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Violence Against Humanitarian Aid Workers by Organized Non-State Armed Groups

Sarah Mendelsohn
Political Science
The University of North Carolina Asheville
One University Heights
Asheville, North Carolina 28804 USA

Faculty Advisor: Dr. Peter Haschke

Abstract

Each year, dozens of aid workers are injured and killed every year by terrorist organizations, armed groups, and those looking to destabilize regions in order to implement their own government and impose their own ideologies. To predict the likelihood of violence against aid workers by non-state armed groups, and to estimate the effects that different types of groups have, this paper uses data from the 2014 Societal Violence Scale, HDI, GDP, and several other factors. This paper argues that the presence of different types of non-state armed groups directly affects the likelihood of violence against aid workers in a country. Specifically, this paper hypothesizes that global/transnational non-state armed groups will be most likely to perpetrate violence against aid workers due to their motives of changing the global ideology. The results claim that violence against aid workers is most likely to occur in countries with national-level and local-level non-state armed groups present. With this information, international aid organizations may be able to quantitatively calculate the risk of entering a destabilized country and weigh the security factors of providing aid to those in need.

1. Introduction

Every year, hundreds of thousands of humanitarian aid workers deploy across the world to provide aid in conflict zones, destabilized countries, and places decimated by natural disasters. Some regions have experienced decades of civil conflict and turmoil, leaving thousands of families displaced; other regions have been struck by earthquakes and lack the capacity to sustain their citizens, economy, and stability in the wake of an event out of their control. In the midst of theses destabilizing events, aid workers must be granted permission by the government to deploy to a country and assist local populations. Although the official government of an affected region may want aid workers within their borders, in many cases, not every power-wielding entity agrees.

Every year, dozens of international humanitarian aid workers are injured, or even killed, by non-state armed groups operating in destabilized territories. For example, in February, six International Community of the Red Cross and Red Crescent (ICRC) aid workers were killed in an attack while delivering supplies to victims of an avalanche in northern Afghanistan; The ICRC believes the Islamic State is responsible for the attack. This research paper attempts to categorize and explain violence against aid workers. Using data from the 2014 Societal Violence Scale, a set of quantitative measures of societal violence, and definitions from the most recent publication of USAID's Aid Worker Security Report, the paper tests whether the type of non-state armed groups in a country affects the likelihood of violence against aid workers. With this information, international aid organizations may be able to quantitatively calculate the risk of entering a destabilized country and weigh the security factors of providing aid to those in need.

In many countries, humanitarian aid operations are carried out successfully with no targeted violence against aid workers. However, in destabilized countries and conflict zones, violence against aid workers varies. Some aid workers are caught in the crossfire between warring parties while others are sought out and, in extreme cases, killed. In this

paper, the researcher asks: why is violence committed by non-state actors against humanitarian aid workers likely to occur, and why does it vary from country to country? They argue that the type of organized non-state armed group present in a country directly affects the likelihood of aid workers experiencing targeted violence. Specifically, they hypothesize that aid workers will be most at risk for violence when there is a global non-state armed group present in a country; all groups in this category have a similar goal of changing the global ideological norms and will often stop at nothing to gain control over as much territory as possible. Using data from the 2014 Societal Violence Scale, they instead found that the presence of a unidentified groups will have the most effect on the likelihood of violence against humanitarian aid workers. According to the tests, the groups that do not identify themselves as affiliated with a specific non-state armed group have the largest coefficient in a regression model, and therefore increase the probability of violence against aid workers in any given country. According to the model, the results for the category of global/transnational non-state actors were statistically insignificant.

The next sections of this paper will first discuss the context and motivations behind the research question and elaborate on the scope of the issue. In the next section, it will summarize the previous literature debating with aid worker security and with violence committed by non-state groups in various contexts. After that, it will propose an answer to the question: why is violence committed by non-state actors against humanitarian aid workers likely to occur, and why does it vary from country to country. Then, it will evaluate the theory by testing the hypothesis in a multi-linear regression model and discuss the findings.

2. Context & Motivations

This past semester, the researcher is assisting Dr. Linda Cornett in her quest to quantify levels of societal violence by non-state actors using the U.S. Department of State Human Rights Reports.[1] Every so often, the reports note interferences with aid operations. Many of these foreign aid operations are executed smoothly, however, some are unsuccessful due to interference by militias, terrorist organizations, ad hoc groups, or civilians. For example, in March of 2016, seven aid workers from a UNICEF partnered NGO were killed by a militia group in South Sudan while en route to provide aid to children who were released from an armed group. However, some operations continue to be successful; in Jordan, millions of refugees fleeing persecution receive aid from international organizations while they seek permanent relocation. In some cases, violence against aid workers causes international NGOs to pull their aid operations, depending on the severity of the violence. For example, in April of 2017, three NGOs pulled their migrant water rescue aid operations from Libya following violence against aid workers, leaving thousands stranded in the Mediterranean. If the organization pulls their workers from a country where there are people suffering and in desperate need of aid, the lack of humanitarian assistance could lead to loss of life and the continued suffering of millions.

3. Literature Review

While there exists academic literature of violence against aid workers, most research is qualitative. The existing academic literature on violence against aid workers does not quantitatively examine and analyze violence committed by non-state actors. In an academic article titled "Minding the Gap: Documenting and Explaining Violence Against Aid Workers", Larissa Fast identifies trends and disconnects in the existing literature, and explains why there has been a significant lack of quantitative evidence on the topic.[2] She states, "A major problem with the existing research and documentation is the lack of consistency in definitions and statistics of the various data sources, which makes it very difficult to determine whether aid workers are targeted in increasing numbers and with increasing severity." In other words, producing statistical evidence has remained a challenge due to a widespread inconsistency with data and information.

While Fast argues that there is a "lack of consistency in definitions and statistics", there is a data source that compiles nearly all available information on violence against aid workers. Published by the United States Agency of International Development, The Aid Worker Security Database (AWSD) "remains the sole comprehensive global source of this data, providing the evidence base for analysis of the changing security environment for civilian aid operations."[3] Additionally, the AWSD compiles much of the available information about violence against humanitarian aid workers and reports on all major acts of violence. The database includes categories such as the number of victims, the institutional affiliation, the public details of the incident, the country, and when the incident occurred. In a report titled "Behind the Attacks: A Look at the Perpetrators of Violence Against Aid Workers", academic scholar Abby Stoddard and her colleagues discuss the most recently published AWSD and empirically

investigate motives behind attacks on aid workers.[4] The authors interviews members of terrorist groups and other organized armed groups to reveal qualitative information about motives of violence and perceptions of aid operations from the perpetrator's view. The authors discuss findings specifically about non-state armed groups (NSAGs); for example, they conclude that in 2016, NSAGs that operated on a global-level were responsible for high fatality rates of aid workers but for a smaller number of victims while state actors accounted for the highest number of victims. They also discussed the "unknown perpetrator" category of incidents and concluded that in the majority of incidents where the perpetrator was unclear, it is likely that the attackers were members of national and local militias, independent attackers with no affiliation, or criminal groups and other gangs.

Stoddard is also a lead author of another report titled, "Providing Aid in Insecure Environments: Trends in Policy and Operations" published by the Overseas Development Institute.[6] In this report, the researchers compile evidence of violence against aid workers in insecure environments from 1997 to 2005, before the Aid Worker Security Database was created. Stoddard and her colleagues discuss their findings about "changing security environments" and argue that the lack of empirical literature on this topic has affected how international NGOs provide aid when they feel their workers are at risk of violence. The authors discuss the current beliefs about threats to aid workers, cite examples of violence in the past few years, and explain their methodology. While the available information has improved over the years, the academic field of aid worker violence is still in its infancy. Even though the Aid Worker Security Database has opened doors for researchers, there remains a degree of inconsistency among the data due to the recentness of the field. As of this year, the existing academic literature on violence against aid workers does not quantitatively examine and analyze violence committed by specifically non-state actors.

4. Theory

There exists some theories to explain why aid workers become victims of violence by nonstate actors, but due to a lack of good measures, researchers have not been able to test theories. From the existing literature on the topic, this paper argues that violence against humanitarian aid workers by non-state actors occurs due to the presence of insurgent groups. This violence varies because of the groups' differing motives to overpower their opposing forces. While this is not a new or original theory, the Societal Violence Scale can be introduced as a new measure to document violence against aid workers and to test the proposed theory. There exists a substantial amount of qualitative literature on this topic, however, this knowledge has not been quantified and then tested as a measure. For example, in Stoddard, Harmer, and Czwarno, the authors interviewed members of terrorist organizations to reveal motives behind aid worker violence and added to the data set of violent incidents with variables including weapons used, locations, number affected, and so on. While this data provides statistical information about who is being attacked and why, current literature does not provide or discuss a quantitative scale to measure the severity of this violence, specifically by non-state actors. In other words, there are existing theories but due to lack of good measures, few have been tested systematically.

The 2017 AWSR provides many of the possible motives behind the non-state armed groups (NSAGs) who commit the violence. For example, some organized/armed groups target aid workers because they identify the organizations as working with the state they are fighting to overthrow. Other times, they target aid workers to demonstrate their power over certain territories and communities. As shown in Table 1, the Aid Worker Security Report breaks down these different motives by non-state actors; they categorize groups such as the Islamic State and Al Qaeda as global NSAGs that seek to "overthrow the current world order in behalf of a universal absolutist ideology", Boko Haram as a regional/transnational group that want to exert "control or influence over a territory overlapping current national boundaries on ethnic or ideological grounds", Al Shabaab and the Taliban as national NSAGs that want to "overthrow and replace the current government within the existing state", and other militias and pirate groups as local NSAGs or criminal enterprises that seek "autonomy or control over areas within a state" or that commit violence for "economic gain". The Aid Worker Security Report also discusses a fifth category of unknown attacks. These are incidents where the perpetrator/group committing the violence could not be identified.

For the purposes of this paper's research, the author combines several of these categories into three general types of NSAGs. The first category will be a combination of global and regional/transnational groups that share the common goal of overthrowing multiple state governments in order to spread an ideology. The second category will be the state/national NSAGs that seek to overthrow the government in a single state. The third category will be local/economic NSAGs and criminal enterprises that are motivated by economic gain and authority over specific regions within a state.

Table 1. Definitions of NSAG Types and Expected Violence

Types of NSAGs	Goal of NSAGs	Expected Violence (Hypothesis)
Global/ Transnational	To overthrow the current world order in behalf of a universal absolutist ideology and/or control or influence over a territory overlapping current national boundaries on ethnic or ideological grounds.	High
State/National	To overthrow and replace the current government within the existing state.	Medium
Economic/ Local	To exert autonomy or control over areas within a state and/or for economic gain.	Low

* Definitions come from the 2017 Aid Worker Security Report.

This paper hypothesizes that there are several ways in which the presence of NSAGs leads to violence against aid workers, and the extent of violence varies between perpetrator groups. At the global level, NSAGs are determined to overthrow the current world order, and in many cases, they will not stop at anything, even if it means inflicting suffering on neutral parties. For example, the Islamic State, an NSAG operating in several Middle Eastern countries, have claimed the lives of thousands around the world and have displaced millions from their homes. Many of the victims were not primary targets of the Islamic State, but were caught in the crossfire. Aid operations in places where ISIS is active have been unsuccessful time and time again due to the random, non targeted violence occurring in the location. At times, aid workers, both international and local, are attempting to administer aid in insecure areas and are caught in a shooting or explosion. Organizations that can be categorized as regional/transnational or national often inflict violence on aid workers in a more targeted fashion. They see humanitarian workers as allies of the state and therefore will attack offices, convoys, and individuals in order to inflict violence against the state. In other cases, transnational/national groups will attack aid workers to make a statement to the public and destabilize the current systems; if they desire de facto rule over a territory, they will prevent aid from being delivered to vulnerable populations to show the people that they have power and to sow chaos. In incidents of violence against aid workers perpetrated by local and criminal armed groups, individuals are often robbed.

At the state/national, NSAGs are determined to overthrow the current government within a state, and there are several motives behind the attacks on aid workers in countries where state/national NSAGs are present. One of the most common motives behind the violence is misperceptions of alliance, even though under international law, humanitarian aid organizations must be impartial and neutral. For example, the 2014 State Department Human Rights report claimed that in Afghanistan, " Insurgents deliberately targeted government employees and aid workers...Suspected Taliban members fired on NGO vehicles and attacked NGO offices and guesthouses, restaurants, and hotels frequented by NGO employees. Violence and instability hampered development, relief, and reconstruction efforts." In this example, the Taliban, a national NSAG with significant power in the country, targeted aid workers due to their perceived alliance with government employees.

At the local/economic level, NSAGs strive to exert autonomy or control over areas within a state and/or for economic gain. Evidence shows that local and economic NSAGs target aid workers for a variety of reasons, most commonly due to group assumptions of perverse incentives and favoritism. For example, in Liberia, the State Department Report claims, "According to a September Danish Refugee Council Report, local residents of a town in Nimba county physically and verbally abused EVD [Ebola Virus Disease] health-care workers, since some residents believed the health workers had intentionally transmitted EVD in the community." In other example, Rakhine locals in Burma perceived an NGO as favoring one culture over another. According to the State Department Report, "The attacks against international NGOs and UN agencies followed a reportedly widespread perception among the Rakhine that these organizations disproportionately assisted the Rohingya over the Rakhine."

In the majority of countries around the world, there are no instances of violence against humanitarian aid workers. There are hundreds of aid operations in hundreds of countries that operate unhindered by violence. The majority of the time, the states that do not experience violence against aid workers have little to no civil conflict occurring in the country. For example, the United States was recently hit by a series of hurricanes that displaced entire populations. There are dozens of aid organizations operating in these areas and none of them have been the victims of any violence;

this paper argues this to be the case because we do not have NSAGs that are active and aggressively attempting to overthrow the current government.

The hypotheses are as follows.

(1) Violence against aid workers will be most *probable* when perpetrated by global/transnational NSAGs.
(2) Violence against aid workers will be most *severe* when perpetrated by global/transnational NSAGs.

In the hypotheses, the researcher theorizes that aid workers will be at risk for the most significant level of violence when global/regional NSAGs are present. Organized and armed global/transnational groups will often stop at nothing to seize control over multiple states, with the end goal of changing the global ideological norms. While the reasons behind the violent attack of aid workers vary, there is one important distinction to be made between global/transnational groups and the other groups that would affect the level of violence against aid workers: negotiations. Stoddard and her colleagues discuss the importance of negotiations between NSAGs and the aid organizations that operate within a country. Stoddard claims, "Global NSAGs who are not attempting to govern a population have less incentive to negotiate, and pose the greatest threat to international staff members who represent an opportunity for symbolic messaging (and/or potentially large ransoms)". In other words, national-level NSAGs have strong incentives to negotiate with international humanitarian aid operations to allow safe passage to aid to vulnerable populations; if these groups are trying to overthrow the state, they should keep the interest of the local populations in mind if they will one day become the new government. Global entities, however, do not have the same incentives. Therefore, the hypothesis is that violence against aid workers will be most severe and probable when perpetrated by global/transnational NSAGs.

5. Research Design

For this research project, the author conducts an observational study to measure violence against aid workers by type of NSAGs. The dependent variable is violence against aid workers measured by the 2014 Societal Violence Scale. In the Societal Violence Scale, violence against aid workers is broken up into three different categories: individual, corporate, and organized/armed groups. As the coders read through the State Department Human Rights Reports, they assign each category a number on a scale of one to five depending on the level of violence against the group in question. The majority of NSAGs are counted in the organized/armed group, however, there are occasionally reports of isolated attacks by unidentified perpetrators that get counted in the individual category. There are also attacks in which aid gets taken, and those instances are often counted in the corporate category, especially if the group identified is a gang. For the research purposes of this paper, violence will be measured both with a numerical scale and with a dummy variable; the numerical scale will be a score from one to five based on the level of violence documented in the U.S. Department of State's Human Rights Report, and the dummy variable will be coded as one if there is any report of violence against aid workers in the country, and zero otherwise.

The primary independent variable will be the NSAG types that are perpetrating the violence, given by the Aid Worker Security Report. However, these groups will be condensed into three main categories. The NSAG type and their categorization are provided below. For each of the NSAGs, I will be using a dummy variable to code whether each type of group is present in a given country as reported in the U.S. Department of State Human Rights Report. These dummy variables are called NSAG1, NSAG2, and NSAG3. These variables are coded one if the respective type of NSAG is present, zero otherwise.

Table 2. Typology and Summary Statistics for Reported Presence of Non-State Armed Groups

Types of NSAGs	Goal of NSAGs	# of countries that reported presence
NSAG1: Global/ Transnational	To overthrow the current world order in behalf of a universal absolutist ideology and/or control or influence over a territory overlapping current national boundaries on ethnic or ideological grounds.	19
NSAG2: State/National	To overthrow and replace the current government within the existing state.	22
NSAG3: Economic/ Local	To exert autonomy or control over areas within a state and/or for economic gain.	15

* Percentages are out of 200 countries. 179 countries (89%) did not report activity of any NSAGs. 21 countries total reported presence of NSAGs. Definitions of NSAGs come from the Aid Worker Security Report. Numbers of countries that reported presence of NSAGs come from the U.S. Department of State Human Rights Reports and the authors coding methods.

For each country's Human Rights Report published by the U.S. Department of State, the author determined which type of NSAG is present by the information given in the report. For example, in the 2014 country report of Egypt, it states, "Terrorist groups, including Ansar Bayt al-Maqdis (ABM), a terrorist organization that on November 3 swore allegiance to terrorist group the Islamic State in Iraq and the Levant (ISIL), and Ajnad Misr, conducted deadly attacks on government, civilian, and security targets throughout the country, including schools, places of worship, and public transportation." In this case, the researcher would categorize Ansar Bayt al-Maqdis as a global NSAG because their core motives aligns with those of ISIS/ISIL and their various branches, which seek to "overthrow the current world order on behalf of a universal absolutist ideology". The report states that the attackers also swore allegiance to Ajnad Misr, also known as the Soldier of Egypt. This group is an Islamic militant group that operates near Cairo. In addition to coding the presence of a global NSAG, they coded that there was a national NSAG present in the country. As shown in Table 2, 19 of the 200 countries in the world had a global/transnational NSAG that was active in and outside of its borders in 2014, according to the reports from the U.S. Department of State. Similarly, 22 countries had a state/national NSAG operating within its borders in 2014. Most commonly, these NSAGs were ethnic groups or groups like the Taliban, independence armies, al-Shabbab, certain powerful militias, Hamas, Hizballah and violent separatist groups. The third category of NSAGs were the economic/local groups and they were present in 16 countries around the world. These groups were commonly regional insurgent groups, clan militias, small rebel groups, separatist guerrillas operating in certain villages/towns, and narcotics gangs. While the U.S. Department of State Human Rights Report produces ample information regarding insurgent activity in each country, it only includes information that the State Department is aware of. There could be more NSAG activity occurring in a country than the report claims, however, for the research purposes of this paper, the researchers coded only what the State Department reported.

While reading through the reports, the author also recorded whether the country had a 1g section, an indicator of internal conflict. This section of the Human Rights Reports is titled "Section 1. Respect for the Integrity of the Person, Including Freedom from:" and goes on to list several other subcategories. Subcategory g of this section is titled, "Abuses in Internal Conflict". Every country that is experiencing active civil conflict, according to the State Department, discusses instances government and non-government abuses. According to the coding of the reports, the dummy variable of the 1g variable had a mean of 0.1294. In other words, nearly 13% of countries counted by the Department of State were engaged in active civil conflict in 2014.

There are a number of alternative factors that should be considered as well. For example, there is an entire perpetrator category of the Societal Violence Scale dedicated to individual non-state actors. While not discussed in most studies, this paper hypothesizes that reports of individual non-state actors committing violence against aid workers will be driven by poverty and economic gain. Individuals who are poverty-stricken may attack aid convoys or steal aid supplies to give to their families and communities. The author hypothesizes that this will be uncommon in the SVS, but it is still a possibility. Another factor that is worthy of consideration is the stability of the country. Many countries

do not have the capacity to provide security for aid operations, and in some cases, aid organizations do not want military protection. If there are military personnel assisting with the aid operations in insurgent-controlled territories, clashes are likely to occur. As a control variable, additional independent variables will be incorporated to strengthen the model. Scores from the Human Development Index published by the United Nations Development Program will be used to measure the stability of a country. The HDI takes factors including life expectancy, expected years of schooling, and gross national income per capita and provides each country with a score on a scale from zero to one to measure the level of development of a country. For example, in 2014, the United States scored a 0.918 on the zero to one scale while countries like South Sudan and Afghanistan had scores of 0.421 and 0.479, respectively. This paper will also be using 2014 GDP per capita reports as an additional control variables.

Additional measures are incorporated in the data set. Using the 2014 report of the Societal Violence Scale, the author created five different variable categories for the information provided by the SVS. They included the overall country score from 2014 on a scale from one to five (2014Score), a dummy variable to record whether there was reported violence against humanitarian aid workers (ReportedViolence), the score from the aid worker category of the SVS report on a scale from one to five (AWScore), the perpetrator of the violence against aid workers (Perpetrator), and the description of the incident (Description). The SVS scores are entered on a scale from one to five with asterisks denoting the reports, on which scores are based, were incomplete or did not have enough evidence for the coders to confidently assign a score. In order to calculate the mean for the overall country scores, countries with an asterisk for their overall score were eliminated and the asterisks were removed from the countries that did have a numerical score. While this will not affect the numerical outcome for the mean, it is worth noting that eight countries are not included in the calculation of the mean due to missing scores. During the data collection of the SVS score, the paper found that only 21 of the 200 countries counted in the SVS had reported violence against aid workers and the average SVS score for aid worker violence is around 1.2. Due to this low number, and as shown in Figure 1, all of the countries that received a score of a one were removed, which indicates that violence against aid workers is either not happening or is not reported.

Table 3. Summary Statistics from the 2014 SVS Report for Countries with Reported Violence

	2014 Score	Aid Worker Violence Score
Mean	2.91	2.524
Minimum	1	1
Maximum	5	5

*Summary statistics collected for 200 countries. Countries with an asterisk as their score were omitted. Countries with an asterisk next to their score, indicating limited data from the U.S. Department of State Human Rights Report, were omitted.

In the one to two SVS score range, the most common perpetrator were organized/armed groups and individuals. There was only one report of a corporate perpetrator, and this category scored a three on the SVS scale, indicating that it occurred more than one time and it was a common and severe problem. The countries that scored fours and fives for the violence against aid workers category on the SVS scale all had organized/armed perpetrators, indicating that it was an egregious, widespread, severe problem in that country with multiple deaths as a result. In the graph, there are six individual perpetrators, one corporate, and fifteen organized/armed.

While the information about the actual violence is crucial, there are also variables that account for the stability of each one of these countries. The conflict dummy variable is a useful indicator, however, to incorporate more concrete information, the author included the calculated HDI and GDP numbers provided as control variables. Tables 4 provides the summary statistics from the UN Development Program Human Development Index. The HDI is on a scale from zero to one and takes into account several different measurable factors from each country that fit into the categories of measuring a long and healthy life, knowledge, and standard of living. Specifically, these factors are life expectancy, expected years of schooling and average years of schooling, and gross national income per capita. The country with the lowest score for 2014 was the Central African Republic with an HDI score of 0.35, and the country with the highest HDI score was Norway with 0.95. For the GDP data, I used the World Bank GDP Per Capita Report

from 2014 and entered the GDP Per Capita amount in thousands of U.S. dollars for every country it was available for. Both HDI and GDP were included in order to account for the stability of any given country. In 2014, the country with the lowest GDP per capita (in thousands of dollars) was Burundi with 312.75 and the country with the highest was Liechtenstein with 179478.58, as shown in Table 4. It was hypothesized that for countries with higher stability and overall higher quality of life, there would be less violence against aid workers, less civil conflict, and few to no active terrorist organizations. The regression analysis will determine whether the stability factors in fact correlate with the stability of the country in terms of its civil conflict or lack thereof.

Table 4. HDI Report Summary Statistics * No data for 13 countries including: China- Tibet, China- Macau,

Min	Median	Mean	Max	Data not available
0.35	0.72	0.70	0.95	13 countries

Occupied Territories of Cyprus, Democratic People's Republic of Korea, Kosovo, Marshall Islands, Monaco, Nauru, San Marino, Somalia, Taiwan, Tuvalu, and Western Sahara.

Table 5. GDP Per Capita Report Summary Statistics (in thousands of USD)* No data for 12 countries including:

Min	Median	Mean	Max	Data not available
.313	5.447	15.075	1794.789	12 countries

Eritrea, Syria, Libya, Venezuela, Andorra, China- Tibet, Occupied Territories of Cyprus, Democratic People's Republic of Korea, Monaco, San Marino, Taiwan, and Western Sahara.

6. Analysis

6.1. HDI Versus GDP

Table 6. A Statistical Comparison of GDP versus HDI in the Reported Violence Regression Model

	HDI		GDP per capita		HDI & GDP per capita	
Variable	Coefficient	P-Value	Coefficient	P-Value	Coefficient	P-Value
Intercept	0.328*	$9.35x10^{-5}$	0.026	0.233	0.420*	$1.91x10^{-6}$
NSAG1: Global/ Transnational	0.328	0.656	0.087	0.176	0.027	0.679
NSAG2: State/National	0.029*	0.033	0.133*	0.050	0.147*	0.031
NSAG3: Economic /Local	0.146*	0.043	0.208*	0.006	0.153*	0.045
1g: Civil Conflict	0.154*	$1.05x10^{-6}$	0.401*	$5.35x10^{-7}$	0.385*	$9.46x10^{-7}$
HDI	0.384*	$1.42x10^{-6}$	—	—	-0.605*	$4.38x10^{-5}$
GDP per capita (in thousands of USD)	—	—	0.001	0.370	0.002	0.080

* To test significance, I used an alpha value of 0.1. The regression model included 191 countries and territories, defined by the U.S Department of State Human Rights Reports. All variables with an asterisk next to their coefficient reported statistical significance in the model.

In order to test the statistical significance of the data, two different multivariable regression models were tested. The first model tested several independent variables against the dependent dummy variable of reported violence against aid workers in the societal violence scale reports. The linear regression model tested variables including the type of NSAG operating in the country, whether the country is in active civil conflict, and the human development index score at the time of reporting to determine if they are significant indicators of the estimated prediction of violence reported against aid workers in the SVS. The second model tested the same independent variables against the dependent variable of the 2014 SVS score for violence against aid workers.

To determine if the control variables were statistically significant, both of the models with only HDI, only GDP per capita, and with both HDI and GDP per capita were tested. Including and excluding these control variables allowed the researchers to see the difference in the coefficients and p-values for the different NSAG categories. The results from the three different tests are reproduced above.

According to the results produced in Table 6, the model with only HDI and the model with both HDI and GDP per capita had the most variables were statistically significant. In the first regression, all three NSAGs had statistical significance while the second regression model, that only used GDP per capita, had two NSAG variables that had statistical significance. In the model that only used GDP per capita as a control variable, the p-value of the GDP variable was deemed insignificant in the hypothesis test, and is therefore not a good indicator of a country's stability in that model. In the third regression, when HDI and GDP were used together, five out of six variables have p-values below 0.1. GDP also became statistically significant when used with the HDI in the model. There is evidence to suggest that a model with both HDI and GDP is the strongest indicator for the probability of violence against aid workers occurring in a country.

6.2. Results from the Linear Regression Models

6.2.1 reported violence against aid workers

In the first regression model, several independent variables were analyzed against the dependent dummy variable of reported violence against aid workers in the societal violence scale reports. After running the model, the author was able to identify the marginal probability increase of each of the NSAG dummy variables. Three different dummy variables were used, one for each of the three categories of NSAGs, global/transnational, state/national, and local/economic. Not only did all of the coefficient signs point in the correct direction, two of the three categories of NSAGs were statistically significant in the regression model at at least the 90% level. According to the model, and as shown in Table 7, if there is at least one global/transnational NSAG, or one state/national level NSAG, or one local/economic NSAG, the probability of violence against aid workers increases. For example, if there is at least one local/economic NSAG in a country, it is 15% more likely that the country will experience violence against aid workers, than in a country without such a NSAG all else equal.

Table 7. The Presence of Non-State Armed Groups in Linear Regression Model 1

Variables	Coefficient	Standard Error	P-Value
Intercept	0.421	0.096	$1.91x10^{-5}$
NSAG1: Global/Transnational	0.027	0.065	0.680
NSAG2: State/National	0.147	0.067	0.031
NSAG3: Economic/Local	0.153	0.076	0.045
1g	0.385	0.076	$9.46x10^{-7}$
HDI	-0.601	0.143	$4.38x10^{-5}$
GDP per capita (in thousand USD)	0.002	0.001	0.080

* The regression model included 191 countries and territories. Countries and territories are recognized by the United States and reported on in the U.S. Department of State Human Rights Reports. To test significance, I used an alpha value of 0.1.

The other variables run in this model were 1g, the conflict dummy based on the presence of section 1g in the State Department Report, HDI, and GDP per capita. Subcategory 1g of the U.S. Department of State Human Rights Report is titled, "Abuses in Internal Conflict" and is included for every country that is experiencing some form of active civil conflict. The results from the first regression model produced a coefficient of 0.385 and a p-value of $9.46x10^{-7}$. This very low p-value suggests that the variable 1g is a useful indicator of reported violence against aid workers. In other words, if a country is experiencing active civil conflict, then, according to the model, it is 35% more likely that the country will report violence against aid workers in some capacity, compared to a country that was coded as 1g = 0. In fact, the probability of violence against aid workers is 35% higher in conflict countries than in countries not labeled as active civil conflict countries categorized by the State Department.

The two control variables included in this model were HDI and GDP per capita. HDI is the Human Development Index score from 2014. The HDI is ranges from zero to one and the score is a combination of a range of factors such as average life expectancy, average years of education, and several more indicators of overall quality of life. For the countries included in the data set, the mean HDI score was 0.70, with a minimum score of 0.35 and a maximum score of 0.94. The results reported a coefficient of -0.601 and a p-value of $4.38x10^{-5}$. In other words, when a country reports violence against aid workers, their HDI score is predicted to decrease by .601 of a point on the 0.1 scale. GDP per capita, the second control variable, is the U.S. dollar amount of economic production compared to the number of people residing in a given country. In the data set, GDP per capita ranged from .313 USD to 1794.8 USD. The results from the regression model for reported violence against aid workers reported a coefficient of 0.002 and a p-value of 0.080, indicating statistical significance. If a country reports violence against aid workers, their GDP is predicted to increase by two U.S. dollars, or 0.002 in thousands of USD.

6.2.2 societal violence scale score for violence against aid workers

The second model tested several independent variables against the dependent variable of the 2014 SVS score for violence against aid workers. While the results did not align with the hypothesis, two of the three NSAG variables reported a strong coefficient and p-value. The variable NSAG2, the national level NSAG, produced a coefficient of 0.437 and a p-value of 0.003. To interpret, if there is at least one state/national level NSAG operating in a country, the model predicts that the SVS score for violence against aid workers in that country will shift up by almost a half of a point on a five point scale.

Table 8. The Presence of Non-State Armed Groups in Linear Regression Model 2

Variables	Coefficient	Standard Error	P-Value
Intercept	1.45	0.20	$2.08x10^{-11}$
NSAG1: Global/Transnational	-0.08	0.14	0.54
NSAG2: State/National	0.44	0.14	0.003
NSAG3: Economic/Local	-0.28	0.16	0.09
1g	0.79	0.16	$2.16x10^{-6}$
HDI	-0.65	0.30	0.04
GDP per capita (in thousands of USD)	0.002	0.01	0.41

* The regression model included 191 countries and territories. Countries and territories are recognized by the United States and reported on in the U.S. Department of State Human Rights Reports. To test significance, I used an alpha value of 0.1.

The 1g and HDI variables reported weaker p-values than the first model but were statistically significant nevertheless. GDP per capita, however, was not statistically significant in the second linear regression model . The results from the second regression model produced a 1g coefficient of 0.79 and a p-value of $2.16x10^{-6}$. This very low p-value suggests that the variable 1g is a useful indicator of violence against aid workers, and the coefficient suggests that if a country is experiencing active civil conflict, then, according to the model, the SVS score for violence against aid workers will go up by three fourths of a point. The other variable used, HDI, reported a coefficient of -0.65 and a p-value of 0.04. In other words, if a country moves up by one point in the Human Development Index, the predicted SVS score for violence against aid workers will decrease by half of a point. Between the two models used, the first linear regression model produced the strongest results and, out of the dependent variables in the data set, is the best predictor of violence against aid workers. In conclusion, the presence of state/national and economic/local NSAGs have statistically significant effects on the likelihood of violence and increase both the probability and severity of violence against humanitarian aid workers.

6.2. Adjustments to the Data

In order to make the model work, all of the countries with an overall SVS score of an asterisk were removed and all of the countries with a score of a number with an asterisk were changed to a non-asterisk score. In the SVS codebook, countries with not enough data in the reports receive a score of an asterisk and countries with limited data receive a numerical score accompanied by an asterisk. In order to be able to put the data into any sort of model, eight countries were removed, as well as the asterisk in the overall score of fourteen countries. The countries removed from the data set were Bhutan, Tibet, Cuba, Eritrea, Democratic People's Republic of Korea, Nauru, Tajikistan, and Western Sahara. While this decreased the sample size of the data set, none of these countries had reported violence against aid workers.

In the SVS, the evidence from the reports are broken up into three different perpetrator categories: individual/ad hoc, corporate, and organized/armed groups. In the 2014 reports, the only country that experienced violence against aid workers in more than one perpetrator category is Sudan. Instead of recording the two separate scores in the two separate categories, the author averaged the score of three in corporate and five in organized/armed to an overall score of four. This had minimal effects on the summary statistics and the results from the regression models.

7. Conclusion

As a causal mechanism, this paper argues that global/transnational NSAGs are determined to overthrow the current world order and will not stop at anything, even if it means inflicting suffering on neutral parties. It cites the nature of non-targeted violence in regions where global/transnational NSAGs are present, due to the motives of global/transnational organizations. However, there are several examples of regions where state/national NSAGs and local/economic NSAGs inflict violence on humanitarian aid workers, like in Burma and Liberia. Examples from the U.S. Department of State Human Rights Report shows that local and economic NSAGs target aid workers for a variety of reasons, most commonly due to group assumptions of perverse incentives and favoritism. While global/transnational NSAGs have strong motives for inflicting violence against aid workers in order to accomplish their goals, attacks by state/national NSAGs and local/economic NSAGs seem to be more targeted, personal, and widespread. Another reason the state/national NSAG variable had the strongest coefficients and the most consistently significant p-values could be due to the perceived neutrality of humanitarian aid workers, or lack thereof. Humanitarian aid workers are commonly seen as allies of the state due to the fact that they need permission from national governments to enter into a country. Therefore, this could lead state/national NSAGs to inflict violence on aid workers because they are seen as allies of the state.

This research paper attempted to categorize and explain violence against aid workers by non-state actors. It tested whether the type of NSAG in a country affects the likelihood of violence against aid workers using data from the 2014 Societal Violence Scale, a set of quantitative measures of societal violence, and definitions from the most recent publication of USAID's Aid Worker Security Report. While many humanitarian aid operations are carried out successfully with no targeted violence against aid workers, in destabilized countries and conflict zones, violence against aid workers is widespread and prevents aid operations from providing aid to those in need. The paper argued that there is variation in the violence committed by non-state actors against humanitarian aid workers. It conclude that the type of organized NSAGs present in a country directly affects the likelihood of aid workers experiencing targeted violence. The paper hypothesized that aid workers will be most at risk for violence when there is global NSAG present in a country, as all groups in this category have a similar goal of changing the global ideological norms and will often stop at nothing to gain control over as much territory as possible. However, the results produced results different from the hypothesis; the author found that the presence of state/national and economic/local NSAGs have statistically significant effects on the likelihood of violence against aid workers and increase both the probability and severity of violence against aid workers.

8. References

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