



EARLY WARNING PROJECT

COUNTRIES AT RISK FOR MASS KILLING 2021–22

STATISTICAL RISK ASSESSMENT RESULTS

NOVEMBER 2021

UNITED STATES
HOLOCAUST
MEMORIAL
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.¹ If warning signs are detected and their causes addressed, it may be possible to prevent catastrophic loss of life.

The Early Warning Project has produced a global risk assessment every year since 2014. Since then, we have seen multiple mass atrocities occur, including a genocide against the Rohingya in Burma, the killing of hundreds of thousands of civilians in South Sudan, and identity-based targeted killings in Ethiopia and Cameroon. Early warning is simply not prompting enough early action.

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.

“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.”

—Elie Wiesel

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-Skjodt 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 Simon-Skjodt 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 Simon-Skjodt 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

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

respond to genocide and other mass atrocities. The Early Warning Project is listed in the [Global Fragility Act](#) (2019) as a source to determine where the US government should prioritize its Global Fragility Strategy, a landmark ten-year effort to improve US action to stabilize conflict-affected areas and prevent extremism and violent conflict.

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, mass killings are 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. We use this model as one input for selecting countries for more in-depth research and policy engagement. The Simon-Skjodt Center focuses on situations where there is a risk of, or ongoing, large-scale group-targeted identity-based mass atrocities and where we believe we can make the most impact based on a combination of factors. These factors include the ability for Simon-Skjodt Center staff to conduct rigorous field work in the area (or a pre-existing level of staff expertise in the area), opportunities for effective engagement with the community at risk, and the need to draw attention to cases where policy, media, and public attention on the case are lower than merited by the level of risk.

Preventing genocide is of course difficult. In deciding how to respond, policy makers face an array of constraints and competing concerns. Yet, the choice to prevent one potential tragedy should not take a back seat to confronting ongoing crises. 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 2021

Figure 1: Heat map of estimated risk of new mass killing, 2021–22



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.

Policy makers face the challenge of simultaneously responding to ongoing mass atrocities, such as those in Burma, China, Ethiopia, South Sudan, and Syria, and trying to prevent entirely new mass atrocity situations. A critical first step toward prevention is accurate and reliable assessment of countries at risk for future violence. Earlier identification of risk broadens the scope of possible preventive actions. This report aims to help identify countries meriting preventive actions.

In essence, our statistical model identifies patterns in historical data to answer the following question: Which countries today look most similar to countries that experienced mass killings in the past, in the year or two before those mass killings began? The historical data include basic country characteristics, as well as data on governance, war and conflict,

human rights and civil liberties, and socioeconomic factors.

This report highlights findings from our Statistical Risk Assessment for 2021–22, focusing on:

- Countries with the highest estimated risks of a new mass killing in 2021 or 2022
- Countries where estimated risk has been consistently high over multiple years
- Countries where estimated risk has increased 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 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 five 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 just under two percent. Just five out of 162 countries have a two-year risk estimate greater than ten percent, and the highest-risk country, Pakistan, is estimated to have about a one in seven chance of experiencing a new mass killing in 2021 or 2022.

Second, our model is designed to assess the risk of a new mass killing, not of the continuation or escalation of ongoing episodes. Much of the Simon-Skjodt Center’s work spotlights ongoing atrocities and urges lifesaving responses. We focus here on the risk of new mass killing to help fill an analytic gap that is critical to prevention. 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 2021 or 2022. (Our model estimates that having a mass killing currently in progress is associated with lower risk of another one beginning.) Regardless of their ranking in this assessment, cases of ongoing atrocities demand urgent action (see Figure 4 for the Early Warning Project’s complete list of ongoing mass killings).

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, a large population 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

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, *Fundamentals*, 31.

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 that action to improve freedom of movement for men would help prevent mass killings. This assessment is meant to be a starting point for discussion and further research, pointing policy makers and other practitioners to the countries that merit additional analysis to determine how to prevent atrocities.

Fifth, this assessment is based on available data reflecting conditions as of the end of 2020. Events that occurred in 2021, such as the Taliban takeover in Afghanistan and the coup in Sudan, are not reflected in country risk estimates. Our assessment relies on publicly available data that is reliably measured for nearly all countries in the world, annually updated, and historically available going back many years. Because mass killing is rare, global data spanning decades are necessary to identify patterns. This means that some risk factors that might be useful predictors, but for which data meeting the above criteria are not available, are not included in the model (e.g., data on dangerous speech may be a useful predictor, but is not currently included due to a lack of data availability). Additionally, in situations where governments deliberately restrict access to international observers, such as in Burma’s Rakhine State or China’s

Xinjiang Uyghur Autonomous Region, existing data might not fully reflect conditions on the ground.³

Highlights from the 2021–22 Statistical Risk Assessment

Our model generates a single risk estimate for each country, representing the estimated risk for a new state-led or non-state-led mass killing. Figure 2 displays the estimated risk in 2021 or 2022 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, be tailored to each country’s context.⁴

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 which should suggest where adjusting plans,

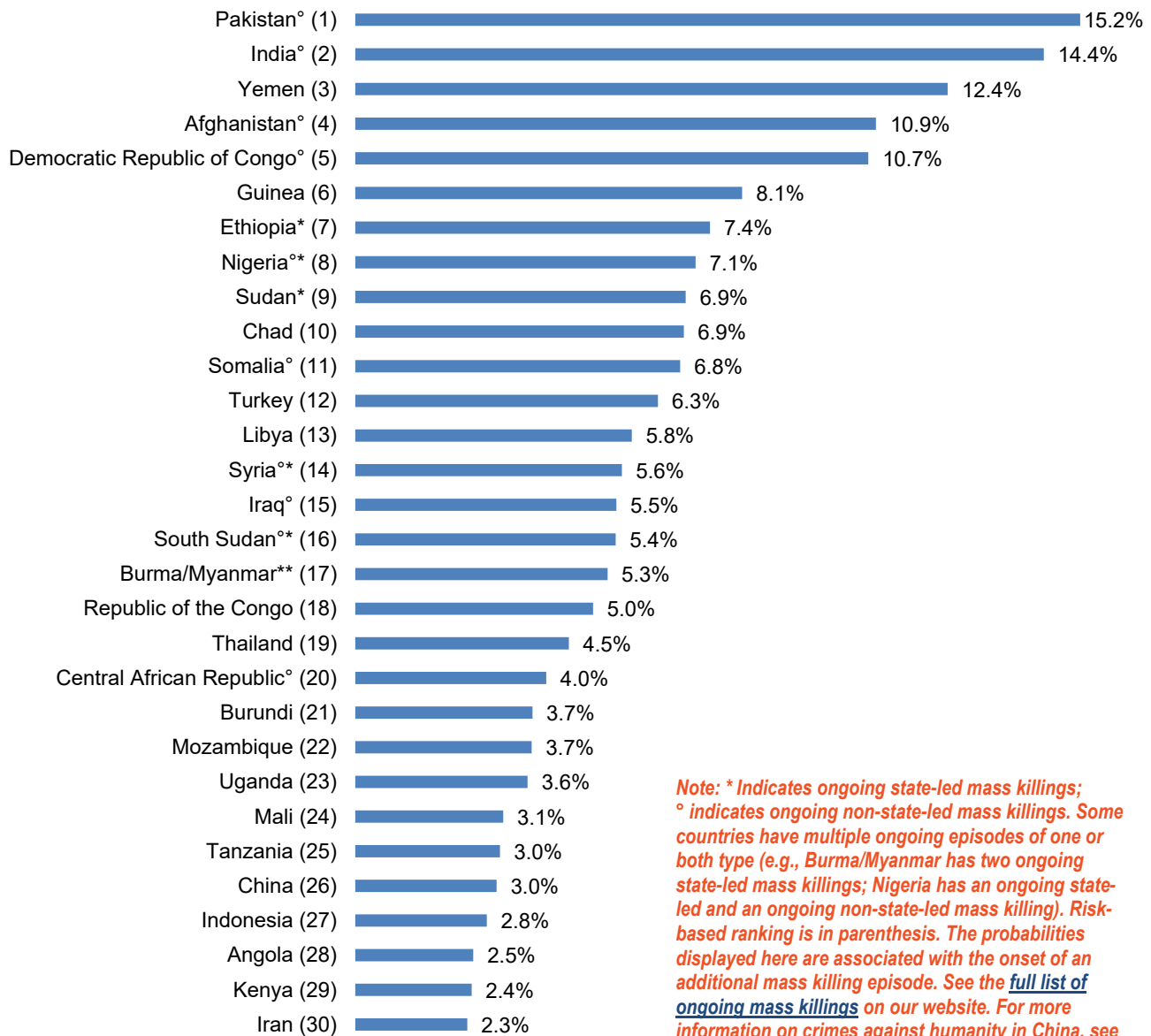
³ Simon-Skjoldt Center staff can help users understand what accounts for shifts in specific countries that are not discussed in this report. Contact us at ewp@ushmm.org.

⁴ Resources on strategies and tools that might be useful in preventing mass atrocities include the following: Straus, *Fundamentals*; USAID, “Field Guide: Helping Prevent Mass Atrocities,” April 2015, https://www.usaid.gov/sites/default/files/documents/1866/Field_Guide_Mass_Atrocities.pdf; and Bridget Conley-Zilkic, Saskia Brechenmacher, and Aditya Sarkar, “Assessing the Anti-

Atrocity Toolbox,” World Peace Foundation, February 8, 2016, https://sites.tufts.edu/wpf/files/2017/05/Atrocity-Toolbox_February-2016.pdf.

⁵ See US Department of State and USAID, “Working Draft, Atrocity Assessment Framework: Supplemental Guidance on State/USAID Conflict Assessment Frameworks,” July 27, 2015, <https://2009-2017.state.gov/j/cso/archive/ap/241116.htm>; and Sarah Sewall, “Making Progress: U.S. Prevention of Mass Atrocities,” US Department of State, April 24, 2015, <https://2009-2017.state.gov/j/remarks/241222.htm>.

Figure 2: Top 30 countries by estimated risk of new mass killing, 2021–22



*Note: * Indicates ongoing state-led mass killings; ° indicates ongoing non-state-led mass killings. Some countries have multiple ongoing episodes of one or both type (e.g., Burma/Myanmar has two ongoing state-led mass killings; Nigeria has an ongoing state-led and an ongoing non-state-led mass killing). 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. For more information on crimes against humanity in China, see later section on “Unexpected results.”*

budgets, programs, and diplomatic strategies might help prevent mass killings in high-risk countries. 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.

In the paragraphs below, we discuss each country’s risk according to our statistical model, and note any instances of ongoing violent conflict, group-targeted human rights abuses, and significant events that

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 the risks of large-scale, systematic attacks on civilian populations in the country 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?

pose risk for major political instability.⁶ These brief summaries include information that goes beyond the data in our statistical model, but they are not intended to provide a comprehensive analysis of factors contributing to atrocity risk. Rather, they are intended to serve as starting points for those who are interested in deeper qualitative analysis. For each country, we also identify the specific factors that account for the risk estimates from our model (see “Methods” below for more detail on the risk factors in the model) and note whether the country is experiencing an ongoing mass killing.

Highest-risk countries

- **Pakistan (Rank: 1):** Pakistan has ranked among the ten highest-risk countries each year this assessment has been produced (2014–2021); this marks the second assessment in a row that Pakistan has ranked at highest risk among all 162 countries. Pakistan faces multiple security and human rights challenges, including continued violence by the Tehrik-e-Taliban Pakistan (TTP), which [claimed 26 terrorist attacks in July 2021](#), as well as other [ideologically driven militant groups \(including the Islamic](#)

⁶ Most mass killings occur in the context of ongoing armed conflict (Benjamin Valentino, Paul Huth, and Dylan Balch-Lindsay, “‘Draining the Sea’: Mass Killing and Guerrilla Warfare,” *International Organization* 58, no. 2 (2004): 375–407). Political instability and contestation of political power also increases risk for mass killing (Barbara Harff, “No Lessons Learned from the Holocaust? Assessing Risks of Genocide and Political Mass Murder since 1955,” *American Political Science Review* 97, no. 1 (2003): 57–73). Group-targeted human rights

abuses can escalate to mass killing themselves, or contribute to intergroup grievances that may influence atrocity risk. They may indicate identified mass atrocity risk factors, including transformative or exclusionary ideology and prior discrimination against a particular group (Straus, *Fundamentals*).

State, or IS) and separatist movements. From January through September 2021, terrorist groups [killed](#) 470 people in Pakistan, including 171 civilians. The Taliban’s takeover in neighboring Afghanistan has increased [concerns over the TTP’s further advancement](#) in Pakistan. The ruling Tehreek-e-Insaf Party has continued to [arrest critics](#). [Enforced disappearances linked to the security forces](#) remain an issue. Application of blasphemy laws, which are used to incite hatred against and attack individuals from minority religious groups, including Hindus and Ahmadis,⁷ [has also expanded](#). According to our model, the factors accounting most for Pakistan’s high-risk estimate are its lack of freedom of movement for men,⁸ large population, high infant mortality rate, and history of mass killings. The Early Warning Project judged there was an ongoing mass killing perpetrated by the TTP and associated militias as of the end of 2020; 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.

- **India (Rank: 2):** India has ranked in the top-15 highest-risk countries for the last five years, with this assessment marking its highest risk and rank to date. The Hindu nationalist-led government’s [systematic discrimination](#) against the country’s Muslim minority has intensified. In the [disputed](#) Muslim-majority territory of Jammu and Kashmir, the government ended its 18-month-long [4G Internet blackout](#) in February 2021, though [stringent anti-dissent](#)

[measures](#) remain in place. [Reports of Hindu mobs attacking Muslims](#) have continued into 2021, alongside the widespread promotion of [nationalist](#) and exclusionary

Figure 3

Highest-risk countries not currently experiencing mass killing		
Country	Risk estimate	Rank
Yemen*	12%	3
Guinea	8%	6
Chad	7%	10
Turkey	6%	12
Libya	6%	13
Rep. of Congo	5%	18
Thailand	5%	19
Burundi	4%	21
Mozambique	4%	22
Uganda	4%	23

*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.

ideologies. Other minorities, including Dalits, [continue to face discrimination and group-targeted violence](#), while [police-led violence against civilians](#) and [arbitrary arrests](#) remain prevalent. Amid the COVID-19 pandemic, the government increased its restrictions on freedom of expression with wide-reaching [controls over social media platforms](#) and [crackdowns on civilian protests](#). According to our model, the factors accounting most for India’s high-risk estimate are its large population, lack of

⁷ Ahmadis are adherents to a minority Islamic movement who have been seen as heretics and subject to persecution.

⁸ *Freedom of Movement*, disaggregated by sex, is a variable coded by the Varieties of Democracy (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 by the state and/or by informal norms and practices. Such restrictions sometimes fall on rural residents, on specific social groups, or on dissidents” (Michael Coppedge et al., “V-Dem Codebook v7,” Varieties of Democracy (V-Dem) Project, May 2017, 223, https://www.v-dem.net/media/filer_public/cc/35/cc35132f-d451-4a13-93bc-18b083c9666a/v-dem_codebook_v7.pdf).

freedom of movement for men, history of mass killing, and geographic region (South and Central Asia).⁹ The Early Warning Project judged there was an ongoing mass killing perpetrated by Naxalite-Maoists as of the end of 2020; 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.

- **Yemen (Rank: 3):** Yemen has ranked sixth or higher each year since the 2017–18 risk assessment. The country’s protracted war has killed more than [12,000 civilians](#) and given rise to approximately [20 million people in need of humanitarian assistance in 2021](#). The conflict [intensified in early 2021](#) and human rights abuses persist, including the [Saudi-led¹⁰ coalition’s indiscriminate and disproportionate use](#) of aerial bombardment. Currently, [16.2 million people](#) in Yemen are food insecure and more than five million are on “[the brink of famine](#),” while warring parties have repeatedly [impeded civilian access to humanitarian aid](#). Famine-related fatalities can count toward mass killing if they result from actions designed to compel or coerce civilian populations to change their behavior

against their will, and if the perpetrators could have reasonably expected that these actions would result in widespread death among the affected populations: e.g., forced mass starvation, the intentional confiscation or destruction of healthcare supplies, forced relocation, and forced labor. According to our model, the factors accounting most for Yemen’s high-risk estimate are its lack of freedom of movement for men, its geographic region (Middle East and North Africa), that it experiences political killings that are frequently approved of or incited by top leaders of government,¹¹ the presence of battle-related deaths¹² (armed conflict between the Saudi-led coalition, Houthi rebels, and a multitude of other domestic and foreign armed actors), and its high infant mortality rate. 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 not reflected in this forecast.

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 The coalition was launched by Saudi Arabia in 2015 upon the calls of the internationally recognized Yemeni government in exile, led by ousted President Abdrabbuh Mansur Hadi, to retake the country from the Houthis.

¹¹ Political killings are killings by the state or its agents without due process of law to eliminate 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., “V-Dem [Country-Year/Country-Date] Dataset v9,” Varieties of Democracy (V-Dem) Project, 2019, <https://doi.org/10.23696/vdemcy19>; and Daniel Pemstein et al.,

“The V-Dem Measurement Model: Latent Variable Analysis for Cross-National and Cross-Temporal Expert-Coded Data,” University of Gothenburg: Varieties of Democracy Institute, V-Dem Working Paper, no. 21, 4th ed., 2019, https://www.v-dem.net/media/filer_public/60/a5/60a52aaf-008c-4d80-82ca-3bca827fbeb9/v-dem_working_paper_2019_21_4.pdf.

¹² “Typically, battle-related deaths occur in what can be described as ‘normal’ warfare involving the armed forces of the warring parties. This includes traditional battlefield fighting, guerrilla activities (e.g., hit-and-run attacks / ambushes) and all kinds of bombardments of military units, cities and villages etc. The targets are usually the military itself and its installations, or state institutions and state representatives, but there is often substantial collateral damage in the form of civilians killed in crossfire, indiscriminate bombings etc. All deaths—military as well as civilian—included in such situations, are counted as battle-related deaths.” Department of Peace and Conflict Research, “UCDP Definitions,” Uppsala University, https://www.pcr.uu.se/research/ucdp/definitions/#tocjump_03643159720710165_5.

Syria: The difference between new onsets and continuing mass killing

Some readers may be surprised that a country like Syria, where the scale and intensity of the war crimes and crimes against humanity are well-known, does not rank among the highest-risk countries in our assessment.

Why is Syria not ranked #1 in our risk assessment?

The percentage risk and ranking for each country represents the estimated probability that a *new onset of mass killing* begins in that country—that either a new perpetrator group emerges and kills more than 1,000 civilians of a specific group, or an existing perpetrator group begins targeting a new group of civilians—not that an existing mass killing continues. This decision follows the project’s goal to provide early warning before large-scale killings begin, while opportunities for prevention are greatest.

In Syria, there are two ongoing mass killings: a state-led mass killing against perceived political opposition since 2011, as well as a non-state-led mass killing perpetrated by IS and its affiliates against perceived opposition since 2012. In the case of Syria, it is difficult to imagine the state or IS targeting a new group of civilians, as the current parameters of the target groups are so broad. That means that Syria’s risk and ranking (5.6 percent risk and 14th rank) is the likelihood that a *new* perpetrator group emerges in 2021 or 2022.

See the [Museum’s website](#) for more information about the crisis in Syria and efforts to bring it to an end.

Countries in the top ten that are *not* discussed in this year’s report are Nigeria and Sudan. To learn more about the factors that contributed to the high-risk estimate of any of these countries, visit the country pages on [our website](#).

Consistently high-risk countries

In addition to Pakistan, India, and Yemen, a few other countries have appeared near the top of our rankings for several years.

- Afghanistan (Rank: 4):** Afghanistan has ranked among the three highest-risk countries in our last five assessments and has ranked in the ten highest-risk countries since 2015. The Taliban’s August 2021 takeover following the US withdrawal and the Afghan government’s collapse has [increased threats facing vulnerable groups](#), including women and girls and ethnic and religious communities. In particular, the Shi’a minority, who predominantly belong to the Hazara ethnic group, [face a risk of crimes against humanity or even genocide](#), evidenced by the Taliban and other Sunni extremists’ [longstanding persecution](#) of this group and [recent attacks](#). Factors that pose additional threats to civilians across Afghanistan include the Taliban’s apparent

lack of a united or manageable command structure, the enduring [al-Qaeda-Taliban alliance](#), and the presence of armed groups opposed to the Taliban, including the [Islamic State Khorasan Province \(ISKP\)](#). Despite the Taliban’s pledges to [protect vulnerable groups](#) and [form an inclusive government](#), it has already [attacked civilian protesters](#), [appointed hardliners to top positions](#), and tracked down and threatened to arrest or kill groups identified as “[collaborators](#),” among [other human rights abuses](#). According to our model, the factors accounting most for Afghanistan’s high-risk estimate are its lack of freedom of movement for men, the presence of battle-related deaths (conflicts involving the Taliban, IS, and the Government of Afghanistan), its history of mass killing, and high infant mortality rate. The Early Warning Project judged there was an ongoing non-state-led mass killing perpetrated by the Taliban, Haqqani network, and associated armed groups as of the end of 2020; 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.¹³ The Taliban's August takeover will be reflected in next year's risk assessment. The Simon-Skjodt Center will continue monitoring developments in Afghanistan and publicizing risks of mass atrocities against civilian groups there.

- **Democratic Republic of Congo (DRC) (Rank: 5):** The DRC has ranked among the ten highest-risk countries every year this assessment has been produced. With [more than 130 active armed groups](#), violence remains high in the DRC's eastern provinces of [Ituri, North Kivu, and South Kivu](#). Last year, [more than 800 civilians were killed by the Allied Democratic Forces \(ADF\) armed group in Ituri and North Kivu](#). Since 2019, armed group violence has [displaced nearly two million people in North Kivu](#). In the southeastern Tanganyika province, the United Nations (UN) [reported](#) widespread and systematic gender-based sexual violence and mass displacement. Responding to increased armed group violence in May, the Congolese government imposed a "[state of siege](#)" in the eastern region, but the measure has [not increased civilian security](#). In February 2021, the [UN released a statement](#) noting that armed group attacks on civilians "may amount to crimes against humanity," and that Congolese security forces have violated international humanitarian law. [Impunity](#) for abuses persists, while the Tshisekedi administration has continued to commit other human rights abuses, [including arbitrary arrests and harassment](#) of critics. Recent violence has also affected the Kasai region, where a [conflict resurgence](#) between the Luba and Kuba ethnic groups has led to [mass displacement](#), while [sexual violence](#) in the region remains widespread. According to our model, the factors accounting most for the DRC's high-risk estimate are its lack of freedom of movement for men, large

population, high infant mortality rate, and history of mass killing. The Early Warning Project judged there was an ongoing mass killing in the northeast perpetrated by various militias as of the end of 2020; 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.

- **Ethiopia (Rank: 7):** Ethiopia has ranked among the top-ten highest-risk countries in our last three assessments. The civil war that began in November 2020 in Ethiopia's Tigray region has [escalated](#). The conflict involves Eritrean and Ethiopian federal forces, the Tigray Defense Forces (TDF), and various armed ethnic militias. In November 2021, a joint UN-Ethiopian Human Rights Commission [report](#) found that all parties may have committed crimes against humanity and war crimes. The UN had warned in February 2021 of [increased risks of atrocities](#) in the region. Reports of [ethnic cleansing](#), [gender-based sexual violence](#), and [war crimes](#), among other gross violations of human rights, remain widespread. US and UN officials have denounced the [use of dehumanizing speech](#) and calls for violence by Ethiopian leaders. In August 2021, the government called on "[all capable](#)" civilians to join the war in Tigray, which has already [displaced more than one-and-a-half million people](#). Military forces have [intentionally impeded humanitarian aid](#) access for civilians in the region, where [more than five million people are in need of assistance](#). The government has continued to target ethnic Tigrayans with [hate speech](#), [arbitrary arrests](#), [enforced disappearances](#), and other forms of violent discrimination. As the conflict [spreads](#) to other areas of the country, so too does the risk to civilians. Due to the lack of access and the ongoing conflict, independently

¹³ If we find evidence that deliberate actions by the Taliban-led government, following its August 15 takeover, result in fatalities of at least 1,000 noncombatant civilians of a particular group in

a period of 12 months or less, we would consider it a new state-led mass killing episode. This follows how we have treated past cases in which a rebel group took control of the state.

verifiable reports of the number of people killed to date do not yet exist. As additional data become available, we may conclude that a new mass killing in Ethiopia began at the end of 2020. According to our model, the factors accounting most for Ethiopia’s high-risk estimate are its lack of freedom of movement for men, large population, history of mass killing, and the presence of battle-related deaths. The Early Warning Project judged there was an ongoing state-led mass killing against perceived state opposition in the Oromia region as of the end of 2020; 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.

- Somalia (Rank: 11):** Somalia has ranked among the top-14 highest-risk countries every year this assessment has been produced. President Mohamed Abdullahi Mohamed’s decision to [extend his term](#) amid [ongoing election delays](#) has raised concerns about increased violence. Armed conflict involving multiple clan-associated militias and state security forces continues to threaten civilian lives, while Al-Shabaab committed the [majority of attacks](#) in recent months. The [electoral crisis of April 2021](#) risks resurgence as the president and prime minister [lock heads](#) in the lead-up to parliamentary elections in fall 2021. [Analysts fear](#) that the political dispute could distract from efforts to counter Al-Shabaab. The African Union Mission to Somalia is scheduled to [transfer security duties](#) to the Somali security forces by December 2021, furthering [security concerns](#) due to the country’s present instability. Other prevalent abuses linked to ongoing conflict in Somalia include [gender-based sexual violence](#), [widespread displacement](#), and [violent crackdowns on journalists](#). According to our model, the factors accounting most for Somalia’s high-risk estimate are its lack of freedom of movement for men, high infant mortality rate, the presence of battle-related deaths (conflicts involving the Government of Somalia, Al-Shabaab, and other armed

groups), and history of mass killing. The Early Warning Project judged there was an ongoing mass killing in Somalia perpetrated by Al-Shabaab as of the end of 2020; 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.

Significant shifts in ranking

We highlight three countries that moved up in our rankings substantially between the 2020–21 and 2021–22 assessments.

- Guinea (Rank: 6):** Guinea increased significantly in our risk assessment, jumping 34 spots from 40th in 2020–21 to sixth in 2021–22. The shift can be most attributed to an increase in political killings and a decrease in freedom of movement for men, likely related to unrest around the [controversial 2020 election](#) when President Alpha Condé ran for and won what opposition parties argued was an unconstitutional third term and [large-scale protests](#) shook the country. Guinea today is in political turmoil. Citing dissatisfaction with Condé’s corrupt administration, disregard for human rights, and economic mismanagement, soldiers led by Mamady Doumbouya [staged a coup](#) on September 5, 2021, deposing Condé and appointing a new administration. Even before the coup—which will likely increase Guinea’s estimated risk when it is reflected in next year’s assessment—data indicated reason for increased concern in Guinea. According to our model, the factors accounting most for Guinea’s high-risk estimate are its lack of freedom of movement for men, high infant mortality rate, that it experiences political killings that are frequently approved of or incited by top leaders of government, its

history of mass killing, and its degree of ethnic fractionalization.¹⁴

- Thailand (Rank: 19):** Thailand moved up 23 spots in our risk assessment, from 42nd in 2020–21 to 19th in 2021–22. This is the first time Thailand has been ranked in the high-risk category (top-30). The shift can be most attributed to a decline in freedom of movement for men. In October 2020, the government instituted a “severe” state of emergency in response to large-scale (mostly) student-led protests. Protesters were “[calling for an end to harassment of activists, abolition of Thailand’s parliament, constitutional reform, and reform of the powerful monarchy.](#)” According to our model, the factors accounting most for Thailand’s high-risk estimate are its lack of freedom of movement for men, large population size, history of mass killing, and the presence of battle-related deaths (conflict between state security forces and the southern insurgency).
- Chad (Rank: 10):** Chad moved up 13 spots in our risk assessment, from 23rd in 2020–21 to tenth in 2021–22. Chad has consistently ranked in the high-risk (top-30) category, with tenth marking its highest ranking to date. The shift can be most attributed to a decline in freedom of movement for men. In April 2020, the government issued a nationwide state of emergency in response to COVID-19, which was [also used to limit freedom of assembly and target political opposition.](#) In April 2021, President Idriss Déby, who had been in power for three decades and had just won his sixth term in a “[sham](#)” election, was killed in a battle with [rebels](#) in the country’s north. The military instantly [suspended the constitution, dissolved parliament, and installed Déby’s son, Mahamat Idriss Déby](#)

[Itno](#), as interim president and head of a Transitional Military Council to rule for 18 months until elections can be held. As of fall 2021, there is no evidence of elections being planned. Because it occurred in 2021, this coup will be reflected in the data used to generate next year’s risk assessment, and we can expect Chad’s risk to increase. In addition to national-level political instability, tensions between [farmers and herders](#) have increased intercommunal and interethnic violence in recent years. According to our model, the factors accounting most for Chad’s high-risk estimate are its lack of freedom of movement for men, high infant mortality rate, history of mass killing, the presence of battle-related deaths (conflict involving the Government of Chad, rebel groups, and IS), and its degree of ethnic fractionalization.

Unexpected results

Global statistical risk assessments can help by identifying countries whose relatively high (or low) risk estimates 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

¹⁴ Ethnic fractionalization measures ethnic heterogeneity—in short, higher ethnic fractionalization means there are more different ethnic groups in the country. In general, higher ethnic fractionalization is associated with higher risk for mass killing.

Alberto Alesina et al., “Fractionalization,” *Journal of Economic Growth* 8, no. 2 (2003): 155–94, https://dash.harvard.edu/bitstream/handle/1/4553003/alesinassrn_fractionalization.pdf.

A tool for assessing counterfactuals: The example of Afghanistan

The data used to produce this assessment is from 2020 (published by most sources in early- to mid-2021). This means that changes that occurred in 2021 are not captured in this risk assessment. To enable users to explore how such changes might affect a country's risk estimate and ranking, our online platform has an [interactive data tool](#) that allows users to explore how changes to a country's risk factors would affect its risk of mass killing, holding all other variables constant. Users may want to:

- (1) Pose hypotheticals and assess counterfactuals (e.g., if a war were to break out in a country—captured by the “battle deaths” variable—how would that affect the risk and ranking?)
- (2) Manually update country risk based on known changes (e.g., knowing that a coup occurred in a country, users can see how a change in that variable affects the risk and ranking)
- (3) Adjust risk factor values where users disagree with a data source's coding judgments

For example, in 2021–22, Afghanistan ranks fourth, with a 10.9 percent estimated risk. This assessment is based on 2020 data. However, someone following events in Afghanistan may suspect that events over the course of 2021—namely the fall of the Afghan government in August—may have an impact on that risk.

Using the tool, we see, for example, that if political killings become systematic and incited or approved by top government leaders, the estimate would increase from 11 percent to 17 percent risk of a new mass killing. If civil society repression increases, the estimate would increase from 11 percent to 13 percent risk of a new mass killing. If both of these variables were to change, the new risk estimate for Afghanistan would go up to 20 percent, or about a one in five chance of a new mass killing.

question.¹⁵ We highlight three countries that, in our informal judgment, fall into this category.

- **Burma/Myanmar (Rank: 17):** Burma's assessed risk may strike some as surprisingly low. In last year's risk assessment, Burma ranked tenth. Since then, the military took power in a coup in February 2021, which has resulted in [estimates](#) of greater than 1,000 civilian deaths and [apparent crimes against humanity](#) and [war crimes](#). Recall that this year's risk assessment reflects data from 2020 and does not capture events that occurred in 2021, and that it is statistically rare for a country to experience multiple mass killings at a given time. If a new onset is determined in Burma in 2021, it would be the first country to experience three mass killings simultaneously. We may code a new mass

killing in Burma beginning in 2021, given the military junta's widespread violence against civilians since the coup. As discussed in a recent Simon-Skjodt Center [brief](#), the country is experiencing an increasingly complex conflict landscape, including ethnic armed organizations and self-defense forces, an increase in Buddhist nationalist rhetoric, and [warning signs](#) of potential additional mass atrocities against the Rohingya and other ethnic and religious minorities post-coup. According to our model, the factors accounting most for Burma's high-risk estimate are its lack of freedom of movement for men, large population, history of mass killing, and high infant mortality rate. Conversely, the fact that Burma has an ongoing mass killing is associated with lower risk.

¹⁵ See Jack A. Goldstone, “Using Quantitative and Qualitative Models to Forecast Instability,” United States Institute of Peace, March 1, 2008,

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

- China (Rank: 26):** China has ranked at the edge of the top-30 “high-risk” category for the last five years. This ranking may be unexpectedly low to many observers based on the [2021 genocide determination](#) issued by the US government and [apparent crimes against humanity](#)—including forced sterilization, torture, sexual violence, and forced labor—being perpetrated by the state against Uyghur and other Turkic Muslim populations since 2016. Due to the lack of access, independently verifiable reports of ongoing crimes in the Xinjiang Uyghur Autonomous Region are severely limited. The Chinese government is using sophisticated social and technological surveillance systems to control everyday aspects of Uyghur life and has detained “[at least a million but likely closer to 3 million citizens](#)” on the basis of their identity, the largest incarceration of an ethno-religious minority since the Holocaust. The state’s repressive campaign is multifaceted and systematic, but to date has not included widespread killing. According to our model, the factors accounting most for China’s high-risk estimate are its large population, lack of freedom of movement for men, and history of mass killing. Conversely, China’s lower-than-average infant mortality rate and the fact that political parties are banned are associated with lower risk.
- Haiti (Rank: 60):** Haiti’s ranking may strike some observers as surprisingly low, considering the major instability it is continuing to experience since the large-scale protests that began in 2019, the [assassination](#) of President Jovenel Moïse in July 2021, and continuing gang violence across the country. The [UN reported](#) increased violence in 2020, including [944 intentional homicides](#). [Gang violence](#) has paralyzed the country’s economic and social development, displacing thousands and exacerbating the impacts of environmental disasters (including cyclones, earthquakes, and hurricanes) on the country’s most vulnerable populations. Though the scale of violence in Haiti is consistently high, armed

groups have not systematically targeted a specific group of civilians, and those responsible include multiple armed groups (gangs and state security forces) operating independently. In short, though Haiti clearly exhibits risk for violence, it does not exhibit as many characteristics that are associated with large-scale, systematic, group-targeted violence. According to our model, the factors accounting most for Haiti’s above-average risk estimate are its high infant mortality rate, history of mass killing, and that it is not a state signatory of the First Optional Protocol to the International Covenant on Civil and Political Rights. Conversely, Haiti’s lower-than-average degree of ethnic fractionalization and lack of battle deaths are associated with lower risk.

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., geographic region, population); socioeconomic measures (e.g., changes in gross domestic product per capita); measures of governance (e.g., restrictions on political candidates and parties); 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 dictionary¹⁶ and make the model and all data available on our GitHub repository.¹⁷ The only dataset the Early Warning Project maintains is that of new and ongoing mass killing events.¹⁸

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 2020 for the 2021–22 assessment) to generate forecasts. While the exact number of countries varies by year, the project includes all internationally recognized countries with populations of more than 500,000. 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.

Accuracy and uncertainty

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 about two out of every three countries that later experienced a new onset of mass killing ranked among the top-30 countries in a given year. See the [accuracy page](#) on our website for more details. We also analyzed the uncertainty of our model's risk rankings. This analysis gives us very high confidence, for example, that each of the 19 highest-risk countries in our 2021–22 assessment would fall within the top-30 countries, even after accounting for uncertainty due to limited data. See the [uncertainty page](#) on our website for more details.

¹⁶ “Data Dictionary,” Early Warning Project, https://earlywarningproject.ushmm.org/pdf/Early_Warning_Project_Data_Dictionary.pdf.

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.

¹⁷ Early Warning Project Github, <https://github.com/earlywarningproject>.

¹⁸ “Ongoing Mass Killing,” Early Warning Project, <https://earlywarningproject.ushmm.org/ongoing-mass-killing>.

Figure 4

Ongoing* mass killings	
Country	Perpetrator and targeted group
Afghanistan	Taliban, Haqqani network, and associated armed groups targeting noncombatant civilians suspected of supporting the Afghan government or NATO coalition forces since 2001
Burma/Myanmar	State security forces targeting noncombatant civilians from ethnic minority groups since 1948
	State security forces targeting noncombatant Rohingya civilians since 2016
Central African Republic	Various armed groups, including anti-Balaka, targeting mostly Muslim noncombatant civilians perceived to support Séléka/ex-Séléka rebels since 2013
DRC	Various militias in the northeast targeting noncombatant civilians in the northeast since 1998
Ethiopia	State security forces targeting noncombatant Oromo civilians since 2015
India	Naxalite-Maoist rebels targeting noncombatant civilians accused of collaborating with the government of India since 2004
Iraq	IS and associated militias targeting noncombatant civilians perceived to oppose IS since 2003
	State security forces and associated militias targeting noncombatant Sunni civilians since 2014
Nigeria	State security forces targeting noncombatant civilians suspected of supporting Boko Haram since 2009
	Boko Haram targeting noncombatant civilians perceived to support the government of Nigeria since 2010
North Korea	State security forces targeting noncombatant civilians suspected of opposing the government of North Korea since 1948
Pakistan	Taliban Movement of Pakistan and associated militias targeting noncombatant civilians perceived to support the government of Pakistan since 2001
Philippines	State security forces and associated vigilante groups targeting noncombatant civilians accused of using or selling drugs since 2016
Somalia	Al-Shabaab and associated militias targeting noncombatant civilians perceived to oppose Al-Shabaab since 2007
South Sudan	State security forces targeting noncombatant civilians suspected to be rebel supporters/co-ethnics since 2013
	Machar supporters (SPLM in opposition, Nuers, and others) targeting noncombatant civilians perceived to support the government of South Sudan since 2013
Sudan	State security forces and associated militias targeting noncombatant civilians of non-Arab ethnic groups in Darfur since 2003
	State security forces and associated militias targeting noncombatant civilians from ethnic minorities in South Kordofan and Blue Nile since 2011
Syria	State security forces targeting noncombatant civilians suspected of opposing the government of Syria since 2011
	IS and other associated militias targeting noncombatant civilians perceived to oppose IS since 2012
* This list reflects ongoing mass killings as of the end of 2020	
Learn more about the Museum’s focus countries here and how you can help prevent genocide here .	

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.

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