

## **The Butterfly Effect How Environmental Change Shapes Political Opportunity and Power in Afghanistan**

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### **Abstract**

While Afghanistan is no stranger to global scrutiny from a political standpoint, a key area of the country's struggle is often absent from mainstream analysis: environmental change. This paper explores how environmental change has influenced political opportunity and power in Afghanistan and how these findings can be generalized to apply outside of the context of Afghanistan. By measuring two environmental variables (desertification and drought) alongside relevant political indicators (poverty, opium poppy cultivation, and the number of terrorist attacks) over a fifteen-year period, the study identifies clear trends suggesting that there is a significant correlation between the environment and sociopolitical conflict. While the causal relations identified in the study are complex, there is a clear indication that drastic environmental change affects political proceedings, which carries exciting implications about potential changes to the way scholars examine political conflict and unrest, particularly in regions experiencing increasingly extreme conditions from climate change.

**Keywords:** Afghanistan, Climate change, Opium, Poverty, Terrorism, Desertification, Drought, Political Opportunity

## Introduction

A butterfly flaps its wings on a Tuesday afternoon, and miles away a week later, a tornado ravages a landscape the butterfly will never see. The concept of tiny perturbations creating large-scale effects is one that is common, but rarely applied to intersectional political studies. A butterfly flaps its wings—a drought begins in 1970s Afghanistan. A tornado touches down—by 2015, Afghanistan sees alarming rates of poverty, drug activity, and terrorist activity. Are these things related? Yes, but not necessarily in an obvious way. The complex culmination of the various factors of causality can disguise the significant relationship between the tumultuous nature of the country of Afghanistan and the environmental hardship the region has experienced.

The developed world, particularly America, is fairly familiar with the country of Afghanistan and the general political issues that it faces, due to United States' occupation of the country since 2001 and the media coverage that has followed. Many studies on the country exist, examining everything from oil to poverty rates. However, in the midst of all of this discussion is a notable gap. Even though Afghanistan experiences significant tangible effects of climate change, these factors are rarely considered in terms of the influence they exert on national sociopolitical issues, especially in an academic context. While considerable research exists regarding both Afghanistan's environment and political structure and conflict, the two rarely intersect in a significant way. Arguably, this is a mistake.

Mainstream acknowledgement of the impact that climate change has already had on landscapes other than in the Arctic is relatively recent, and arguably opens a door to a whole new way of considering political conflict. While political factors can stem from a number of sources (social, political, economic), does the environment fit in through correlation, causation, or not at

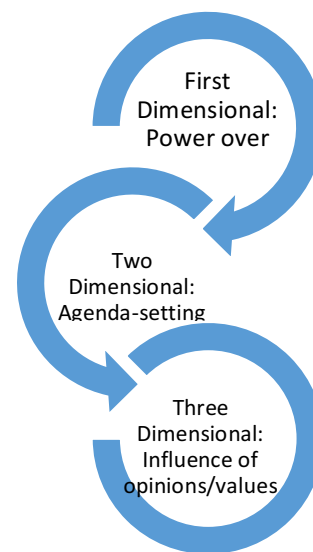
all? Identifying key environmental indicators could, in time, prove to be an effective preventative method for certain types of political conflicts or issues.

Afghanistan is a compelling region for analysis because of both the complex, tumultuous political situation and the very evident toll that climate change has already taken on the country. An in-depth research project centered on the variables within the country provides a convincing case study for the overarching question: how does environmental change influence political opportunity and power?

## Literature Review

### Power and Opportunity

The presence, structure, and execution of power is paramount in any discussion of political relevance, whether explicitly or implicitly. Particularly relevant in an examination of the influence of environmental change on political opportunity structure is three-dimensional power as described by Steven Lukes. Lukes claims that two-dimensional power encompasses not only the non-decision-making that is afforded by first-dimensional power (described as direct power over something), but also agenda-setting power as well as influence on which events and issues are considered pressing and worthy of discussion (see *Figure 1*). (Lukes, 2005.)



*Figure 1: Dimensions of Power*

Agenda-setting power is central to environmental change. Some scholars argue that this power, even when third-dimensional, is granted by the normative context of a given situation and

that Lukes has a tendency to oversimplify the concept (Dowding, 2012, p.120). Lukes claims that the most effective variety of power is the least observable, similar to Michel Foucault's Panopticon model (Foucault, 2002, p. 234). If this holds true, it can be assumed that an entity which exerts relatively unobservable power but carries a significant sway in agenda-setting would hold a considerable amount of political power and influence. What entity fits this description? Tangible environmental change.

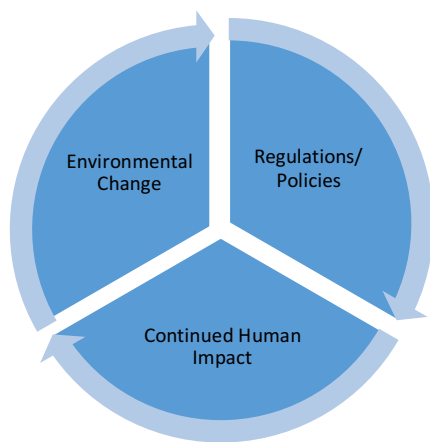
The discussion of environmental change, even at an academic level, while analyzing the attempts of policy-making and regulations to protect, respond to, or shape the environment, often leaves out the political effects that the drought, flood, hurricane, or other natural disaster directly create. In the case of Afghanistan, droughts, flooding, and desertification are all commonplace, but rarely appear in the political analyses of the region (Bohle, Downing & Watts, 2004, p. 37). This can be attributed to a number of factors, including media and their agenda-setting power, political interest and platform, and the interest of the general public (Hoijer, 2010, p. 720; Riffkin, 2014).

Media sources have independent agendas which are set clearly and effectively in the mass media. Studies show that there exists a "strong correlation between the emphasis that mass media place on certain issues (e.g., based on relative placement or amount of coverage) and the importance attributed to these issues by mass audiences. (Scheufele & Tewksbury, 2007.)" Notably lacking in these discussions, however, is the power that the environment itself, particularly effects such as drought, hurricanes, and other natural disasters, exert over the media and the political agenda. Oftentimes, political and social experts place their focus so much on the interaction of government, the people, and social institutions, that the concept of environmental impact is not mentioned at all (Birkland, 1998, p. 61-63).

Political Opportunity Structure is a theoretical framework primarily based in sociology that claims that the success or failure of social and political actions and movements is based solely on the framework of the political and social aspects within a given system. Essentially, that success can be attributed to political opportunity (Meyer & Staggenborg, 1996). The Political Opportunity Structure theory is particularly relevant to a research question examining the political influence of environmental change, because environmental factors can be considered influential to political opportunity. In relation to Afghanistan, this is intriguing because Political Opportunity Structure theory suggests that the prevalent flooding, drought, and desertification alter the potential for success of political and social movements.

### **Environmental Change and the Climate**

Often in academic and scholarly settings, it is acknowledged that environmental change is a key confluence of science, politics, and economics. However, climate change and even



**Figure 2: Typical Concept of Environmental Change in Political Realm**

environmental change are often discussed as a singular issue that is relatively isolated from other key factors (Parenti, 2011; Boykoff & Boykoff, 2007). Any relationship between environmental change to political factors or phenomenon is typically viewed as a cycle of environmental change, environmental regulations, and continued human impact on

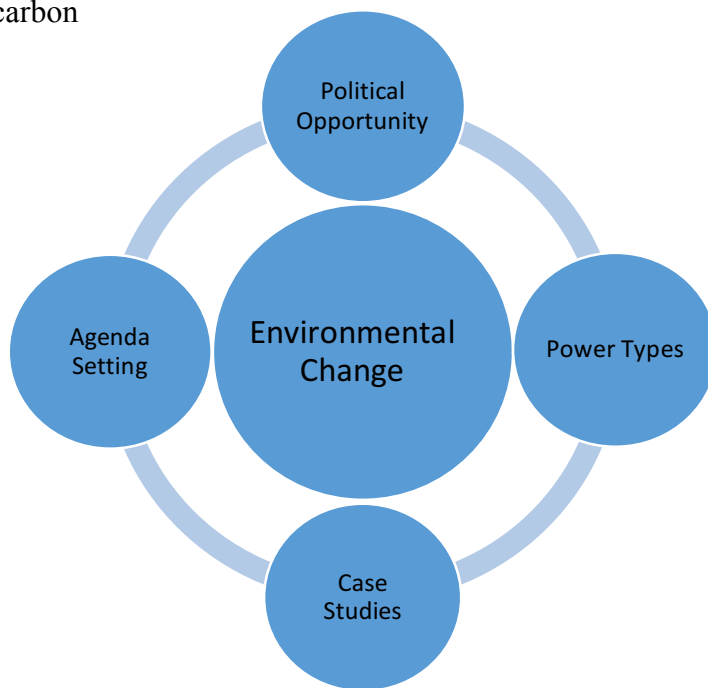
the planet (see *Figure 2*). However, in the modern world, the politicizing of environmental and climate change is not a new phenomenon, but rather a common theme in any

analysis of the current state of the environment (Kestenbaum, 2009; “The Consequences of Climate Change”, 2017).

How is the collective political globe thinking about environmental change? Environmental summits are occurring with increasing frequency and urgency since the first major Earth Summit in Rio, Brazil, 1992. The convergence of so many countries in an effort to reduce the impact of climate change and prevent harmful results is perhaps one of the most prominent indicators of the intertwined nature of politics with climate change. Most developed countries are making efforts to reduce carbon emissions and implement successful policies aimed at environmental benefit (Seyfang, 2003, p. 224).

However, the frame in which environmental change is viewed is ever-shifting, even described by some as a marketing opportunity or publicity option (Hansen & Machin, n.d). While information about the policies being wielded against climate change is readily available, the more relevant analysis lies in the reversal of this cause and effect, leading to a central research question: how does environmental change influence political opportunity structure? (See *Figure 3*)

Thomas Malthus, a 19th century scholar of demographics and politics, famously predicted with relative accuracy trends in population as they relate to the nature of invaluable resources like food and water (Galor & Weil, 2000, 806). While many scholars have discredited



**Figure 3: Adjusted Concept of how environmental change functions in a political context**

Malthus' central principle that the human population would be completely wiped out due to insufficient food resources, a principle outlined in 1798, Malthus' theory of the correlation between the swells and troughs of population and resource availability have been demonstrated themselves to hold relative truth (Smith, 2015, 188).

The resources that are necessary to support population growth stem from what can be described as public goods, or “the commons.” Most scholars are familiar with the tragedy of the commons theory —resources are exhausted and abused to the point of degradation and at the expense of the entire community in question. In this model, the community in question is global. The tragedy of the commons is happening in real time; exhausted resources and abused environments are yielding not only tangible environmental results but immense shifts in social, political, and economic realms (Kestenbaum, 2009). Still, some scholars argue that any political interest in climate change and the environmental effects that it yields is simply a web of international political interests and personal economic gain (Purdon, n.d.; Adler, n.d.).

While the political climate has a heavy hand in attempting to influence environmental change, the constituents within global communities, many of whom will feel the effects of climate change during their lifetime, or already are feeling the effects of climate change, manifested as drought, flooding, hurricanes, and other natural disasters, are proportionally speaking unconcerned with the impending threat of an environment that is facing potential collapse (Riffkin, 2014).

### **Environmental Change Manifested: Case Studies**

The key to examining this question is to isolate the relationships between the aforementioned factors, allowing us to examine the anticipated correlations between them (Payne, 1996). Specifically, studies which tackle the convergence of environmental and political factors are key.

The central case study in this research project will be Afghanistan. While many scholars acknowledge and bemoan the role of the United States in contributing to a tumultuous political environment that has contributed to an increase in poppy growth and black market activity in the country, the environment is seldom mentioned as a related issue (Durch, 2003; Jakupcak, n.d.). When theorizing on the politics and conditions of countries located in the Middle East and South and Central Asia, many Americans disregard the potential influence of any sort of environmental factors due to deep-seated cultural associations with the presence of terrorism and terrorist groups in these areas (Avraham, 2013; Kamlipour, 2000). Yet another example of politics weighing into environmental change in an overt way, while ignoring the significant yet subtle influence of the environment asserted over the political path of the globe.

Afghanistan functions as such a compelling case study because of the culminating factors of United States' military presence, ongoing civil and political conflict, prominent action from a terrorist organization, and above all, ongoing drought and desertification in the country (Sedra, 2002; Parenti, 2011). The existence of all of these factors in a singular case study makes it easier to isolate the relationship between any of the political variables and the presence of significant environmental change. Central within the Afghanistan case study are the ebbs and flows of drug activity within the state, particularly when we consider the country's alternation between encouraging and banning the growth of opium poppy (Farrel & Thorne, 2005, p. 81).

In his book *Tropic of Chaos*, Christian Parenti delves into the issue of poppy growth and Afghanistan, but gives direct attention to the role of climate change. Parenti takes a multifaceted approach to the issue of poppy growth. Where some scholars claim that the drug trade is driven solely by high profits and greed, Parenti discusses the economic benefits, which often mean just enough income to survive, that accompany the illicit poppy growth (Parenti, 2011, p. 97-99;

Rubin, 2007, p. 57). He also provides unique insight into the so-called police “crackdown” on poppy growth, as his account describes law enforcement taking bribes in lieu of shutting down poppy growing operations (Parenti, 2011, p. 97).

In particular, Parenti wrestles with the influence of drought, explaining that “*poppy uses only one-sixth the water needed for wheat*. That fact alone can explain the drug trade in drought-stricken Afghanistan. Additionally, though grain prices have surged since 2008, poppy still earns more than wheat [Emphasis added]” (Parenti, 2011, p. 107). The global opium crisis can largely be traced back to Afghanistan, as an approximate 90 percent of the world’s opium stems from the Afghan economy (Goodhand, 2000, p. 87).

Parenti effectively combines the variables of the black market drug trade, climate change, and violence and unrest in a singular cohesive perspective on the modern global reality and how it came to be. While the focus often tends towards the more recent war in Afghanistan, Parenti points out that war and conflict were present and often rampant in Afghanistan even before America became involved. A major factor of this violence, he maintains, is changing climate and drought conditions (Parenti, 2016). Between corruption, poverty, and a changing climate, seemingly external issues such as the skyrocketing growth of poppy becomes a phenomenon that is scarcely surprising, and becomes highly understandable given the poppy’s economic advantages. This type of analysis is unfortunately rare the scholarly world (Rowe, Dempsey & Gibbs, 2016). However, Parenti’s analysis, while highly insightful, often only allows for a conclusion of correlation. The research presented within this project goes further in trying to establish actual causation.

### **Scholarly Methodology**

The compiled basis of scholarly research operates nearly congruently with a case study methodology, particularly favoring case within case analysis (Parenti, 2011). While scholars alternate between quantitative and qualitative analyses, depending on the nature of the data they are examining, the remainder of this research project will operate in qualitative terms as it continues to expand upon the existing conclusions and theories described here. Specifically, this research seeks to apply an analysis similar in nature to that of Parenti to the Afghanistan case study. Additionally, my research will fill in the temporal gap between the publication of *Tropic of Chaos* and the situation in Afghanistan in 2017, as many developments have occurred since Parenti's publication was released in 2011. Overall, this research project will seek to create a holistic and multifaceted analysis of the nature of environmental change and its influence on political power and opportunity.

### **Methodology**

To examine this research question, data was first gathered about the environmental trends in the region, within the fifteen-year time frame (2000–2015). For the purposes of this project, the term “environment” will refer to the immediate natural conditions in the region, specifically regarding water and arable land. Due to the tumultuous political situation of the country, environmental empirical data is sometimes difficult to obtain, due to lack of resources, incentives, and the ability to keep records of these factors through wartimes (“Afghanistan Initial National Communication”, 2011; “Afghanistan”, 2009, p. 14). The data represented was taken from multiple sources, and due to gaps in statistics, which made the data unavailable on a yearly basis, drought and desertification are considered through a qualitative lens. This allows the visual representation to be easily compared to the political visual.

Both desertification and drought levels were considered, with trends gathered on an annual basis. This data, which was compiled from both satellite imagery and regional reports on drought and desertification levels, was assessed both numerically and based on descriptions of the severity of the conditions.<sup>1</sup> This data was then visually compiled to represent the patterns and changes in the region in a manner that is easy to grasp. The data is represented in a line chart with two data sets, desertification and drought, represented over the given time period. This will allow for a clear and simple understanding of the progression of environmental conditions in Afghanistan, and will simplify the communication of a significant amount of scientific data to the reader. The visual representation was created through the utilization of a Likert scale, ranging from one to five, to simplify and summarize the nature of the environmental conditions within a given year (see *Figure 4*) (McLeod, n.d.).

Likert Score	Drought (Severity of conditions)	Desertification (severity of conditions)
1	Very Slight/None	Very Slight/None
2	Slight	Slight
3	Moderate	Moderate
4	Severe	Severe
5	Very Severe	Very Severe

**Figure 4: Likert Scale Values for Environmental Factors**

Next, a similar examination of political variables within the same time frame were conducted. However, factors of political unrest are often represented in less quantitative forms than environmental data. In order to represent this data in a way that is comparable to the environmental factors, the political variables were assigned values on a Likert scale of one to five. Three political variables, poverty rate, terrorist attacks per year, and drug trade, were

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<sup>1</sup> In order to quantify highly quantitative data, sources were coded for indications of the how large the area affected by drought and desertification was during that year, as well as for terms such as “critical,” “improved,” “moderate,” and references to the resulting inhabitability of an area.

analyzed on a yearly basis. While these variables, specifically drug trade and poverty rate, are not inherently rooted within political proceedings themselves, they are factors which many scholars agree are so intertwined with political results that they can be described as such (Asiedu, 2006; Fraser, 2006).

In terms of poverty rate, the amount of poverty in the country was assigned a value between one and five, based on a range assigned to each value. Terrorist attacks were considered in the number of attacks per year, and assigned values on the Likert scale accordingly. The drug trade variable was measured in the number of hectares used in opium poppy cultivation. This last factor proved to be the most difficult to measure, as it was difficult to locate accurate records of illicit trade. However, accurate records of the amount of land utilized in cultivating opium poppy is readily available. Compiling this data visually will lend itself to a more parsimonious comparison and analysis of the variables (see *Figure 5*).

Likert Scale	Terror	Opium Hectares	Poverty (percent of population)
1	0-1,999	0-49,999	0-9
2	2,000-3,999	50,000-99,999	10-19
3	4,000-5,999	100,000-149,999	20-29
4	6,000-7,999	150,000-199,999	30-39
5	8,000-9,999	200,000-250,000	40-49

**Figure 5: Likert Scale Values for Political**

Once the two graphs were created, with representation given to each of the variables discussed, they were overlaid to create one cohesive visual representation of both environmental changes and political unrest and power shifts within the last fifteen years in Afghanistan. From here, it was possible to locate and focus on specific years, events, or regions that stand out as potential markers of significant correlation between environmental and political factors. This includes areas where desertification and drought conditions are rising simultaneously with one of

the political variables, as well as areas in which significant changes in environmental factors are followed by clusters of activity in political aspects. In particular, two years within the period stood out in terms of establishing a significant correlation between variables, and each will be treated as miniature case studies within the larger one.

With these key points located, further research followed for each specified time period, with attempts to locate the other factors which may have contributed to the assumed complex causality of the situation. Specifically, factors such as Taliban activity, regional desertification, and international influences were focused on, as they are influential and necessary factors to consider for which there was a lack of quantitative data on a frequent enough basis to include in the broader visual representation. From here these and other outlying factors were screened against one another to determine if any particular factors stood out as being key influencers which perhaps negated the perceived impact of the environment. Additionally, if environmental change is the common variable between all the cases, it can be assumed that environmental change is exerting at least some influence over the political opportunity and power within Afghanistan.

To examine the research question and investigate how environmental change impacts political opportunity and power, the case study research method will be utilized to conduct a within-case analysis. The central case study focused on will be Afghanistan, within a time frame of the past fifteen years, through lenses of both environmental and political change. This research question involves and requires both quantitative and qualitative aspects, but the analysis will rely primarily on a qualitative analysis. This research study is not seeking to imply sole causation between environmental change and political unrest, but rather to isolate and examine the

potential presence of complex causality and identify where causality is occurring between factors.

This method is the best fit for this research question because the case study which was examined is self-contained and the most important comparisons will be those drawn within the case study itself, particularly within this smaller case-study-within-case-study approach. For these purposes, a method that blends qualitative and quantitative factors is superior because of the presence of both quantifiable factors and softer variables that are more difficult to measure. In appropriate scenarios, quantitative methods and data will be included to demonstrate measurements across time and the prevalence of certain activities or trends in a more concrete fashion. Analysis of political opportunity and power have taken on an inherently more qualitative method, but are founded in data whenever possible.

The use of methodology that relies heavily on visual representations of data is valuable for this research question because it compartmentalizes the large number of variables and allows a comparison across content that would be much more difficult from a non-visual perspective. The bulk of this research has been pulled from multiple information sources, both from scholarly journals, relevant local media, and global records of environmental change. This method allows comparisons and conclusions to be drawn about the way in which climate change impacts the case study in question, but also create a larger, more generalized sense of the extent to which environmental trauma poses a threat across disciplines. Ultimately, this method is designed with the intention of explaining the intricacies of how the almost abstract idea of climate change creates very tangible results, not only in the environment but also in political and social results.

According to my hypothesis, there should be notable correlations between environmental changes and political opportunity and power. Specifically, the drug trade and Taliban activity

statistics will show the most drastic reaction to the environment, both because of the political opportunity created by the vulnerability of drought, and the agricultural and economic benefits of growing poppy in drought conditions.

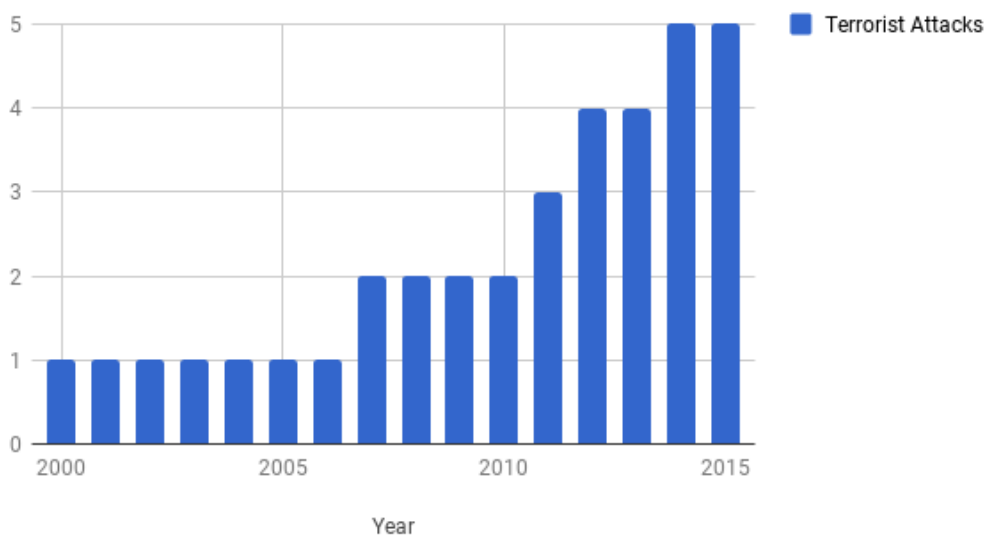
## Findings

### Political Variables in Current Afghanistan

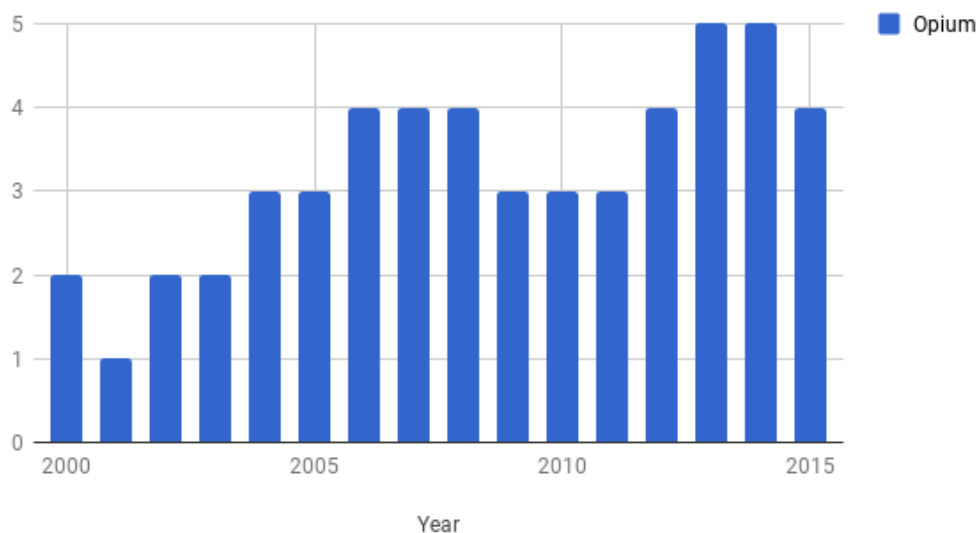
The three political variables being considered in a long-term context are poverty rate, number of terrorist attacks per year, and hectares of land used for the production of opium poppies. I applied the Likert scale method to sort the data by assigning values ranging from one to five, with each number representing a range of values from each respective variable. This allows the political factors to be compared clearly and succinctly. While this does eliminate some of the nuance and fluctuation of some of these statistics, it is preferable, because it makes all the variables easily comparable, and simplifies the data so that general trends or patterns can be more easily recognized.

*Figure 6* shows three political variables over a fifteen-year period in Afghanistan as a whole. These factors are terrorist attacks per year, poverty rate in the entire country, and hectares of land used for opium poppy production.

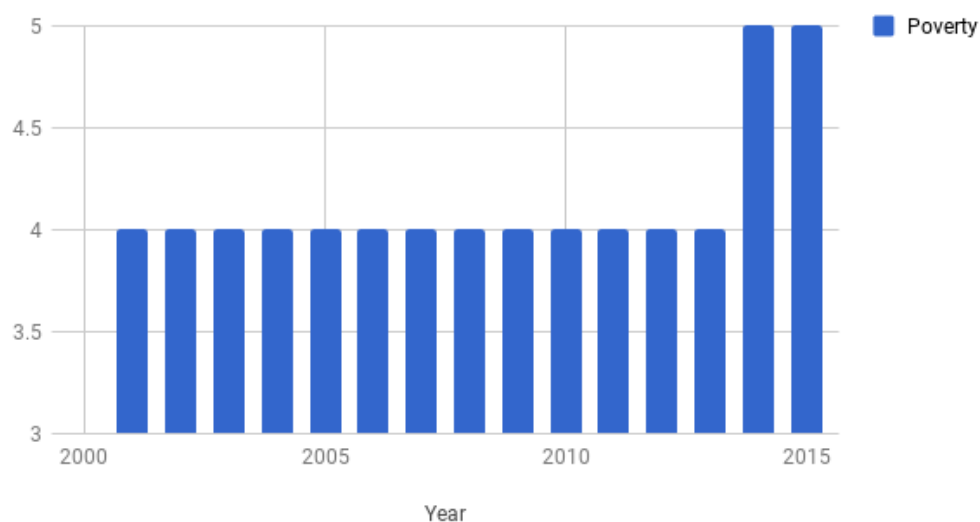
### Terrorist Attacks



## Opium Production



## Poverty

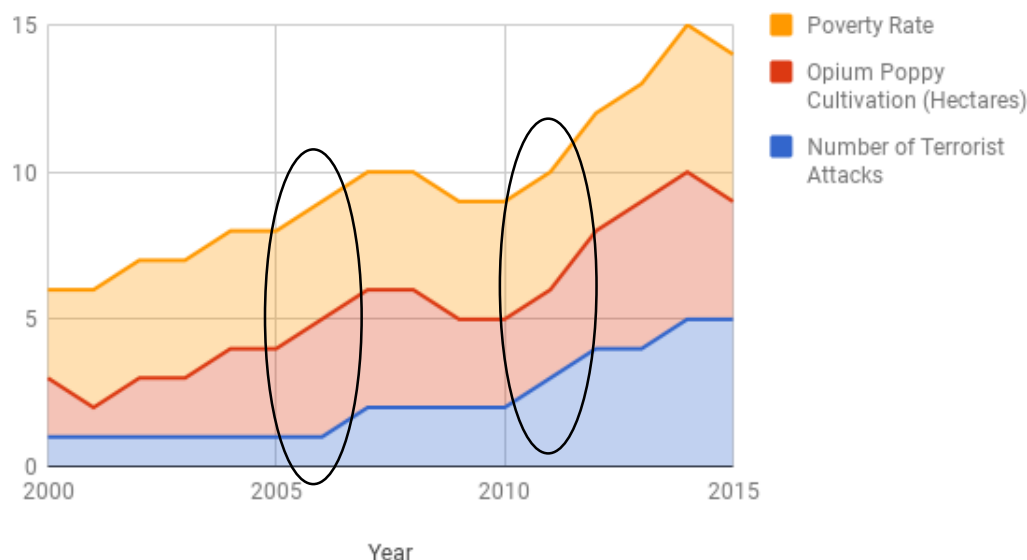


**Figure 6 parts 1-3: Political Variables in Afghanistan**

While this chart clearly demonstrates the upward trends of these variables, there are notable synchronicities between all factors between 2006 and 2007, and in 2011 (*Figure 7*) (“Afghanistan, 2015; “Afghanistan”, 2017). These timeframes stand out as key areas where

outside influences may have been influencing the political and social structures within the region at the time, and will be examined further in relation to the environmental data. As is clear from the contrast between *Figure 6* (page 22–23) and *Figure 7* (below), these variables do not necessarily increase simultaneously, but the effect of their combined influence means a steadily worsening effect, as is visible through *Figure 7*.

### Political Variables



**Figure 7: 2006 and 2011**

In addition to generalized factors of economy and dissidence, Afghanistan scores a 0.349 on the Human Development Index, which ranges from 0–1, well below its neighboring countries (“Afghanistan”, n.d.). Throughout history, the country has changed hands between traders, Soviets, the United States, and others, seemingly constantly occupied by either external international forces or locally-based terror organizations (Amstutz, 1986; Katzman, 2010). The emergence of the Taliban in the early 1990s, and the group’s rule of the country from 1996 to

2001 (at which point occupation by United States forces ousted the group from power), played an instrumental role in sculpting the escalating political tensions that are illustrated in *Figure 7* (page 19) (Laub, 2014).

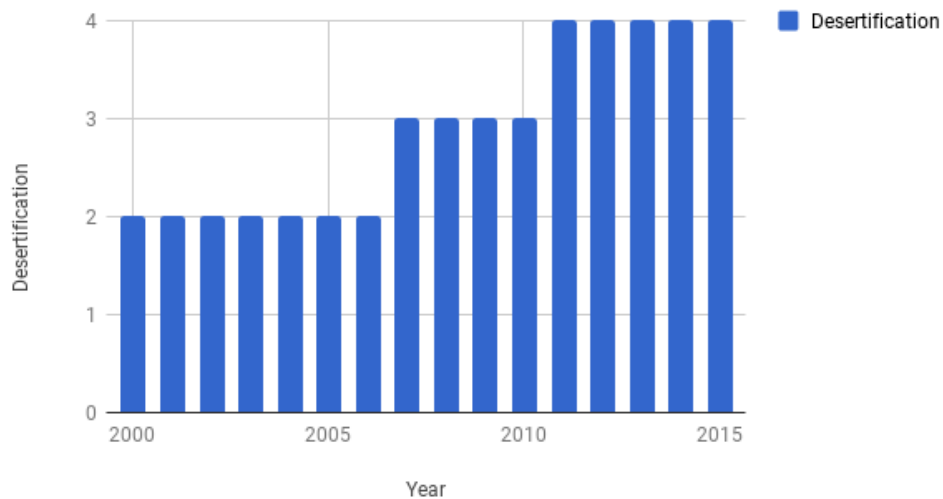
While factors such as terrorist attacks are clearly linked to Taliban activity, there is also a central connection between opium poppy growth and Taliban power. However, this relationship is anything but linear. The Taliban have alternated between banning and encouraging the drug trade out of Afghanistan, depending on external political factors and the regions within their control (Peters, 2009).

### **Environmental Variables in Current Afghanistan**

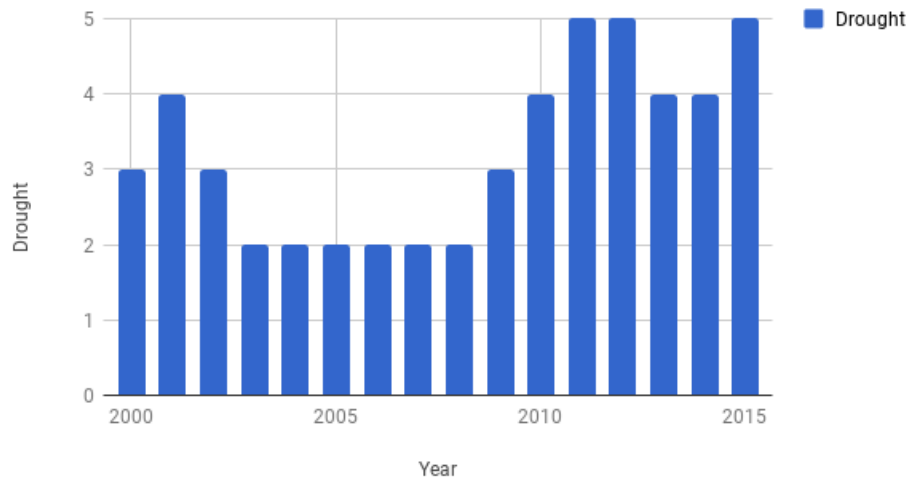
While Afghanistan is a state that has often been under global scrutiny, particularly from an American perspective following the 2001 invasion and occupation, there is a notable lack of empirical data, particularly in environmental sectors. According to a 2006 report from the United Nations Environmental Programme, “Empirical data on the extent and impact of desertification in Afghanistan is lacking, [but] broad indicators show that the cost of desertification to Afghanistan is extremely high and ever increasing.” Because of the holes in the numerical data for the purpose of visual representation in detecting trends and patterns in the environment of Afghanistan, the Likert scale values assigned to each factor account for qualitative analysis of the severity of the drought or desertification for the year, while considering empirical data when available. Visually, this yields a parsimonious representation of the general trends of drought and desertification in Afghanistan in the past fifteen years (see *Figure 8*) (Dregne, 1986; “Environmental Crisis Looms as Conflict Goes On”, 2007; Reykin, 2001).

**Figure 8 parts 1-2: Environmental Variables in Afghanistan**

### Desertification



### Drought

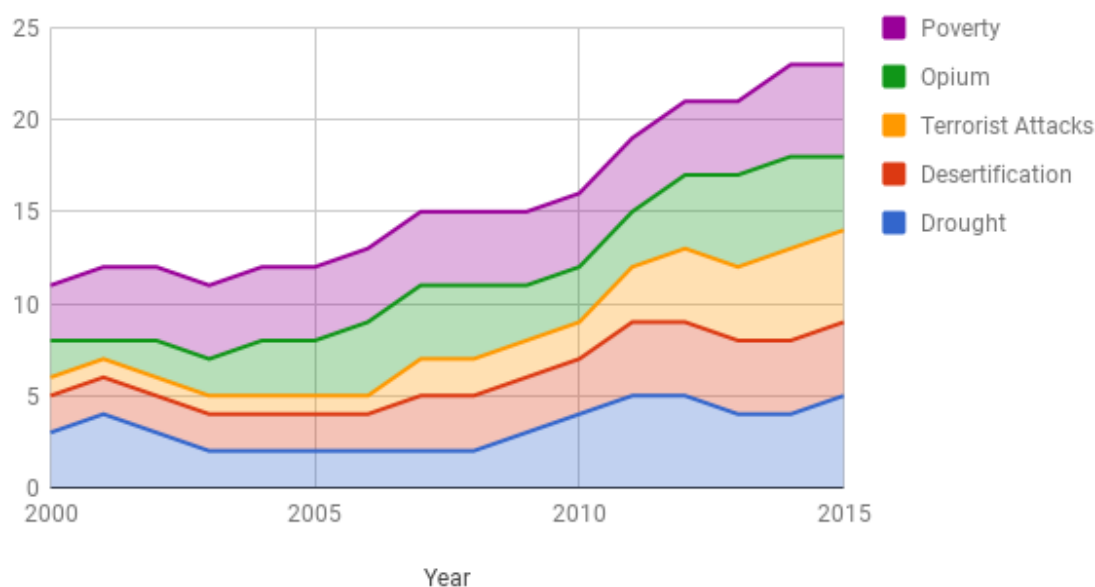


As is apparent from *Figure 8*, both drought and desertification levels have fluctuated over the last fifteen years, but overall have a definite upward trend. The increasing severity of these environmental conditions can be assumed to be having an increasingly detrimental effect—

continuous exposure to even a moderate level of drought or desertification would take a considerable toll on a region, therefore, the worsening levels experienced in Afghanistan would be truly problematic.

### Confluence of Politics and Environment

#### Environmental and Political Factors



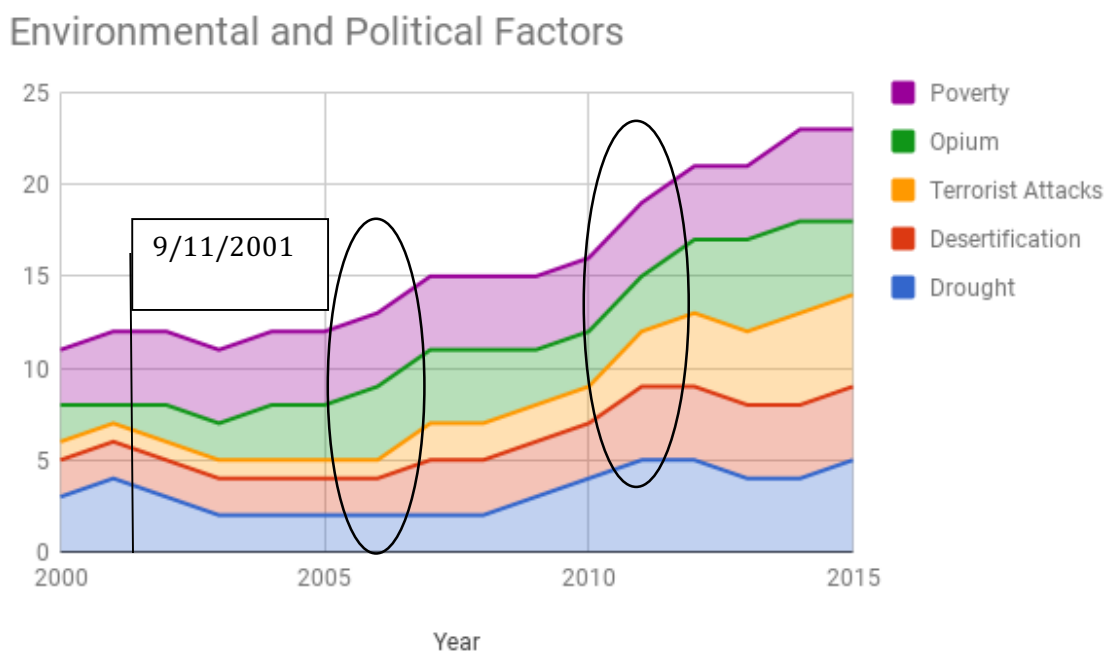
**Figure 9: Environmental and Political Factors in Afghanistan**

In order to isolate specific time periods that may suggest correlation between environmental conditions in Afghanistan and the ever-shifting political structure and power dynamics, the history of each set of factors must be compared (see *Figure 9*).

The general upward trend of the entire chart in *Figure 9* suggests that, if anything, the situation in Afghanistan is growing increasingly tumultuous and escalating in severity. As aforementioned, these variables do not necessarily require a uniform increase or even uniformity

in trends, because as *Figure 9* illustrates, the resulting amalgam of hardships yields an increasingly taxing and unbearable environment, both in the natural world and politically.

Based on the chart above, two areas stand out as notable for their apparent confluence between all or most of the variables represented. The timeframes leading into both 2006 and 2011 suggest symmetry in escalation between both the worsening environmental situation and the complex sociopolitical status (see *Figure 10*).



**Figure 10: 2006 and 2011**

While there are slight variations in the magnitude of increase in each of these variables, there is a definite symmetry to the upward trend in each. Particularly within 2011, many of the variables are reaching the highest level on the Likert scale that they have during the entirety of the fifteen-year period being examined. Based on the findings from *Figures 7–11*, three primary

possibilities exist as to why the factors line up in this way: first, the possibility that, due to the steadily rising rates of desertification, coupled with a complex and escalating political situation, the convergence of these factors in a manner that suggest correlation is purely coincidental; second, that the worsening environmental conditions have fueled the metaphorical fire of sociopolitical conflict; or third, in an echo of the general hypothesis of this research project, that environmental change has exacerbated the existing sociopolitical issues within Afghanistan, and added another dimension to already complex conflicts.

### **Major Players and Influencers in Afghanistan**

Before an analysis of the confluence of political and environmental factors can truly take place, an analysis of the major players and significant power dynamics within Afghanistan must occur. With so many shifts in occupation, power, and constantly transforming conflict, it can be difficult to isolate specific entities as particularly important or influential. As a way of identifying the political entities influential enough to be considered in the larger intersectional spectrum of the research question, information from the most recent Loya Jirga in Afghanistan will be factored into the analysis.

Loya Jirga is a meeting of politically and culturally significant group leaders within the country that historically convenes in order to make big decisions. This “grand council” (the meaning of Loya Jirga in Pashto), meets to make decisions regarding war declarations, significant social or political reforms, or the election of a new king. The most recent Loya Jirga within the fifteen-year timeframe of this study took place in 2013, when officials met to discuss a security pact with the United States (Bezhan, 2013).

The Taliban has already been identified as a key player in shaping the country’s reaction to climate change, but, for more mainstream groups, consideration must be given to the parties

and groups represented during the most recent Loya Jirga in 2013. Even though Afghanistan now has an elected parliament, which did not exist during the frequent historical Loya Jirgas, the tradition is one that is deeply rooted in the country's culture. While major players such as the Taliban are invited to send representatives to the meetings, they never do. Most frequently, the groups in attendance are the representative of the party in power, from parliamentary to local government level. Additionally, opposition parties are invited, though frequently mainstream opposition figures boycott the event (Nordland, 2013).

The range of mainstream political parties and movements in Afghanistan provides a starting point for analyzing entities which may have played a significant role in the trends of sociopolitical variables between 2000 and 2015.

### **Rural and Urban Communities in Afghanistan**

It should be noted that while Afghanistan's poverty rate is nationally very high, there is a severe distributional inequality between urban and rural communities. Urban areas in Afghanistan have significantly lower rates of poverty, while rural areas see rates above 50 percent. Indicators of development such as literacy rates and poverty rates are grim in urban areas, but rise to astounding levels in rural communities (Kline, 2015). Additionally, key cultural differences between these communities, as well as typical climate patterns within the region, greatly affect the level to which these communities interact, or can successfully make strides in development ("Rural Poverty in the Islamic Republic of Afghanistan", 2014).

So what does this mean for environmental change? Rural areas are hit much harder in terms of tangible effects of climate change, as drought makes food security even harder to obtain for subsistence farmers and pastoralists, lifestyles which are already difficult. In rural regions, which typically rely much more on the environment for survival, food and water becomes much

more difficult to procure in times of extreme drought. Recent history in Afghanistan has yielded steadily worsening conditions that only add obstructions to these difficulties (“Afghanistan-Climate Change: What Does it Mean for Rural Livelihoods and Food Security?”, 2016).

In addition to issues of food scarcity and barriers to subsistence agriculture, climate change threatens Afghan citizens with a heightened risk of natural disaster. Rising temperatures lead to glacier melt and runoff, creating a higher risk of flooding. Floods are not only detrimental to food and livelihood sources, but are also highly dangerous and often lead to casualties (“Afghanistan- River Flood”, 2016).

### **Isolating Timeframes**

As the previous findings have reinforced, isolating the intersectional crossroads between the specific environmental and political variables being observed is anything but simple. The party in power, as well as mainstream opposition, and radical groups sculpt the nature of politics within the country during a given time (Nordland, n.d.). The location of a community, either urban or rural, impacts the degree to which the community feels the strain of drought, desertification, or poverty. The specific geographic location within the country of Afghanistan is also an important factor when considering the severity of environmental factors, as the diverse landscape within the country results in isolated areas receiving an overwhelming majority of the negative environmental effects (“Afghanistan: Support to the prevention, mitigation and response to natural disasters in Farah province- Drought Hazard”, 2011); *Relief Web*, 2013). Therefore, when isolating the specific years which stood out as potentially significant, it is important to consider the complex causality at work, and consider these additional factors when analyzing 2006 and 2011.

### 2006 Case study

As drought conditions began increasing in the early 2000s, the regions most harshly affected were those in southern Afghanistan, particularly the province of Zabul. Southern provinces within the country are also the most likely to be affected by flooding (Kline, 2015). 2006 was a year of escalation for environmental factors within the country, both in terms of drought and desertification, but individuals in the rural southeastern provinces were the most adversely affected by the changes. Between 2002 and 2005, many refugees from these areas attempted to return to their homes, hoping to reestablish their livelihoods and homes. Migration, refugees, and refugees returning home likely influenced the upward shift in poverty rates as the economy struggled to adjust to such changes (“Rural Poverty in the Islamic Republic of Afghanistan”, 2014).

Amid escalating conflict between the Taliban, al-Qaida fighters, and the Afghan government, NATO peacekeeping forces extended into southeastern Afghanistan, taking over from the American-led forces previously in the region. In response, a series of suicide terror attacks against the international forces came from the Taliban, accounting for the increase in terror attacks that is clear in *Figure 10* (above) (“A Historical Timeline of Afghanistan”, 2011).

Growing Taliban activity, coupled with an influx of citizens migrating back to their homes, led to a spike in opium poppy cultivation. Families living in poverty sought to ameliorate their situation by growing the crop with the promise of financial gain, and more importantly, Taliban protection as tensions and violence increased. It was common practice for Taliban forces to promise credit and protections to farmers willing to plant and cultivate opium poppy, and the situation during 2006 meant that many families accepted this offer (Schweich, 2006).

The convergence of worsening environmental and political conditions during 2006 reveals a considerable amount of correlation. Worsening poverty rates can be attributed to

environmentally and politically-triggered migration, as well as deepening drought impacting the agriculture sector. Following this, peacekeeping forces extending into the southeastern provinces garnering increased tensions between international actors and the Taliban, leading to more terrorist attacks and a spike in opium poppy production to fund the radical group.

### 2011 Case Study

2011 yielded a similar combination of factors, but within a different context. By this time, United States forces had been in the country for a decade: the conflict in Afghanistan had evolved and changed. The previous year, in 2010, a Loya Jirga took place in an effort to promote peace and work out a negotiated settlement with Taliban forces (“World Report Afghanistan: 2011”, 2011). As both drought and desertification continued to increase, poverty rates and hunger grew. However, because of the enormous ongoing conflict, and all of the international attention drawn by it, much of the world, aside from international relief-based organizations, was unaware of or ignored the severity of the drought, desertification, and poverty conditions, (“Afghanistan Drought – 2011”, 2011).

Opium production skyrocketed, in the wake of frantic Taliban forces struggling to maintain power and an impoverished civilian body struggling with the devastating agricultural effects of drought. Between 2010 and 2011, despite efforts to eradicate opium production, production swelled and financial yields increased. The number of provinces involved in the cultivation of opium poppy also increased (“Afghanistan Opium Survey 2011”, 2011).

2011 mirrored many of the same parallels as 2006, but increased international involvement and tension clouds the direct environmental correlation. Escalating war and conflict made it more difficult to consider, measure, and aid the worsening drought and desertification conditions. This, in turn, made it more difficult to draw conclusions about the relationship between the environmental and political variables.

## **Discussion**

### **Environment as a Political Indicator and Influencer**

The findings from this project indicate that there is some measurable correlation between the environmental change and the sociopolitical conflicts and power shifts within a region. However, Afghanistan is a relatively unique case study. The characteristics that make it an appropriate case study for this project also complicate the application of the findings to other countries. Prominent environmental changes and struggles, coupled with highly active and dynamic shifts in political power provide plentiful data for research, but are characteristics not often shared with other countries.

The specific variables, both environmental and political, from this study are ones that overlap in logical ways. In a country that is largely sustained by agriculture, it makes sense that rising drought and desertification would raise the poverty rate along with it. These variables also carry logical correlations with drug trade out of Afghanistan. As opium poppy is relatively drought-resistant, and more profitable than other crops, individuals experiencing poverty or suffering from drought conditions, and rising poverty would certainly contribute to participation in the opium market. A process influenced by encouragement or pressure from the Taliban (Parenti, 2011).

Hypothetically, the prolonged conflict and suffering of the Afghan people from a political perspective during the fifteen-year period analyzed could have been ameliorated to some degree if such harsh environmental conditions had not been present. While this is not proof of the singular presence of causation, and the political conflicts would have likely existed with or without a declining environment, it is likely that these conflicts would have occurred at a smaller magnitude, or been more easily remedied. The absence of drought and desertification, which

essentially trapped the general population of Afghanistan into trends of poverty, hunger, and participation in opium cultivation, could have drastically reduced key aspects of the ongoing struggle in Afghanistan, particularly in relation to reducing Taliban power.

Ultimately, the links between these variables are not particularly innovative or difficult to understand. What is original is the use of the variables to *see* correlations or *predict* outcomes. Failure to acknowledge environmental change as a major political influencer is arguably an oversight, and does not utilize the easily-accessible tools afforded to researchers. Moving forward, this method could benefit from application to countries and regions with less prominent environmental change and political unrest.

Countries with the same conglomeration of political conflict and declining environmental factors exist around the world; for example, this pattern crops up in Chad, Syria, and Kenya (Taub, 2017; Eriksen & Lind, 2009; Gleick, 2014). The ability to extrapolate the information presented in the findings of this project, and then apply it to a variety of unique case studies would present the opportunity to evolve the way in which scholars analyze sociopolitical unrest and power dynamics.

In order to apply and utilize the potential warning system of large-scale environmental change, the general public within the developed world must acknowledge and push for research and linkage between the two often unrelated systems. The public wields the two-dimensional power that Lukes (2005) speaks of. Unfortunately, it seems that the necessary degree of concern cannot be achieved until the drought is happening in *your* province, or the desertification is rendering *your* soil useless.

To act proactively, as I suggest, requires initiative from those within each respective field to elicit a shift in perspective that would encourage an approach to global political conflict that

includes environmental factors as a central influence. As academics, scholars, and citizens of the developed world, there is a responsibility to push for the viability of any factors that can serve as a warning system. Environmental changes are exactly that: warning systems that hint at approaching political turmoil. In addition to the concern for the planet and natural world, large-scale shifts in the characteristics of the human habitat should serve as an indicator that political unrest may follow. Experts in the various fields have a responsibility to advocate for research of this intersection, which will lead to wider concern, acknowledgement, and ultimately a larger base of possible solutions or remedies.

If saving the planet was not already a compelling enough incentive to combat climate change in a serious way, more extreme political conflict certainly should be. The modern age affords scholars a multitude of information and variables to consider. While it can be difficult to parse out the relevant or important factors among an amalgam of variables, it is important not to overlook a seemingly distant entity that could be exerting influence over the question at hand. The flap of a butterfly's wing can cause a tornado, miles away.

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