EARLY WARNING PROJECT

COUNTRIES AT RISK FOR MASS KILLING 2022–23

STATISTICAL RISK ASSESSMENT RESULTS

NOVEMBER 2022

UNITED STATES HOLOCAUST MEMORIAL MUSEUM
SIMON-SKJODT CENTER FOR THE PREVENTION OF GENOCIDE

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Foreword

Genocide and related crimes against humanity are devastating in their scale and scope. They leave enduring scars for survivors and their families, as well as long-term trauma in societies. Moreover, the economic, political, and social costs and consequences of such crimes often extend 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—a joint initiative of the Simon-Skjodt Center for the Prevention of Genocide at the United States Holocaust Memorial Museum and the Dickey Center for International Understanding at Dartmouth College—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. Even in cases like these where warnings have been issued, they have simply not prompted 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 nonstate), 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." In collaboration with Dartmouth College, 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 US 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, Ethiopia, South Sudan, and Syria. 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 or partners 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. 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 2022

Figure 1: Heat map of estimated risk of new mass killing, 2022–23

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

Introduction

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. 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 aims to help identify countries where preventive actions may be needed. Earlier identification of risk broadens the scope of possible 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 2022–23, focusing on:

- Countries with the highest estimated risks of a new mass killing in 2022 or 2023
- 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 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, about 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 less than two percent. Just three 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 six chance of experiencing a new mass killing in 2022 or 2023.

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, including nine in the top 15 of this assessment (see Figure 2 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 2022 or 2023. (Our model estimates that having a mass killing currently in progress is associated with lower risk of another one beginning.) While it is important to focus on countries already experiencing mass killing and at high risk of a new onset, it is also essential to focus additional attention on high-risk countries with no ongoing episodes, such as Chad, Guinea, and Indonesia.[2] However, regardless of their ranking in this assessment, cases of ongoing atrocities demand urgent action (see Figure 4 and our website 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**.[3] Mass killing is a subset of "mass atrocities," which we define more generally as "large-scale, systematic violence against civilian populations."[4]

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, such as Russia's invasion of Ukraine. Situations in which large numbers of civilians are killed deliberately by an armed group from another country are not captured in our historical mass killing data or current forecasts. The decision to exclude interstate mass killings from our model does not involve a value judgment about the moral or practical significance of such atrocities, only a

[2] In July 2022, the Early Warning Project released a qualitative assessment of the risk of mass atrocities in Papua, Indonesia. See Made Supriatma, "'Don't Abandon Us': Preventing Mass Atrocities in Papua, Indonesia," Early Warning Project, July 2022, https://www.ushmm.org/m/pdfs/Dont_Abandon_Us_Indonesia_Report_English_Version.pdf.

[3] 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.

[4] Straus, *Fundamentals*, 31.

pragmatic judgment about what we are able to forecast more 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 kinds of relationships in the data, some of which can seem perplexing; 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 would not necessarily be 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 help prevent atrocities.

Fifth, this assessment is based on available data reflecting conditions as of the end of 2021.[5] Events that occurred in 2022, such as the mass protests in Iran and Sri Lanka and the coup in Burkina Faso, 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 killings are 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, Ethiopia's Tigray region, or China's Xinjiang Uyghur Autonomous Region, existing data might not fully reflect conditions in the country.[6]

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 nonstate-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

[5] We use the latest publicly available data to generate our forecasts. For some variables (e.g., infant mortality data published by the World Bank), we carry forward the most recently available data when the current period's data (i.e., 2021 for the 2022–23 assessment) are unavailable or are missing for a country at the time of generating the assessment.

[6] Simon-Skjodt 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.

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 dictionary, which includes descriptions of all the variables (also referred to as risk factors) included in our model. We also make the model and all data available on our GitHub repository. The only data set the Early Warning Project maintains is that of new and ongoing mass killing events.[7]

Modeling approach

Our modeling approach is described in detail on our website. We use a logistic regression model with "elastic-net" regularization, which is one approach that aids in avoiding "overfitting" the model to the data. 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 2021 for the 2022–23 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. Indeed, many of these variables may be useful predictors not because they cause mass atrocity to be more likely, but because they indirectly serve as proxies for other factors that do.

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.

Another question is how certain we can be about the particular risk estimate given by the model, and whether risk differences between countries should be regarded as "real," or if even chance differences in the historical data would have led to a model that would have produced very different results. To analyze this we use something called a bootstrap procedure to see how, under small changes in historical data, our current risk estimates would change (see the uncertainty page on our website for more details). Such analyses indicate that each of the 19 highest-risk countries in our 2021–22 assessment, for example, would consistently fall within the top-30 countries under such uncertainty.

Highlights from the 2022–23 Statistical Risk Assessment

Our model generates a single risk estimate for each country, representing the estimated risk for a new state-led or nonstate-led mass killing. Figure 2 displays the estimated risk in 2022 or 2023 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.[8]

[7] "Ongoing Mass Killing," Early Warning Project, https://earlywarningproject.ushmm.org/ongoing-mass-killing.

[8] One helpful resource is the Museum's new "Lessons Learned in Preventing and Responding to Mass Atrocities" project, which focuses on identifying the contextual and design characteristics that research suggests are associated with more effective use of tools in helping prevent mass atrocities (with findings summarized in its Tools for Atrocity Prevention interactive resource). Other resources on strategies and tools that might be useful in preventing mass atrocities include: (1) Straus, *Fundamentals*; (2) USAID, "Field Guide: Helping Prevent Mass Atrocities," April 2015, https://www.usaid.gov/sites/default/files/documents/1866/Field_Guide_Mass_Atrocities.pdf; and (3) 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.

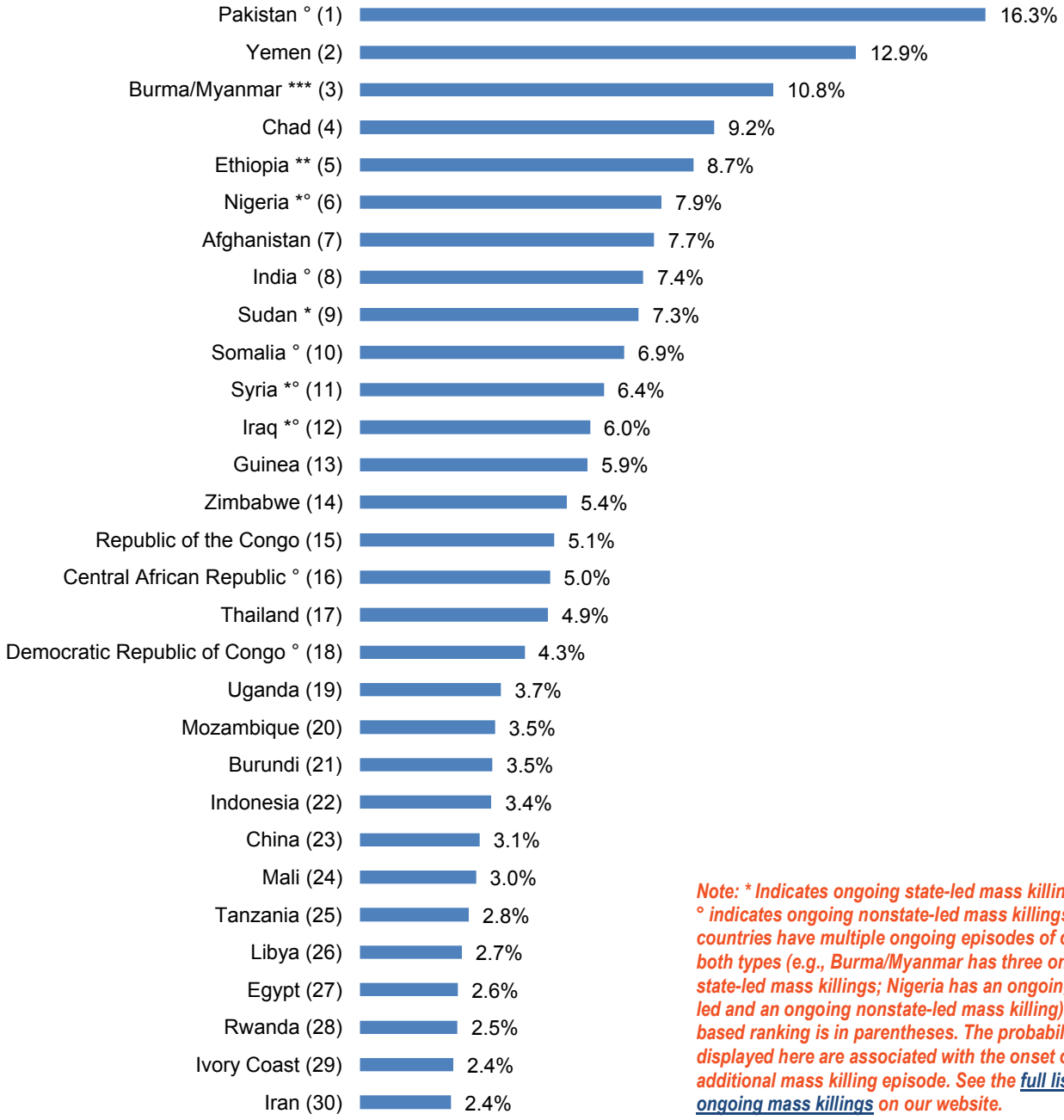
Further qualitative analysis is needed to understand the specific drivers of risk in a given situation, the mass atrocity scenarios that could be deemed plausible, and the resiliencies that could potentially be bolstered to help prevent future atrocities. This kind of deeper qualitative assessment is exemplified in Early Warning Project reports on Indonesia (2022), 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,[9] which should suggest where adjusting plans, budgets, programs, and diplomatic strategies might help prevent mass killings in high-risk countries. For example, the recently released *US Strategy to Anticipate, Prevent, and Respond to Atrocities* outlines commitments by the US government to conduct these types of assessments on identified priority 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 pose risk for major political instability.[10] 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" above for more detail on the risk factors in the model) and note whether the country is experiencing an ongoing mass killing.

[9] The US Strategy to Anticipate, Prevent, and Respond to Atrocities, released in July 2022, outlines commitments to apply the 2021 US Government Atrocity Assessment Framework to the US government's atrocity risk assessments. The 2022 Report to Congress Pursuant to the Elie Wiesel Genocide and Atrocities Prevention Act also specifies interagency commitments to use the Atrocity Assessment Framework to inform atrocity prevention strategies. See also the US government's 2015 Atrocity Assessment Framework (the 2021 framework has not been publicly released): 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.

[10] 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*).

Figure 2: Top 30 countries by estimated risk of new mass killing, 2022–23



*Note: * Indicates ongoing state-led mass killings; ° indicates ongoing nonstate-led mass killings. Some countries have multiple ongoing episodes of one or both types (e.g., Burma/Myanmar has three ongoing state-led mass killings; Nigeria has an ongoing state-led and an ongoing nonstate-led mass killing). Risk-based ranking is in parentheses. 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.*

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 nonstate 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?

Highest-risk countries

- **Pakistan (Rank: 1):** This marks the third assessment in a row that Pakistan has ranked at highest risk among all 162 countries. Pakistan faces multiple security and human rights challenges, including increasing violence by the Tehrik-e-Taliban Pakistan (TTP), which is responsible for a nonstate-led mass killing episode that has been ongoing since 2001. In addition, Pakistan's civilian populations are threatened by growing militant violence (including by the Islamic State or IS, which killed at least 56 people in an attack on a mosque in March 2022) and separatist movements. Pakistan's blasphemy laws continue to incite increasing mob violence against religious minorities.[11] Looking ahead, the next general elections are expected to be highly contentious following the removal of Prime Minister Imran Khan by an unprecedented "no-confidence" motion and debate about the government's response to severe flooding in 2022. According to our model, the factors accounting most for Pakistan's high-risk estimate are its lack of freedom of movement for men,[12] large population, high

[11] Ahmadis (adherents to a minority Islamic movement who have been seen as heretics), Christians, Hindus, Sikhs, and Shi'a Muslims have all been subject to blasphemy allegations and persecution.

[12] *Freedom of Movement*, disaggregated by sex, is a variable coded by the Varieties of Democracy (V-Dem) data set. 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

infant mortality rate, and history of mass killings. The Early Warning Project judged there was an ongoing mass killing perpetrated by the Taliban Movement of Pakistan and associated militias as of the end of 2021; this risk assessment relates to the possibility of a new and distinct nonstate-led or state-led episode beginning, not to the ongoing episode continuing or increasing.

- **Yemen (Rank: 2):** Yemen has ranked sixth or higher each year since the 2017–18 risk assessment. The country's protracted war has killed more than 14,500 civilians and given rise to approximately 20 million people in need of humanitarian assistance as of 2022. The April 2022 UN-brokered truce, which marked Yemen's longest period of peace in seven years, expired on October 2, 2022. The truce significantly decreased violence in Yemen, including a 60 percent reduction in civilian casualties. Parties to the conflict have so far been unable to come to an agreement and have failed to extend the ceasefire, increasing concerns of renewed conflict. Currently, 17.4 million people in Yemen are food insecure and 161,000 people are in "famine-like" conditions. While the expired truce did improve humanitarian conditions, the Government of Yemen and authorities in Houthi-controlled areas continue to interfere with the movement and provision of 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,[13] the presence of

Figure 3

Highest-risk countries not currently experiencing mass killing

Country	Risk estimate	Rank
Yemen *	12.9%	2
Chad	9.2%	4
Afghanistan	7.7%	7
Guinea	5.9%	13
Zimbabwe	5.4%	14
Rep. of Congo	5.1%	15
Thailand	4.9%	17
Uganda	3.7%	19
Mozambique	3.5%	20
Burundi	3.5%	21

*Note that civilian killings in Yemen perpetrated by the Saudi-led coalition are not captured by our definition because the campaign is foreign-led.

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://papers.ssrn.com/sol3/papers.cfm?abstract_id=2968274).

[13] 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., "VDem[Country–Year/Country–Date] Dataset v12," *Varieties of Democracy (V-Dem) Project*, V12 (2022), https://doi.org/10.23696/vdemds22; and Daniel Pemstein et al., "The V-Dem Measurement Model: Latent Variable Analysis for Cross-National and Cross-Temporal Expert-Coded Data (March 2022)" V-Dem Working Paper 21, 7th edition, *Varieties of Democracy (V-Dem) Project.* Available at SSRN: https://ssrn.com/abstract=3595962 or http://dx.doi.org/10.2139/ssrn.3595962; Michael Coppedge et al., "V-Dem Codebook v12," *Varieties of Democracy (V-Dem) Project*, v12 (2022).

battle-related deaths[14] (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. As noted above, 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.

- **Burma/Myanmar (Rank: 3):** Burma has the ignominious distinction of being the first country on record since 1945 to experience three mass killings simultaneously. This year, the Early Warning Project marked the onset of state-led mass killing of non-combatant civilians suspected of opposing the military junta in Burma in 2021. In addition to this newest onset, we also judged that the state-led mass killing against the Rohingya and the decades-long episode of state-led mass killing in the country's east—against minority ethnic groups, including the Karen, Kachin, Ta'ang, Mon, Lisu, and Shan—were ongoing as of the end of 2021. While the time for early warning is long past, Burma's high ranking this year indicates that the country continues to exhibit many characteristics common among countries that experience new mass killings. Since last year's risk assessment, when Burma ranked 17th, the military ousted civilian leaders in a February 2021 coup, which has resulted in widespread and systematic violence against civilians. According to the United Nations, state security forces and their affiliates have killed at least 1,600 individuals since the coup.[15] Burma is experiencing an increasingly complex conflict landscape, including ethnic armed organizations, self-defense forces, and mass demonstrations. War has also recently returned to Rakhine State, where government forces have used heavy weapons and burned, looted, and killed in cities, towns, and villages. With a large number of active armed groups and civilian targeting being widespread, a detailed qualitative assessment is necessary to help understand the nature of atrocity risks and determine who is at greatest risk. According to our model, the increase in Burma's risk score from last year's assessment can be most attributed to an increase in government-led political killings and that there was a coup.[16] Overall, the factors accounting most for Burma's current high-risk estimate are its lack of freedom of movement for men, that it experiences political killings that are frequently approved of or incited by top leaders of government, its large population, its history of mass killing, and the presence of battle-

[14] "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—incurred 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. While the Early Warning Project does not include civilian fatalities that result from interstate conflicts when tracking mass killings (i.e., for the ongoing mass killing risk factor), UCDP includes battle-related deaths regardless of the type of conflict or conflict parties in its data on battle-related deaths (which we use for the battle-related deaths variable in our model).

[15] As of October 7, 2022, the Assistance Association for Political Prisoners, reports that 2,338 "civilians and pro-democracy activists" have been killed since the coup.

[16] In our model, a coup attempt is coded if a country has experienced a successful or unsuccessful coup attempt in this year or the prior four years. We rely on Powell and Thyne's coup d'etat data set to record coup attempts. For Burma, if both these variables remained the same as last year, Burma's risk estimate (11 percent) would be less than half (five percent) of what it is now, and it would be ranked 17 (the same ranking it held last year).

What about Ukraine?

On February 24, 2022, Russia launched a military assault against Ukraine that has included large-scale attacks against civilians. The Museum issued a statement strongly condemning Russia's invasion and Putin's exploitation of Holocaust history. There is a reasonable basis to believe that Russian forces are committing war crimes and crimes against humanity against Ukrainian civilians. Publicly available information warrants investigation into the potential commission of genocide. So why is Russia's killing of Ukrainian civilians not reflected in this year's risk assessment?

First, this assessment is based on available data reflecting conditions as of the end of 2021. This means that events that occurred in 2022 are not captured in this risk assessment.

In addition, the Early Warning Project's definition of mass killing excludes situations in which one country's armed forces attack civilians in another country's territory (i.e., interstate conflicts, such as Russia's invasion of Ukraine). The only exceptions to this rule are situations where we can document substantial and close operational coordination between the foreign military and the state government in killing operations. The decision to exclude interstate mass killing does not involve a value judgment about the moral or practical significance of atrocities perpetrated during wars between states, foreign occupations, and other international military operations, only a pragmatic judgment about what we are able to forecast more reliably. Notwithstanding this limitation, the Simon-Skjodt Center is committed to identifying risks and providing early warning of mass atrocities that may fall outside the definition of mass killing used for this model, and continues to monitor the ongoing risks of mass atrocities against civilians in Ukraine.[17]

related deaths (conflict between Burma's current military government and a number of armed opposition or resistance groups). Conversely, the fact that Burma has an ongoing mass killing is associated with lower risk of an additional mass killing beginning.

Countries in the top ten that are *not* discussed in this year's report are Sudan and Somalia. 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, Yemen, and Burma/Myanmar, a few other countries have appeared near the top of our rankings for several years.

- **Afghanistan (Rank: 7):** Afghanistan has ranked among the ten highest-risk countries since our 2015 risk assessment. The Early Warning Project determined the ongoing episode of nonstate-led mass killing perpetrated by the Taliban, the Haqqani network, and other associated nonstate armed groups in Afghanistan had ended as of the end of 2021. We normally consider a mass killing to have ended when fewer than 100 civilians of the targeted group are killed for three consecutive years. However, when the perpetrator of a nonstate-led mass killing takes over the government—as the Taliban did in this case in August 2021—we consider the nonstate-led episode to have ended. If the Taliban commits mass killing while in control of the government, we would consider it a new state-led mass killing. Afghanistan's high ranking in this year's risk assessment indicates that the country's civilian populations remain at high risk of targeted attacks. In particular, the Hazara community faces a risk of crimes against humanity and even genocide, evidenced by the longstanding persecution of this group and increasing attacks by multiple perpetrators since August 2021. Other ethnic and religious communities

[17] To read more about our work on Ukraine, visit: https://www.ushmm.org/genocide-prevention/countries/ukraine/.

continue to face high risk; for example, Sufis and Sikhs were attacked at their places of worship earlier this year by unidentified perpetrators. The United Nations recorded 700 civilians killed and 1,406 civilians wounded in Afghanistan from August 15, 2021, to June 15, 2022. The majority of these casualties were committed by the Islamic State of Khorasan Province (ISIS-K) against ethnic and religious communities. The Taliban has eroded rights for women and girls, systematically excluding them from Afghan society, including by limiting their freedom of movement and access to employment, education, and other essential services. Women and girls from ethnic and religious minorities face compounded risks, as recent and past violent attacks against women of the Hazara community demonstrate. The Taliban continues to commit targeted abuses against perceived opposition, human rights defenders, journalists, and the LGBTQI+ community, among other groups. 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 (primarily armed conflict between the former US-backed Government of Afghanistan, IS, the National Resistance Front of Afghanistan, and the Taliban), and that it experiences political killings that are frequently approved of or incited by top leaders of government.

- **Ethiopia (Rank: 5):** Ethiopia has ranked among the top-ten highest-risk countries in our last four risk assessments, with fifth marking its highest ranking to date. This year, the Early Warning Project marked a new onset of state-led mass killing of Tigrayan civilians in Ethiopia. This is in addition to an ongoing state-led mass killing in Ethiopia that began in 2015 against perceived state opposition in the Oromia region. In October 2022, the Museum issued a statement warning of the heightened risk of genocide and mass atrocities in Ethiopia's Tigray region. The situation has deteriorated exponentially as Ethiopian security forces, supported by Eritrean forces and Amhara special forces, have seized key towns and cities, imperiling vulnerable Tigrayan civilians. Since fighting erupted in Tigray in November 2020, as many as 465,000 people are estimated to have been killed in the conflict or died as a result of the man-made famine in Tigray, and more than 2.5 million have been displaced. Ethiopia's high ranking this year indicates that the country continues to exhibit many characteristics common among countries that experience new mass killings. However, the current risk assessment relates to the possibility of a new and distinct nonstate-led or state-led episode beginning, not to the ongoing episodes continuing or increasing. Overall, the factors accounting most for Ethiopia's current high-risk estimate are its lack of freedom of movement for men, its large population, the presence of battle-related deaths (conflict between the Government of Ethiopia, the Oromo Liberation Army, and the Tigray People's Liberation Front), and its history of mass killing. Conversely, the fact that Ethiopia has an ongoing mass killing is associated with lower risk of an additional mass killing beginning.

- **India (Rank: 8):** India has ranked in the top-15 highest-risk countries since our 2017–18 assessment, including its highest rank of second last year. India's shift in rank from second to eighth can be most attributed to an improvement in the freedom of movement for men, according to V-Dem. Our interactive Change a Country's Risk Factors tool indicates that if this variable remained the same as last year, India would be ranked first in this year's assessment with an 11 percent increase in risk. In 2022, the Hindu nationalist-led government's systematic discrimination against the country's Muslim minority has continued to intensify amid mounting reports of violence—met with impunity—and efforts to restrict Muslim rights. Hindu nationalist leaders have continued to propagate hate speech, including religious leaders' calls for

mass killings of Muslims in December 2021. Several states saw large-scale and violent incidents targeting Muslims in recent months, which involved Hindu nationalist processions engaging in derogatory anti-Muslim chants and the desecration of mosques. In response to these violent provocations, local authorities bulldozed Muslim-owned property across several states, which rights groups cited as an apparent attempt at collective punishment. Reports indicate continued abuses in the disputed Muslim-majority territory of Jammu and Kashmir, including increased targeting of Hindu civilians by militants and the Indian government's crackdown on journalists and human rights defenders. Other minorities and persecuted groups, including Christians and Dalits, continue to face violence and discrimination. According to our model, the factors accounting most for India's high-risk estimate are its large population, its history of mass killing, its geographic region (South and Central Asia),[18] and the presence of battle-related deaths (armed conflict between the Government of India, the Communist Party of India [Maoist], and Kashmir insurgents). The Early Warning Project judged there was an ongoing mass killing perpetrated by Naxalite-Maoists as of the end of 2021; this risk assessment relates to the possibility of a new and distinct nonstate-led or state-led episode beginning, not to the ongoing episode continuing or increasing.

- **Nigeria (Rank: 6):** Nigeria has ranked in the top-ten countries since our 2020–21 annual assessment and in the top 20 every year since 2014. Nigeria faces several security challenges, which are compounded by humanitarian and political crises. Targeted violence against civilians posed by several perpetrators, including the Islamic State West Africa Province (ISWAP), Boko Haram, and communal and ethnic militias, increased in the first half of 2022. Boko Haram and ISWAP continue to wage violence primarily in the north, leading to the forced displacement of more than two million people as of June 2022. The Early Warning Project judged that both the nonstate mass killing led by Boko Haram against civilians perceived to support the government of Nigeria since 2010 and the state-led mass killing of civilians suspected of supporting Boko Haram since 2009 were ongoing as of the end of 2021. Posing additional concerns of spreading violence, Islamic extremists and other groups committed attacks near Nigeria's capital in July 2022. Conflict over scarce resources and inter-communal conflict have continued, between farmers and herders in multiple regions, resulting in the displacement and deaths of thousands of people, though not as yet with the indicators of coordination that would match our definition of a mass killing event. Criminal gangs, referred to as bandits, killed an estimated 200 people and displaced thousands in January 2022. The Nigerian government has struggled to control these many security threats while also facing its own allegations of human rights abuses and indiscriminate attacks against civilians. Additionally, considering previous episodes

[18] 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.

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 nonstate-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 (6.4 percent risk and 11th rank) is the likelihood that a new perpetrator group emerges in 2022 or 2023.

See the Museum's website for more information about the crisis in Syria and efforts to bring it to an end.

of electoral violence, concerns of potential violence surround Nigeria's general elections planned for February and March 2023. According to our model, the factors accounting most for Nigeria's high-risk estimate are its large population, its high infant mortality rate, its history of mass killing, and the presence of battle-related deaths (armed conflict between the Government of Nigeria and armed groups, including the Indigenous People of Biafra, Boko Haram, and IS). Nigeria is one of four countries the Early Warning Project considers to be experiencing both state-led and nonstate-led mass killings as of the end of 2021. This risk assessment relates to the possibility of a new and distinct nonstate-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 and one that moved down in our rankings substantially between the 2021–22 and 2022–23 assessments.

- **Chad (Rank: 4):** Chad continues to move up our risk list, landing at fourth with a risk estimate above nine percent for 2022–23 after being ranked tenth last year and 23rd the year before. Chad has consistently ranked in the high-risk (top-30) category, with fourth marking its highest ranking to date. This shift can be most attributed to a decrease in freedom of movement for men, according to V-Dem. Although V-Dem does not indicate the reason for specific changes in their coding, it may have been related to the government's crackdown on opposition in advance of the April 11, 2021 presidential elections. The crackdown included human rights abuses against protesters and a ban on demonstrations. Chad's 2021 coup also contributed to its increased risk in this year's assessment. On April 19, 2021, Idriss Déby—Chad's president for 30 years who had just won his sixth term in a "sham election"—was killed in a battle with rebels in the country's north. In response, the military suspended the constitution, dissolved parliament, and installed Déby's son, Mahamat Idriss Déby Itno, as interim president and head of a Transitional Military Council set to govern for 18 months before returning to civilian rule. Authorities

extended the transitional period for two years in October 2022. In addition to national-level political instability, tensions between farmers and herders have continued to further violence in recent years, and Boko Haram and ISWAP continue to pose threats to civilians in the Lake Chad Basin. According to our model, the factors accounting most for Chad's high-risk estimate are its lack of freedom of movement for men, its high infant mortality rate, its history of mass killing, that it experienced a coup attempt in the past five years (2021), and the presence of battle-related deaths (armed conflict between the Government of Chad, Front for Change and Concord in Chad, and IS).

- **Zimbabwe (Rank: 14):** Zimbabwe moved up 43 spots in our risk assessment, from 57th in 2021–22 to 14th in 2022–23. The shift can be most attributed to an increase in political killings and a decrease in freedom of movement for men reported by V-Dem. The government used COVID-19 restrictions to crack down on the media and government critics. Authorities continued to harass and arrest opposition voices into 2022, including journalists, students, politicians, and activists. Observers have accused the government of inciting politically-motivated violence, including a February 2022 attack on an opposition rally that killed one person and injured at least 22 others. Zimbabwe's next general election is planned for April 2023, sparking concerns of potential violence and increased repression.[19] According to our model, the factors accounting most for Zimbabwe's high-risk estimate are its lack of freedom of movement for men, that it experiences political killings that are frequently approved of or incited by top leaders of government, its history of mass killing, and that it experienced a coup attempt in the past five years (2017).

- **Rwanda (Rank: 28):** Rwanda moved up 30 spots in our risk assessment, from 58th in 2021–22 to 28th in 2022–23. While this shift is noteworthy, this is not the first time Rwanda has ranked in the top-30 countries; Rwanda ranked 20th in 2020–21 and 25th in 2019–20. The shift can be most attributed to a decrease in freedom of movement for men reported by V-Dem. The government has faced accusations of targeting dissidents through extrajudicial killings, enforced disappearances, threats, harassment, and arrests. Reports have also detailed "mysterious deaths and disappearances" of several prominent political opponents of the government from 1996 through 2021, though the government denies involvement. According to our model, the factors accounting most for Rwanda's high-risk estimate are its lack of freedom of movement for men, that it experiences political killings that are frequently approved of or incited by top leaders of government, and its history of mass killing.

- **Turkey (Rank: 41):** Turkey moved down 29 spots in our risk assessment, from 12th in 2021–22 to 41st in 2022–23. Until this assessment, Turkey had consistently ranked in the high-risk (top-30) category since 2016. The shift can be most attributed to an improvement in freedom of movement for men and, to a lesser extent, that more than five years have passed since Turkey experienced a coup attempt.[20] [21] Beyond the model, we can observe the Turkish government continuing to target rights

[19] The Early Warning Project previously called attention to risks before the 2018 elections, https://www.ushmm.org/m/pdfs/20161116-Zimbabwe-Early-Warning-Report.pdf.

[20] In 2016, Turkey experienced a violent, but unsuccessful, coup attempt; https://www.aljazeera.com/news/2017/7/15/turkeys-failed-coup-attempt-all-you-need-to-know. 2021 marks the first time since 2016 that Turkey has not had a coup attempt coding. See footnote number 16 for more information on how coups are coded.

[21] As can be seen using our Change a Country's Risk Factors tool, if the freedom of movement for men variable had not improved and all other data remained the same, Turkey would rank 15th in our assessment with a five percent risk. This warrants close attention to assess whether this is a coding anomaly or if it's an early indicator of a period of lower risk.

abuses against several groups, including dissidents, journalists, the LGBTQI+ community, and certain ethnoreligious groups. The government's repressive campaign to stamp out critics appears multifaceted and systematic, but to date it has not included widespread killing. Continued gender-based killings and Turkey's March 2021 decision to pull out of the Council of Europe's Convention on Preventing and Combating Violence against Women and Domestic Violence raises concerns over the potential for increased violence against women. Armed conflict between Turkey's military and the armed Kurdistan Workers' Party (PKK) continues; however, the conflict is concentrated in cross-border attacks with Iraq.[22] According to our model, the main factor that is associated with Turkey's lower risk is its relatively low degree of ethnic fractionalization. The factors that are associated with higher mass killing risk in Turkey are its large population, its history of mass killing, and the presence of battle-related deaths (armed conflict between the Government of Turkey and the PKK).

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 question.[23] We highlight two countries that, in our informal judgment, fall into this category.

- **Democratic Republic of Congo (DRC) (Rank: 18):** The DRC's ranking of 18th is the first time it has been outside of the top 10, down from fifth last year. According to our model, the decrease in the DRC's risk score from last year's assessment can be most attributed to improvement in domestic freedom of movement of men, according to V-Dem. If this variable remained the same, the DRC would be ranked third this year. V-Dem does not indicate the reason for specific changes in their coding, but the United Nations did report a decrease in documented human rights violations and abuses between June 2021 and May 2022 compared to the previous reporting period. Other developments, however, would seem to suggest continuing or even increasing risks. For example, the government's "state of siege" in the east, declared in May 2021, has resulted in increased civilian fatalities. In addition, the recent resurgence of the 23 March Movement (M23), a rebel group with ties to neighboring Rwanda, has led to a sharp rise in violence, mass displacement, and increasing regional tensions in the Great Lakes region. General elections slated for 2023 will likely present additional political challenges. This case clearly deserves additional analysis given these developments, that the country still ranks within the top 20, and that its ranking is very sensitive to a single data point. The Early Warning Project already judges there is an ongoing nonstate-led mass killing in the northeast, where more than 100 armed groups are active and well over 2,000 civilians were killed over the last year. It is

[22] Recall, the Early Warning Project's definition of mass killing excludes situations in which one country's armed forces attack civilians in another country's territory.

[23] 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.

Exploring changes to a country's risk factors: the example of Iran

The data used to produce this assessment is from 2021 (published by most sources in early- to mid-2022). This means that changes that occurred in 2022 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) See what a country's risk and ranking would be if we were to observe some different set of values on its risk factors (e.g., though no war broke out and battle deaths were zero, what if we instead saw a large number of battle deaths?)

(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 would affect the risk and ranking)

(3) Adjust risk factor values where users disagree with a data source's coding judgments

For example, in 2022–23, Iran ranks 30th, with a 2.4 percent estimated risk, or a one in 42 chance of a new mass killing. This assessment is based on 2021 data. However, someone following events in Iran may suspect that events over the course of 2022—namely, the mass protests following the death of a woman detained by the Iranian morality police—may impact 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 2 percent to 4 percent risk of a new mass killing. If civil society repression were to increase, the estimate would increase from 2 percent to 3 percent risk of a new mass killing. If both of these variables were to change, the new risk estimate for Iran would go up to 5 percent, or about a one in 20 chance of a new mass killing—almost double the estimated risk calculated in this year's assessment and among the top-20 highest risk countries.

important to remember that this risk assessment relates to the possibility of a new and distinct nonstate-led or state-led episode beginning, not to the ongoing episode continuing or increasing. According to our model, the factors accounting most for the DRC's relatively high-risk estimate are its large population, high infant mortality rate, history of mass killing, and presence of conflict-related battle deaths (armed conflict between the Government of the DRC and a multitude of armed nonstate groups).

- **South Sudan (Rank: 39):** Despite ongoing violent conflict, human rights abuses, and a severe humanitarian crisis, South Sudan moved down in its risk ranking from 16th in 2021–22 to 39th in 2022–23. It is important to remember that the Early Warning Project considers two mass killing episodes—one state-led and one nonstate-led—to be ongoing in South Sudan since 2013. The current risk assessment relates to the possibility of a new and distinct nonstate-led or state-led episode beginning, not to the ongoing episodes continuing or increasing. With a large number of armed groups, frequently shifting alliances, and civilian targeting being widespread, a detailed qualitative assessment is necessary to help understand the nature and severity of atrocity risks, whether they be from escalation of an ongoing episode or the start of a new one. According to our model, the decrease in South Sudan's risk score from last year's assessment can be most attributed to changes in two variables from V-Dem:

evenness of civil liberties[24] and the extent to which political parties are banned.[25] Since V-Dem does not explain the reasons for coding changes and because the shifts in these variables could represent both positive and negative developments, more detailed analysis is needed to understand which "on-the-ground" developments these relate to and how, in this specific case, they relate to mass atrocity risks. According to our model, the factors that are associated with higher mass killing risk in South Sudan include its lack of freedom of movement for men, its high infant mortality rate, and its history of mass killing. Conversely, variables that account for its lower risk include its evenness of civil liberties across different areas of the country, that political parties are banned or don't exist, and that South Sudan has an ongoing mass killing.

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. Governments 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.

[24] Evenness or inequality in civil liberties across subnational regions accounts for how much government respect (or lack of respect) for civil liberties varies across areas of the country (Michael Coppedge et al., "V-Dem Codebook v12," *Varieties of Democracy (V-Dem) Project*, v12 (2022), https://www.v-dem.net/documents/1/codebookv12.pdf, p. 181). See also Michael Coppedge et al., "VDem[Country–Year/Country–Date] Dataset v12," Varieties of Democracy (V-Dem) Project, V12 (2022), https://doi.org/10.23696/vdemds22; and Daniel Pemstein et al., "The V-Dem Measurement Model: Latent Variable Analysis for Cross-National and Cross-Temporal Expert-Coded Data (March 2022)" V-Dem Working Paper 21, 7th edition, V-Dem Project. Available at SSRN: https://ssrn.com/abstract=3595962 or http://dx.doi.org/10.2139/ssrn.3595962.

[25] Party ban accounts for the extent to which parties are banned in a country. "This does not apply to parties that are barred from competing for failing to meet registration requirements or support thresholds" (Coppedge et al., "V-Dem Codebook v12," p. 93). See also Coppedge et al., "VDem[Country–Year/Country–Date] Dataset v12"; and Pemstein et al., "The V-Dem Measurement Model."

Figure 4

Ongoing* mass killings	
Country	**Perpetrator and targeted group**
Burma/Myanmar	State security forces targeting noncombatant civilians from ethnic minority groups since 1948
	State security forces targeting noncombatant Rohingya civilians since 2016
	State security forces targeting civilians suspected of opposing the military junta since 2021
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
	Ethiopian and Eritrean state security forces targeting noncombatant Tigrayan civilians since 2020
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
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 2021*	
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.

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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