



EARLY WARNING PROJECT

COUNTRIES AT RISK FOR MASS KILLING 2019–2020

STATISTICAL RISK ASSESSMENT RESULTS

NOVEMBER 2019

UNITED STATES
MEMORIAL
**HOLOCAUST
MUSEUM**

SIMON-SKJODT CENTER
FOR THE PREVENTION OF GENOCIDE

DARTMOUTH

Foreword

Genocide and related crimes against humanity are devastating in their scale and scope; in the enduring scars for survivors and their families and the long-term trauma they cause in societies; and in the economic, political, and social costs and consequences, often extending far beyond the territory in which they were committed.

Working to prevent future genocides requires an understanding of how these events occur, including considerations about warning signs and human behaviors that make genocide and mass atrocities possible.

We know from studying the Holocaust and other genocides that such events are never spontaneous. They are always preceded by a range of early warning signs. Virtually all cases of genocide include mass killing. If warning signs are detected and their causes addressed, it may be possible to prevent catastrophic loss of life.

This assessment identifies the risk—the possibility—that a mass killing may take place. On average, one or two countries experience a new episode of mass killing each year. But relative infrequency does not make the brutality less devastating for victims: a mass killing, by our definition, is 1,000 or more civilians deliberately killed by armed forces (whether government or non-state), over a period of a year or less, because of their membership in a particular group. Virtually all cases of genocide include mass killings that meet this definition.

The United States Holocaust Memorial Museum’s founding charter, written by Holocaust survivor Elie Wiesel, mandates that our institution strive to make preventive action a routine response when warning signs appear. Wiesel wrote, “Only a conscious, concerted attempt to learn from past errors can prevent recurrence to any racial, religious, ethnic or national group. A memorial unresponsive to the future would also violate the memory of the past.”

The Museum’s Simon-Skjoldt Center for the Prevention of Genocide was established to fulfill that vision by transmitting the lessons and legacy of the Holocaust, and “to alert the national conscience, influence policy makers, and stimulate worldwide action to confront and prevent genocide.” The Center’s Early Warning Project works to fulfill this aspect of the Museum’s mandate by using innovative research to identify early warning signs—in doing so, we seek to do for today’s potential victims what was not done for the Jews of Europe. One of the Center’s goals is to ensure that the United States government, other governments, and multilateral organizations have institutionalized structures, tools, and policies to effectively prevent and respond to genocide and other mass atrocities.

¹ See Scott Straus, *Fundamentals of Genocide and Mass Atrocity Prevention* (Washington, DC: The United States Holocaust Memorial Museum, 2016), <https://www.ushmm.org/m/pdfs/Fundamentals-of-Genocide-and-Mass-Atrocity-Prevention.pdf>.

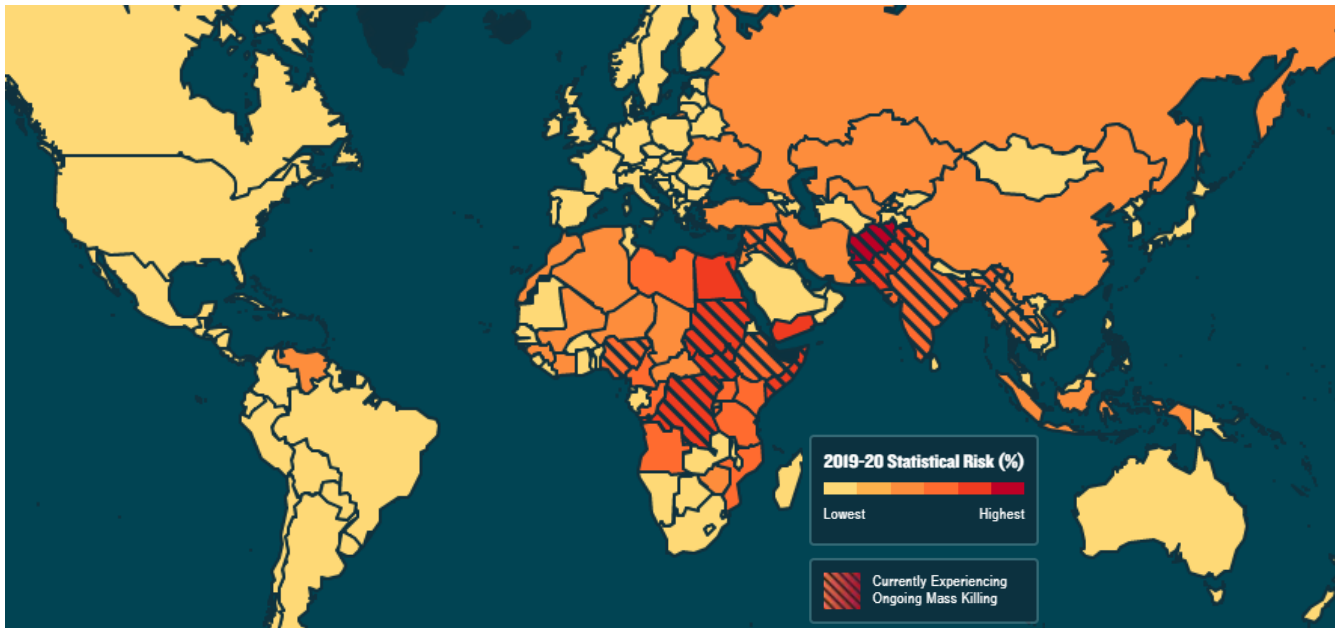
The more governments and international organizations develop their own early warning tools and processes, the better our Early Warning Project can help serve as a catalyst for preventive action.

In many places, such violence is ongoing—in countries such as Burma, Syria, and South Sudan. These cases are well known. But this risk assessment’s primary focus—and the gap we seek to fill—is to draw attention to countries at risk of a new outbreak of mass killing.

Preventing genocide is of course difficult. In deciding how to respond, policy makers face an array of constraints and competing concerns. The choice to prevent one potential tragedy often takes a back seat when policy makers are confronted by multiple ongoing conflicts. But we know from the Holocaust what can happen when early warning signs go unheeded. We aim for this risk assessment to serve as a tool and a resource for policy makers and others interested in prevention. We hope this helps them better establish priorities and undertake the discussion and deeper analysis that can help reveal where preventive action can make the greatest impact in saving lives.

Naomi Kikoler
Director
Simon-Skjodt Center for the Prevention of Genocide
November 2019

Figure 1: Heat map of estimated risk of new mass killing, 2019-2020



Data: Early Warning Project, earlywarningproject.org; cross-hatch pattern denotes countries with ongoing mass killing episodes.

Introduction

The Early Warning Project’s Statistical Risk Assessment uses publicly available data and statistical modeling to produce a list of countries ranked by their estimated risk of experiencing a new episode, or onset, of mass killing.

This report highlights findings from our Statistical Risk Assessment for 2019–2020, focusing on:

- Countries with the highest estimated risks of a new mass killing in 2019 or 2020
- Countries where estimated risk has been consistently high over multiple years
- Countries where estimated risk has increased or decreased significantly from our last assessment
- Countries with unexpected results

We recognize that this assessment is just one tool. It is meant to be a starting point for discussion and further research, not a definitive conclusion. **We aim to help governments, international organizations, and nongovernmental organizations determine where to devote resources for additional analysis, policy attention, and, ultimately, preventive**

action. We likewise hope that this report and our Early Warning Project as a whole inspire governments and international organizations to invest in their own early warning capabilities.

Understanding these results

Before discussing the results, we underscore four points about interpreting this Statistical Risk Assessment:

First, as a statistical matter, mass killings are rare. On average, just over one percent of countries see a new mass killing in any given year—that means one or two countries. Our risk model predicts a similar number of new episodes of mass killing, so the average two-year risk estimate produced by our model is between two and three percent. Just seven out of 162 countries have a two-year risk estimate greater than ten percent, and the highest-risk country, Afghanistan, has about a one in five chance of experiencing a new mass killing in 2019 or 2020.

Second, our model is designed to assess the risk of a new mass killing, not of the continuation or escalation of ongoing episodes. This feature is

especially important to bear in mind when interpreting results for countries that are currently experiencing mass killings, such as Burma/Myanmar and Syria (see Figure 1 and [our website](#) for a full list of these countries). For these countries, our assessment should be understood as an estimate of the risk that a new mass killing event would be launched by a different perpetrator or targeting a different civilian group in 2019 or 2020. Our model estimates that having a mass killing currently in progress is associated with lower risk of another one beginning, as it is rare for a country to have two distinct mass killing episodes concurrently.

Definition: Mass Killing

By our definition, a mass killing occurs when the **deliberate actions** of armed groups in a particular country (including but not limited to state security forces, rebel armies, and other militias) result in the deaths of at least **1,000 noncombatant civilians** in that country over a period of **one year or less**. The civilians must also have been targeted for being part of a **specific group**.¹ Mass killing is a subset of “mass atrocities,” which we define more generally as “large-scale, systematic violence against civilian populations.”²

Third, for practical reasons, we only forecast mass killings within countries (i.e., in which the perpetrator group and the targeted civilian group reside in the same country). This risk assessment does not forecast civilian fatalities from interstate conflict. Situations in which large numbers of civilians are killed deliberately by an armed group from another country are not captured in our historical data or current forecasts. This decision does not involve a value judgment about the moral or practical significance of such atrocities, only a

pragmatic judgment about what we are able to forecast reliably.

Fourth, readers should keep in mind that our model is not causal: The variables identified as predicting higher or lower risk of mass killings in a country are not necessarily the factors that drive or trigger atrocities. For example, large population size does not directly cause mass atrocities; however, countries with large populations have been more likely to experience mass killing episodes in the past, so this factor helps us identify countries at greater risk going forward. We make no effort to explain these kinds of relationships in the data; we only use them for their predictive value. An important consequence of the non-causal nature of these forecasts is that actions aimed at addressing risk factors identified in the model are not necessarily effective ways of mitigating the risk of mass atrocities; this assessment does not seek to evaluate atrocity prevention policy prescriptions. For example, although our model finds that countries coded as having severely limited freedom of movement for men are at greater risk of experiencing mass killings than are other countries, this does not imply whether or not action to improve freedom of movement for men would prevent mass killings.

Highlights from the 2019–2020 Statistical Risk Assessment

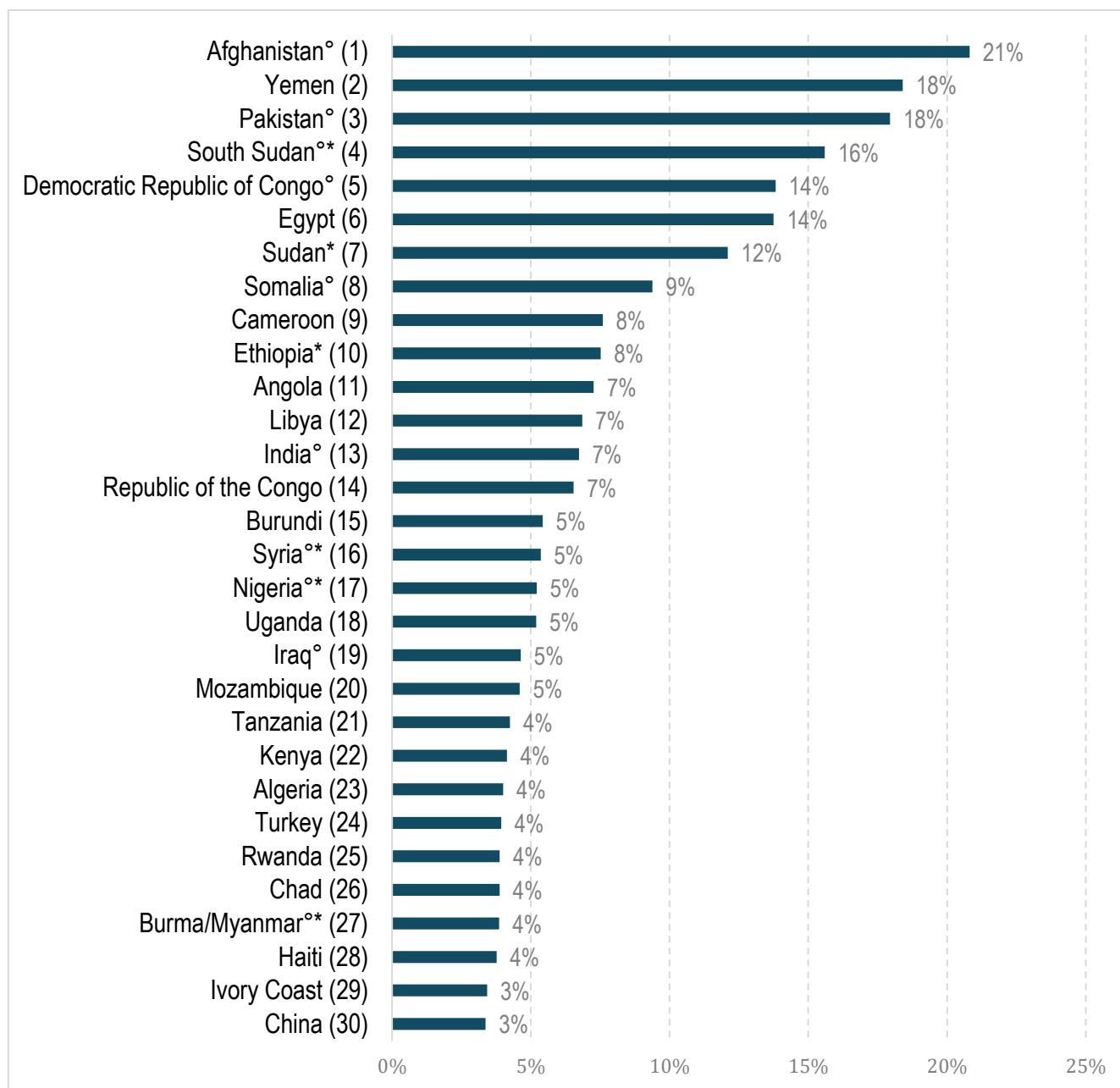
Figure 2 displays the estimated risk of a new onset of mass killing (state-led or non-state-led) in 2019 or 2020 for the 30 highest-ranked countries. For every country in the top 30, we recommend that policy makers consider whether they are devoting sufficient attention to addressing the risks of mass atrocities occurring within that country. Strategies and tools to address atrocity risks should, of course,

¹ To distinguish mass killings from large numbers of unrelated civilian fatalities, the definition states that victims of a mass killing must appear to be perceived by the perpetrators as belonging to a discrete group. That group may be defined communally (e.g., by ethnicity or religion); politically (e.g., by partisan affiliation or ideology); socioeconomically (e.g., by

class or profession); or geographically (e.g., by residence in specific villages or regions). Unrelated executions by police or other state agents would not qualify as a mass killing, but capital punishment directed against members of a specific political or communal group would.

² Straus (2016), p. 31.

Figure 2: Top 30 countries by estimated risk of new mass killing, 2019–2020



Note: * indicates ongoing state-led mass killings; ° indicates ongoing non-state-led mass killings. Some countries have two ongoing mass killings of one type (i.e., Burma/Myanmar has two ongoing state-led mass killings). Some countries have multiple ongoing episodes. Risk-based ranking is in parenthesis. The probabilities displayed here are associated with the onset of an additional mass killing episode. See the full list of ongoing mass killings on [our website](#).

be tailored to each country’s context. Additional analysis on context-specific drivers and vulnerabilities should suggest where adjusting plans, budgets, programs, and diplomatic strategies might help prevent mass killings in high-risk countries.

Attending to potential future atrocities in *all* high-risk countries, not just to ongoing crises, is a critical first step toward forging effective preventive strategies. High-risk countries that are not currently experiencing mass killings (Figure 3) merit special

attention.³ Some of the countries on this list are currently experiencing armed conflicts that do not (yet) amount to mass killing according to our definition.⁴ Others, however, are notable in their lack of significant armed conflict currently: Angola, Republic of Congo, Burundi, Uganda, and Tanzania. Our model generates a single risk estimate for each country; additional analysis is required to assess whether potential perpetrators in a specific country are state and/or non-state actors and, if the latter, which specific groups.

Further qualitative analysis is needed to understand the specific drivers of risk in a given situation, the mass atrocity scenarios that could be deemed plausible, and the resiliencies that could potentially be bolstered to help prevent future atrocities. This kind of deeper qualitative assessment is exemplified in Early Warning Project reports on [Côte d’Ivoire](#) (2019), [Mali](#) (2018), [Bangladesh](#) (2017), and [Zimbabwe](#) (2016). Concerned governments and international organizations should consider conducting their own assessments of countries at risk.⁵ For example, as part of its atrocity prevention strategy, the White House recently released a report committing to conducting “in-depth qualitative analyses focused on high-risk countries as needed.”⁶ Because these qualitative assessments are resource intensive, policy makers should prioritize that type

of analysis on countries whose risk estimate is relatively high according to this Statistical Risk Assessment, and where opportunities for prevention exist.

Highest-risk countries

Here we highlight the three countries that topped our risk list in the 2019–2020 assessment, all of which have ranked high for several years, and the top factors accounting for their risk estimates (see “Methods” below for more detail on the risk factors in the model).

- **Afghanistan (Rank: 1):** Afghanistan has ranked among the three highest-risk countries in our last three assessments. The United Nations (UN) reported that [2018 was the deadliest year for civilians in Afghanistan in the past decade](#) (the period the UN has been tracking these data), with close to 4,000 fatalities. Though 2019 data is not yet available in full, the [UN reported](#) that July–September 2019 marked the country’s deadliest quarter for civilians ever recorded. According to our model, the factors that contribute most to Afghanistan’s risk estimate include lack of freedom of movement for men,⁷ its mix of democratic

³ Resources on strategies and tools that might be useful in preventing mass atrocities include the following: Scott Straus, *Fundamentals of Genocide and Mass Atrocity Prevention* (Washington, DC: The United States Holocaust Memorial Museum, 2016), <https://www.ushmm.org/m/pdfs/Fundamentals-of-Genocide-and-Mass-Atrocity-Prevention.pdf>; USAID, *Field Guide: Helping Prevent Mass Atrocities* (Washington DC: USAID, 2015), <https://www.usaid.gov/sites/default/files/documents/1866/Field%20Guide%20Mass%20Atrocities.pdf>; and Bridget Conley-Zilkic, Saskia Brechenmacher, and Aditya Sarkar, *Assessing the Anti-Atrocity Toolbox* (Medford, MA: The World Peace Foundation, 2016), https://sites.tufts.edu/wpf/files/2017/05/Atrocity-Toolbox_February-2016.pdf.

⁴ We know that ongoing conflict is a strong predictor of mass killing, and more importantly, that ongoing armed conflict tends to focus policy attention on risk in a country.

⁵ For example, the US government has developed and implemented a framework for analysis of atrocity risk and implemented it in multiple countries, including Burundi. This framework was referenced in the September 2019 “Elie Wiesel Genocide and Atrocities Prevention Report” (see footnote 6).

See: US Department of State and USAID, “Working Draft, Atrocity Assessment Framework: Supplemental Guidance on State/USAID Conflict Assessment Framework,” <https://www.state.gov/documents/organization/241399.pdf>, and Sarah Sewall, “Making Progress: U.S. Prevention of Mass Atrocities,” April 24, 2015, <https://2009-2017.state.gov/j/remarks/241222.htm>.

⁶ “Elie Wiesel Genocide and Atrocities Prevention Report,” The White House, September 12, 2019, <https://www.whitehouse.gov/wp-content/uploads/2019/09/ELIE-WIESEL-GENOCIDE-AND-ATROCITIES-PREVENTION-REPORT.pdf>.

⁷ *Freedom of Movement*, disaggregated by sex, is a variable coded by the V-Dem dataset. Note that both *Freedom of Movement, Men*, and *Freedom of Movement, Women*, are included in our model, but that variation in Freedom of Movement, Women, was not usefully associated with the risk of onset of a mass killing. According to *V-Dem*, “This indicator specifies the extent to which all men are able to move freely, in daytime and nighttime, in public thoroughfares, across regions within a country, and to establish permanent residency where they wish. Note that restrictions in movement might be imposed

and autocratic governance characteristics (i.e., an anocratic regime type⁸), [ongoing armed conflict](#) within the country's borders, involving the Taliban, Islamic State, and the Government of Afghanistan, and the geographic location of the country.⁹ We consider Afghanistan to be experiencing a [non-state-led mass killing](#) episode that has been ongoing since 2001, perpetrated by the Taliban, Haqqani network, and associated armed groups. This risk assessment relates to the possibility of a new and distinct non-state-led or state-led episode, not to the Taliban attacks continuing or increasing.

- **Yemen (Rank: 2):** Yemen has been ranked sixth or higher in each of our past four annual assessments. Yemen's civilian population has suffered tremendously since the country's civil war escalated in March 2015, including from [indiscriminate aerial bombardment](#) and from a war-triggered humanitarian crisis. Some fatality estimates total [near 100,000](#), thousands of civilians have been [displaced](#), and millions face [crisis-level food insecurity](#). According to our model, the factors that explain Yemen's risk estimate include lack of freedom of movement for men, the country's regime type (anocracy), ongoing armed conflict, its geographic region, and the presence of political killings. It should be noted, as we

explained in a [November 2015 blog post](#), that our project's definition of *mass killing* excludes situations in which one country's armed forces attack civilians in another country's territory. Thus, killings perpetrated by foreign militaries (in this case, the [Saudi-led coalition](#)) are reflected neither in this forecast nor in its underlying data.

- **Pakistan (Rank: 3):** Pakistan has ranked in the top ten highest-risk countries every year this assessment has been produced. Pakistan faces multiple security and [human rights challenges](#), including violence by the Tehrik-e-Taliban Pakistan (TTP) and other [ideologically-driven militant groups](#) as well as national-level [political discord](#) due in part to increasingly sectarian hatred and rising intolerance in political discourse and state crackdowns on [political opposition](#) and [media outlets](#). According to our model, the factors that explain Pakistan's risk estimate include its large population, lack of freedom of movement for men, its geographic region, and that it experiences political killings that are frequently approved of or incited by members of the government (according to V-Dem).¹⁰ As with Afghanistan, Pakistan has had an [ongoing non-state-led mass killing](#) (perpetrated by the Taliban

by the state and/or by informal norms and practices. Such restrictions sometimes fall on rural residents, on specific social groups, or on dissidents." (p. 233)

⁸ Anocratic governance structures—anocracies—are those that feature some aspects of democracy and some aspects of autocracy, either intentionally or because of an ongoing transition in the form of government. Per [Fearon & Laitin](#), we classify a country whose polity2 estimate (a measure of regime type, as defined by the Center for Systemic Peace Polity IV Dataset) is greater than -5 and less than 5 as an anocracy. [Multiple studies](#) have [shown](#) that anocracies are more prone to conflicts than full democracies or full autocracies.

⁹ Our model includes *geographic location* (region, as determined by the US Department of State) as a variable. Though geographic location is a contextual descriptor and does not directly influence risk—meaning, for example, that a country's location in the Middle East does not cause the country to experience a mass killing—it can, in some cases, be a useful

predictor of a mass killing onset. Our model found that presence in the regions of South and Central Asia, the Middle East and North Africa, or Africa serves as a useful predictor of risk.

¹⁰ Political killings are killings by the state or its agents without due process of law for the purpose of eliminating political opponents. These killings are the result of deliberate use of lethal force by the police, security forces, prison officials, or other agents of the state (including paramilitary groups). Michael Coppedge, et al. 2019. "V-Dem [Country-Year/Country-Date] Dataset v9", Varieties of Democracy (V-Dem) Project. <https://doi.org/10.23696/vdemcy19>; and Pemstein, Daniel, Kyle L. Marquardt, Eitan Tzelgov, Yi-ting Wang, Juraj Medzihorsky, Joshua Krusell, Farhad Miri, and Johannes von Römer, "The V-Dem Measurement Model: Latent Variable Analysis for Cross-National and Cross-Temporal Expert-Coded Data", V-Dem Working Paper No. 21, 4th edition, 2019 (University of Gothenburg: Varieties of Democracy Institute).

Movement of Pakistan and associated militias since 2001).

The remaining seven countries in the top ten are South Sudan, Democratic Republic of Congo (DRC), Egypt, Sudan, Somalia, Cameroon, and Ethiopia. Analysis of DRC, Egypt, and Sudan is below. To learn more about for the factors that contributed to the high-risk estimate of any of these countries, visit the country pages on [our website](#).

Figure 3

Highest-Risk Countries Not Currently Experiencing Mass Killing		
Country	Risk Estimate	Rank
Yemen	18%	2
Egypt	14%	6
Cameroon	8%	9
Angola	7%	11
Libya	7%	12
Rep. of Congo	7%	14
Burundi	5%	15
Uganda	5%	18
Mozambique	5%	20
Tanzania	4%	21

*Note that the majority of civilian killings in Yemen have been perpetrated by a Saudi-led coalition and thus do not qualify under our definition as it is a foreign-led campaign. Likewise, mass killing may have already begun in Cameroon but the fatality counts do not yet meet our threshold of over 1000 in 12 months or less.

Consistently high-risk countries

In addition to the top three, a few countries have appeared near the top of our rankings for several years but have yet to experience a new mass killing episode in that period.

- Democratic Republic of Congo (Rank: 5):** The DRC has ranked in the top ten highest-risk countries every year this assessment has been produced. Despite a mostly peaceful election and transfer of power to a new

president in January 2019, numerous violent conflicts affect multiple regions of the DRC—most notably the [Kivus](#), [Kasai](#), and [Ituri](#)—and more than [124 armed groups](#) operate in the country. According to our model, the factors that explain DRC’s risk estimate include a lack of freedom of movement for men, the country’s regime type (anocracy), its large population, and its high infant mortality rate. The Early Warning Project considers there to be an ongoing mass killing in the northeast perpetrated by various militias since 1998; this risk assessment relates to the possibility of a new and distinct non-state-led or state-led episode beginning, not to the ongoing episode continuing or increasing.

- Egypt (Rank: 6):** Egypt has ranked in the top ten highest-risk countries in the last three assessments. The country continues to experience deadly terrorist attacks, including some targeting Christians and other religious minorities. The government launched a “[Comprehensive Military Operation](#)” in 2018 to combat insurgencies across the country and has been accused of [targeting](#) peaceful dissidents under the guise of counterterrorism. According to our model, the factors that account for Egypt’s risk estimate include lack of freedom of movement for men, the country’s regime type (anocracy), its large population (the largest of any country in the Middle East), its geographic region, and ongoing armed conflict in the [Sinai Peninsula](#), where the military is fighting the Islamic State.
- Sudan (Rank: 7):** Sudan has ranked in the top ten highest-risk countries every year this assessment has been produced. Sudan has experienced a tumultuous 2019, with several months of mass protests leading to the [removal of Omar al-Bashir](#) as president in April in a military coup, a crackdown on protesters in early June that resulted in more than [100 civilian fatalities](#), and the appointment of a civilian [prime minister](#) in August. Sudan’s future remains highly

Key Questions Users Should Ask

The results of this risk assessment should be a starting point for discussion and further analysis of opportunities for preventive action. For countries in each of the following categories, we recommend asking certain key questions to gain a fuller understanding of the risks, adequacy of policy response, and to identify additional useful lines of inquiry.

Highest-Risk and Consistently High-Risk

- Are countries at high risk and those that have been consistently high-risk receiving enough attention?
- What additional analysis would help shed light on the level and nature of atrocity risk in the country?
- What kinds of crises or events (e.g., coups, elections, leadership changes, protests, etc.) might spark large-scale violence by the government or non-state actors?

Increasing Risk

- What events or changes explain the big shifts in estimated risk?
- Have there been additional events or changes, not yet reflected in the data, which are likely to further shift the risk?
- Is the increase part of an ongoing trend?

Unexpected Results

- What accounts for the discrepancy between the statistical results and experts' expectations?
- What additional analysis would help shed light on the level and nature of atrocity risk in the country?

uncertain as [protests continue](#) and the country faces [economic crisis](#). According to our model, the factors that explain Sudan's risk estimate include a lack of freedom of movement for men, the country's regime type (anocracy), the presence of political killings, and its large population. The Early Warning Project considers there to be [ongoing mass killing](#) in Darfur, and a mass killing in South Kordofan and Blue Nile that ended in 2016. Note that this assessment is based on 2018 data, so the 2019 coup is not factored into the model.¹¹

Significant shifts in ranking

We highlight three countries that moved up in our rankings substantially between the 2018–19 and

2019–2020 assessments, and one that declined significantly. Four other countries—Mozambique (33rd to 20th), Bangladesh (13th to 33rd), Ivory Coast/Côte d'Ivoire (11th to 30th), and Zimbabwe (24th to 39th)—moved up or down more than ten spots and into or out of the top 30 “high-risk” range.

- **Ethiopia (Rank: 10):** Last year, we highlighted Ethiopia as a shift moving *down* in the rankings from 12th (in the 2017–18 assessment) to 32nd (in the 2018–19 assessment). This year, however, the country moved up 22 places to return to its previous high-risk ranking, mainly due to a decrease, according to V-Dem, in freedom of movement for men. In addition to changes in the data, recent events suggest risks at local and national levels. [Inter-communal](#)

¹¹ We use the Center for Systemic Peace's Coup d'Etat & Powell and Thyne Coup d'Etat Datasets to identify “Successful or unsuccessful coup attempt in this year or the prior 4.”

[violence](#) has contributed to a sharp escalation in internally displaced people, now numbering more than two million. National level politics are tense in the wake of an attempted coup, in which “[dozens](#)” died, and in anticipation of elections [slated for 2020](#). According to our model, the factors that account for Ethiopia’s current risk estimate include lack of freedom of movement for men, its large population, the country’s regime type (anocracy), and its history of mass killing. We consider there to be an [ongoing mass killing](#) since 2015 by state security forces against Oromo civilians.

- **Republic of the Congo (Rank: 14):** Republic of the Congo, also known as Congo-Brazzaville, moved up 13 places from 27th to 14th in our ranking. Since last year’s assessment, the judiciary’s formal powers were altered, religious freedom and freedom of discussion decreased, and V-Dem coded political killings as having worsened. While often overlooked in favor of its much larger neighbor, atrocities have been committed in the Republic of the Congo in the recent past. After a [contested election](#) in 2015, the government allegedly used an attack in the capital, Brazzaville, as a pretext to attack the Pool region, using [scorched-earth tactics](#) to put down a secessionist movement from March 2016 through December 2017. This conflict garnered very little international attention, but left tens of thousands displaced and entire districts deserted. According to our model, the factors that account for the Republic of the Congo’s current risk estimate include lack of freedom of movement for men, the country’s regime type (anocracy), the presence of political killings, and its history of mass killing.
- **Turkey (Rank: 24):** Ranked eighth in 2018–19, Turkey decreased 16 places to rank 24th in this year’s assessment,

Turkey’s lowest ranking since 2015. Accounting for most of its decrease is an improvement in freedom of movement for men. Despite its decrease in estimated risk, Turkey still ranks in the top 30 “high-risk” category. There are continuing reports about the [erosion of civil liberties](#), especially for journalists and perceived critics of the government. Further, perceived [critics of the government](#) and populations perceived to be aligned with the ongoing rebellion are subject to [political](#) and [social](#) repression and sometimes [police brutality](#). According to our model, the factors that account for Turkey’s current risk estimate include the country’s regime type (anocracy), its large population, ongoing armed conflict between the Kurdistan Workers’ Party (PKK) and the Turkish government,¹² its history of mass killing, and a recent coup attempt in July 2016.

- **Cameroon (Rank: 9):** Though it did not move up more than ten places from last year’s assessment, Cameroon is notable for its consistently rising risk: it has moved from 36th (2017–18) to 17th (2018–19) to 9th place. In the country’s Northwest and Southwest regions, Anglophone separatists (approximately [seven armed militia groups](#)) are attempting to break away and form their own country called Ambazonia in response to the government’s perceived [marginalization](#) of the English-speaking minority; the government has [launched a crackdown](#) in response. In May 2019, the UN Security Council held an [informal meeting](#) to discuss potential international responses to the escalating [humanitarian crisis](#) and [rights groups](#) have [noted](#) the risk for mass atrocities. At the same time, in the Far North, the conflict around the Boko Haram insurgency has killed [thousands](#) and displaced more than [200,000](#) since it began in 2013. According to our model, the factors

¹² For data on ongoing armed conflict, we rely on Peace Research Institute Oslo (PRIO) battle death data up to its

conclusion in 2008 and Uppsala Conflict Data Program (UCDP) data through 2018.

that account for Cameroon’s current risk estimate include lack of freedom of movement for men, the country’s regime type (anocracy), ongoing armed conflict between the state and Ambazonia insurgents, its high infant mortality rate, and its degree of ethnic fractionalization. We do not currently consider there to be ongoing mass killing in Cameroon but are closely monitoring the situation.

Unexpected results

One way global statistical risk assessments are helpful is in identifying countries whose relatively high (or low) risk estimates may surprise regional experts. In cases where our statistical results differ substantially from expectations, we recommend conducting deeper analysis and revisiting assumptions. The purpose of this analysis is not to pit qualitative analysts and statistical models against one another but rather to deepen our understanding of risk in the country in question.¹³ We highlight three countries that, in our informal judgment, fall into this category.

- **India (Rank: 13):** Given its burgeoning economy, longstanding democratic institutions, and major political role on the international stage, many people do not expect to find India among countries at greatest risk of mass killing, or to learn that India is already experiencing an [ongoing non-state-led mass killing](#). According to our model, the factors that account for India’s risk estimate include its large population, its geographic region, ongoing armed conflicts (which include Naxalite-Maoists, Kashmir insurgents, the United National Liberation Front of Western South East Asia [UNLFW], and the Government of India), and its history of mass killing (the Early Warning Project considers there to have been a mass killing by insurgents in Jammu

and Kashmir from 1990–2008 and a state-led mass killing against Sikh separatists from 1984–1994, in addition to the ongoing episode perpetrated by the [Naxalite-Maoists](#) since 2004). The relatively high risk estimate for mass killing onset is important context for analysts of unfolding events in India: for example, the [shift in state policy toward Jammu and Kashmir](#) or use of [inflammatory rhetoric](#) linked to [nationalist](#) and exclusionary ideologies. These kinds of developments should cause greater concern about risk of violent escalation when the overall national-level risk is assessed to be relatively high.

- **China (Rank: 30):** Ranking 30th, China falls just inside the “high-risk” category, which may be unexpectedly low to many observers based on [news coverage](#) of the state crackdown on the Uyghur (Turkic Muslim) population since 2016. In Xinjiang Province, the Chinese government is using sophisticated social and technological surveillance systems to further mass detention and disappearance of the Uyghurs. An estimated [one](#) to [three](#) million Uyghurs are currently detained, often for reasons such as practicing religion or having connections with foreign countries. The state’s repressive campaign is multifaceted and systematic, but to date has not included widespread killing. According to our model, the factors that explain China’s estimated risk include its large population, lack of freedom of movement for men, and its history of mass killing, all of which are associated with higher risk. Conversely, China’s low degree of ethnic fractionalization, lower than average infant mortality rate, and lack of ongoing armed conflict are all associated with lower risk.

¹³ See: Jack A. Goldstone, “Using Quantitative and Qualitative Models to Forecast Instability,” The United States Institute of Peace, October 1, 2008,

<https://www.usip.org/publications/2008/03/using-quantitative-and-qualitative-models-forecast-instability>.

- **Nicaragua (Rank: 57):** Despite the [violent suppression of anti-government protests](#) in 2018, which resulted in more than 200 people being killed, Nicaragua ranks relatively low in our assessment. According to our model, Nicaragua’s lack of freedom of movement for men, history of mass killing, and state repression of civil society are all associated with higher mass killing risk. Variables that account for its relatively low risk include its small population size, rule by a minority social group,¹⁴ and lack of armed conflict. Anti-government protests beginning in April 2018 led to a [brutal crackdown](#), with state security forces and associated militias killing [hundreds](#), injuring [thousands](#), and [detaining and in some cases torturing](#) hundreds more. There has been [no accountability](#) for these crimes and the executive control of every branch of government has [severely limited](#) fundamental freedoms.

Methods

To produce this assessment, we employ data and statistical methods designed to maximize the accuracy and practical utility of the results. Our model assesses the risk for onset of both state-led and non-state-led mass killings over a two-year period.

Data

The data that inform our model come from a variety of sources. On the basis of prior empirical work and theory, we selected more than 30 variables, or risk factors, as input for our statistical model (see the discussion of our modeling approach, below). All

data used in our model are publicly available, regularly updated, and available without excessive delay. They also have, in our estimation, minimal risk of being retrospectively coded in ways that could depend on observed mass killings or their absence, cover all or almost all countries in the world, and go back at least to 1980 (but ideally to 1945). We include variables reflecting countries’ basic characteristics (e.g., the number of years a country has existed, geographic region, population); socioeconomic measures (e.g., changes in gross domestic product per capita); measures of governance (e.g., regime type); levels of human rights (e.g., freedom of movement); and records of violent conflict (e.g., battle-related deaths, ongoing mass killings). Alongside the model, we publish a data dictionary¹⁵ and make the model and all data available on our GitHub repository.¹⁶ The only dataset the Early Warning Project maintains is that of ongoing mass killing.¹⁷

Modeling approach

Our modeling approach is described in detail on [our website](#). We use a logistic regression model with “elastic-net” regularization. In summary, based on a set of about 30 variables and data on mass killing going back to 1945, the algorithm identifies predictive relationships in the data, resulting in an estimated model. We then apply this model to recent data (from 2018 for the 2019–2020 assessment) to generate forecasts. The model automatically selects variables that are useful predictors; see our [methodology page](#) for a list of variables selected by the model. We emphasize that these risk factors should not be interpreted as causes or “drivers” of risk but simply as correlates of risk that have proven useful in forecasting.

¹⁴ According to V-Dem, “A social group is differentiated within a country by caste, ethnicity, language, race, region, religion, or some combination thereof. (It does not include identities grounded in sexual orientation or socioeconomic status.) Social group identity is contextually defined and is likely to vary across countries and through time. Social group identities are also likely to cross-cut, so that a given person could be defined in multiple ways, i.e., as part of multiple groups. Nonetheless, at any given point in time there are social groups within a society that are understood—by those residing within that society—to

be different, in ways that may be politically relevant.” Pemstein et al. (2019, V-Dem Working Paper Series 2019:21).

¹⁵ “Data Dictionary,” Early Warning Project, https://earlywarningproject.ushmm.org/pdf/EWP_Data_Dictionary_10.9.18.pdf.

¹⁶ Early Warning Project Github, <https://github.com/earlywarningproject>.

¹⁷ “Ongoing Mass Killing,” Early Warning Project, <https://earlywarningproject.ushmm.org/ongoing-mass-killing>.

Accuracy

We assessed the accuracy of this model in ways that mimicked how we use its results: We built our model on data from a period of years and then tested its accuracy on data for later years (i.e., we conducted out-of-sample testing). Our results indicate that eight out of every ten countries that later experienced a new onset of mass killing had risk estimates of greater than four percent (which usually meant they were among the 30 top-ranked countries in a given year). We are preparing a technical paper in which we assess our model and others according to multiple performance measures.

Conclusion

Early warning is a crucial element of effective atrocity prevention. The purpose of our statistical risk assessment is to provide one practical tool to the public for assessing risk in countries worldwide. This tool should enable policy makers, civil society, and other analysts to focus attention and resources on countries at highest risk, especially those not currently receiving sufficient attention.

This quantitative assessment is designed to serve as a starting point for additional analysis. States and international organizations have developed and implemented tools for qualitative atrocity risk assessments—we see the application of such tools as a complementary next step after our statistical analysis. These in-depth assessments should in turn spur necessary adjustments in strategic plans, budgets, programs, and diplomatic strategies toward high-risk countries. By combining these approaches—global risk assessment, in-depth country analysis, and preventive policy planning—we have the best chance of preventing future mass atrocities.

The Simon-Skjodt Center for the Prevention of Genocide of the United States Holocaust Memorial Museum works to prevent genocide and related crimes against humanity. The Simon-Skjodt Center is dedicated to stimulating timely global action to prevent genocide and to catalyze an international response when it occurs. Our goal is to make the prevention of genocide a core foreign policy priority for leaders around the world through a multipronged program of research, education, and public outreach. We work to equip decision makers, starting with officials in the United States but also extending to other governments, with the knowledge, tools, and institutional support required to prevent—or, if necessary, halt—genocide and related crimes against humanity.

The Dickey Center for International Understanding unites the diverse strengths of Dartmouth College—its students, faculty, and undergraduate and graduate schools—in addressing the world’s challenges. The Dickey Center is defined not only by the scope of the issues it addresses, but the way in which it does it: through collaboration, innovation, interdisciplinary study, and respect for the diversity of viewpoints. Working with Dartmouth’s stellar faculty, the Dickey Center aims to produce the best understanding and analysis of international issues with collaborative, multidisciplinary research on such complex problems as global climate change, world health crises, war and conflict resolution, and poverty alleviation. In bringing together the talents and resources of Dartmouth’s professional schools with those of the College of Arts and Sciences, it seeks to be the force that unites the university in the development of new understanding, knowledge, and solutions to world problems.



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