-making.

Large-scale public investment in building a diversified low-carbon economy, powered by renewable energy sources and green technologies, and where economic activities within and across sectors are interconnected through resource-efficient linkages.

Adopt a green industrial policy that proactively identifies the areas where the most significant constraints to climate adaptation investment are; channeling public and private investment to these activities; and monitoring whether these investments are managed well.

Adopt a green agricultural policy that protects small producers, provides backward and forward linkages to green industrialization, protects the environment and enhances food security through increased agricultural productivity and income security.

Diversify and reduce dependence on primary commodities by using renewable energy production and the circular economy. Renewable energy production can economically operate at a low scale, opening business opportunities for small firms and rural areas.[63]

These goals allow for forward-thinking policies to be born in states such as Nigeria, Afghanistan, and Syria. Of course, it is extremely difficult for states already dealing with corruption or terrorism to implement climate adaption policies. Histories of weak governing, colonialism, and war can be blamed, but the way forward must be prioritized.

Looking Forward

The current situations in these three countries have not been greatly improving. In Nigeria, farmer-herder violence and terrorism continue to worsen even past government military intervention. Banditry is on the rise, with over 120 gangs operating across six states, contributing to thousands of deaths, crop and cattle thefts, and destruction of entire villages.[64] In Afghanistan, the recent Taliban takeover of the entire state has led to mass migrations and an economic/humanitarian crisis. Opium production exceeded six thousand tons for the fifth year in a row.[65] Syria continues to be divided and in intense turmoil of indiscriminate violence and bombings. There has been growing discontent and protests across the country as a result of food insecurity and fuel shortages, which has increased by 50% in a year to 12.4 million. [66] Even after ten years of war, there seems to be no efforts on either side to promote peace or stability to the distressed population.

[63] "Green industrial policies key for developing countries to adapt to climate change", UNCTAD, 2021.
[64] Oluwole Ojewale, "The increasing nexus between bandits and terrorists in Nigeria's northwest", London School of Economics, 2021.
[65] Eltaf Najafizada, "Afghan Opium Production Rises for a Fifth Year, UN Report Says", Bloomberg Politics, 2021.
[66] "After 10 years of war in Syria, siege tactics still threaten civilians", UN, 2021.

All countries place high in the Fragile States Index[67], and many of the indicators used to calculate the placement in that index are the same as the indicators discussed prior that lead to various conflicts. This comparison extends to many other countries that place high, and climate change can lead to cracks in any fragile country. Climate change is also not the only aggressor of violence that is emerging-dwindling resources, overpopulation, and dangerous cyber attacks can also aggravate or enable violent groups or governments to use violence.

Covid-19 complications have only worsened the economic situations in all states, and have likely diverted attention away from the climate crisis or any preventative adaptation measures. However, the main concern in every state has to be protecting the lives of their citizens. In complex conflicts involving deep tensions and divisions, the first step is to de-escalate and protect civilians. Many states have failed at those basic protections, and no climate policy or UN forum can change those lives that were lost to political violence. However, the potential for climate-induced destruction, violence, and chaos will only increase over time if there are no preventative actions taken by developing and developed countries, and international organizations. The problem has been recognized on a global scale, but states have to take individual responsibility for combating violence and displacement in impoverished areas of agriculture and pastoralism.

[67] "Fragile States Index", The Fund for Peace.

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