Early Warning for the Prevention of Genocide and Mass Atrocities

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Abstract

Early warning is universally accepted to be one of the pillars of effective prevention of genocide.
The obligation to prevent genocide, therefore, implies the need for an effective early warning
capacity. Most analysts have judged current risk assessment and early warning practices to be
adequate, if imperfect, pointing to other factors in explaining failures to prevent mass atrocities.
After sketching a basic conceptual framework for early warning, this paper discusses significant
limitations of a leading genocide risk assessment model. This analysis, and the identification of
additional challenges, suggests that the field may be further than is commonly acknowledged
from developing effective early warning methods and mechanisms for the prevention of
genocide and mass atrocities.

Early Warning for the Prevention of Genocide and Mass Atrocities

Paper prepared for 48th Annual ISA Convention, Chicago
Panel on "New Strategies for Effective Conflict Early Warning"

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Introduction

Early warning (EW) is universally accepted to be one of the pillars of effective prevention of

genocide. Some preventive measures may be useful globally, without regard to the risk of

genocide in a particular setting, but the most direct forms of genocide prevention require an

assessment of where preventive measures are required. Beyond identification of elevated risk,

EW should describe plausible scenarios of escalation and highlight potential opportunities for

preventive action.

Unlike armed conflict, which is regulated but not proscribed by international law,

genocide is never a legitimate act. More than 130 states have undertaken an obligation to

prevent genocide by becoming party to the Convention on the Prevention and Punishment of the

Crime of Genocide. Moreover, the prohibition of genocide is considered *jus cogens*, i.e., a norm

so fundamental that no state can derogate from it. Some capacity for EW would seem implicit in

any effective state apparatus to fulfill these norms.

In addition, former United Nations Secretary-General Kofi Annan made strengthening

the UN's ability to provide early warning (EW) a major part of his proposals and initiatives

regarding the prevention of genocide. In January 2004, he observed in his keynote speech at the

Stockholm International Forum on Preventing Genocide: Threats and Responsibilities, "At the United Nations there are still conspicuous gaps in our capacity to give early warning of genocide or comparable crimes, and to analyse or manage the information that we do receive." He later identified "early and clear warning" as one of the five headings of his Action Plan to Prevent Genocide, which he described in a speech to the Commission on Human Rights in April 2004. Secretary-General Annan, in turn, made EW a central part of the mandate of his new Special Adviser on the Prevention of Genocide. The Special Adviser's mandate, as described in a letter from the Secretary-General to the president of the UN Security Council, calls on him to "act as a mechanism of early warning to the Secretary-General, and through him to the Security Council, by bringing to their attention potential situations that could result in genocide."[1] Thus, unlike EW for armed conflict and other calamities, a single focal point exists with explicit responsibility to provide EW of potential genocide. The current UN Secretary-General, Ban Ki-Moon, is expected to appoint a new Special Adviser shortly. Whoever is appointed will be forced to grapple with his or her EW mandate.

Given this context, it is important to consider how EW should be conceived, how current methods of assessing genocide risk perform, and what challenges remain. This paper proceeds in four parts. First, it defines EW and sketches a conceptual framework consisting of three principal elements. Second, it explores the proper focus of an EW function for the prevention of genocide. Third, it explores the most prominent extant genocide risk assessment model to illustrate the limitations of current knowledge and approaches. It concludes by discussing three additional challenges to effective EW for the prevention of genocide and mass atrocities.

Defining EW and its principal elements

There is no universally accepted definition of EW. For the purposes of this paper, an EW function is defined as:

> The collection, analysis and communication of information about escalatory developments in situations that could potentially lead to genocide, crimes against humanity or massive and serious war crimes, far enough in advance for relevant organs to take timely and effective preventive measures.

This definition identifies not only information collection and analysis, but also communication of information as a core EW activity.[2] It also suggests that the EW communications should concern situations that show signs of escalation toward genocide or other massive and similarly grave crimes. Lastly, it indicates that EW communications must be early enough to facilitate effective prevention, not just mitigation.[3] Each of these aspects is discussed further below.

This demanding set of tasks entails three distinct but interrelated activities:[4]

• *Periodic global risk assessment (to generate a watch list)*: Any EW function with a global mandate must use some procedure, formal or informal, to identify a manageable number of situations of concern to track closely. Sometimes referred to as long-term or structural risk assessment, these methods aim to estimate the relative risk of states (or other polities) based on slowly changing attributes.[5] It serves two main purposes: (1) identifying high-risk situations for intensive monitoring, and (2) providing context for subsequent analysis of ongoing events.

Given that the capacity of most warning offices is quite limited—e.g., the Special Adviser's office at the UN currently has two full time professional staff—it is extremely important to adopt a strategy to narrow the range of situations to be closely monitored. Whether or not an explicit strategy based on risk factors is used, this kind of narrowing or adopting of a "watch list" amounts to risk assessment. Because risk assessment screens some situations into more detailed monitoring and many more situations out, it is the key stage in directing the bulk

of a warning office's analytic resources. It is thus extremely important to strive for the most accurate ways of estimating risk of genocide.

Long-term risk assessments hold value, as well, by helping warning analysts interpret ongoing events in a particular situation. Research to date instills more confidence in estimates of long-term risk based on structural risk factors than short-term risk based on hypothesized "accelerators" and "triggers." Thus, even if resources for intensive monitoring were unlimited, the results of structural risk assessments should inform final judgments about early warning— e.g., when there are significant uncertainties about events developing in a state that bears many long-term risk factors, a warning analyst should err on the side of caution, whereas the same pattern of events in a country with few or no known structural risk factors should cause less concern.

In considering what type of risk assessment strategy to employ, a warning function should seek a balance of three attributes: (1) accuracy in estimating the risk of genocide and related crimes, (2) efficiency/feasibility of using the methods in question, and (3) perceived legitimacy of the process by key stakeholders. Accuracy is certainly the most important attribute, but the process must not be overly burdensome. Plus, because the resulting watch list is to be used to guide subsequent monitoring, the extent to which it is perceived to result from a fair and accurate process, free of bias and political manipulation, the easier it will be to pursue an investigation of each situation.[6]

• *Ongoing situation monitoring (to generate warnings)*: Early warning for effective preventive action requires far more detailed and fine-grained information and analysis than is produced by structural/long-term risk assessments. Judging when a situation is escalating toward

genocide or related crimes "requires the systematic, close to real-time monitoring of potential crisis situations identified in risk assessments."[7] This task is more challenging than is frequently acknowledged. Scholars generally agree that our ability to anticipate impending genocide in a defined, policy-relevant timeframe is more limited than our ability to identify states at elevated risk over a period of years. According to Alex Schmid, "Proximate causal factors are more unique to a particular situation [and] they are more random in nature than the pre-disposing conditions."[8] While in retrospect, instances of genocide appear to be "over-determined" and warning appears to have been plentiful and precise, one respondent warned that this reflects a natural tendency to incorporate "hindsight bias."[9]

Though significant, these challenges are manageable because EW does not require "point prediction" but rather "reducing the very large set of *possible* future events to a much smaller set of *plausible* events."[10] More often than not, the major contribution from an EW function will be in its framing, constructing scenarios, and identifying "possible entry points for action,"[11] rather than introducing new information or predicting a specific series of events. History indicates that one major failure in preventing genocide and related crimes has been mischaracterizing genocidal situations as civil wars or other "normal" phenomena and refusing to contemplate worst-case scenarios—a "failure of imagination," according to Samantha Power.[12] EW communications should, therefore, describe the catastrophic but hard-to-imagine scenarios that are judged to be plausible or even likely. This does not require precise prediction of future events.

The two core challenges of ongoing situation monitoring are: (1) obtaining, filtering and interpreting information on evolving situations, and (2) deciding when to communicate EW information to decision makers.

Writing about EW in the UN, Ted Robert Gurr summarized, "International officials are already flooded with more information than they can handle…what they need most are filters to guide them in screening and interpreting this information."[13] The volume of information available to an EW analyst continues to grow rapidly. Yet, specific information that is needed for full and accurate analysis is sometimes lacking. The challenge, thus, is both to find ways to extract relevant information from extant sources efficiently and to supplement it with additional information to fill critical gaps—e.g., concerning the character of targeted groups, motivations of leaders, extent of community mobilization for potential violence.

The difficulty of deciding in what circumstances to issue any kind of EW is characterized by the twin risks of neglecting an escalating situation and of being perceived as "crying wolf" by calling attention to a situation that does not escalate toward genocide (without additional preventive actions). This demands astute political judgment, built on intimate knowledge of the specific situation on the ground as well as the positions, interests and capabilities of a host of regional and international actors. Nonetheless, a framework for guiding this complex analysis could help create a true "mechanism" for EW, rather than just another adviser.

Similar to the risk assessment stage, in choosing a strategy for ongoing situation monitoring one should consider: (1) accuracy in anticipating evolving events, (2) efficiency/feasibility of using the methods, and (3) perceived legitimacy by key stakeholders. In addition, timeliness is a critical factor for this component.

• *Communication of EW information (to promote preventive action)*: The final element of an EW function is the communication of information and analyses to decision makers in political and/or operational organs. Because communicating concerns is the essence of EW, weaknesses at this end can largely negate excellent data collection and analysis. Scholarly literature on EW

has consistently stressed the importance of strengthening the linkage between EW and policy actors as a means to narrow the "warning-response problem."[14] One approach recommended by scholars is to conceive of an EW mechanism as a "client-centered decision-support system."[15] This would entail close communication between warning officials and decision makers, in both directions.

The significant challenge of developing reliable communications of EW to promote preventive action is apparent in the first two years of operations of the Office of the Special Adviser to the UN Secretary-General on the Prevention of Genocide. The Special Adviser's mandate instructs him to "help the Secretary-General define the steps necessary to prevent the deterioration of existing situations into genocide." But there are numerous UN organs that seek to advise the Secretary-General on any given situation, many of which may have competing views, and most of which have greater internal bureaucratic leverage. Decision making in the UN Secretariat is typically marked by competition and compromise more than deliberation and consensus. Even more challenging is the Special Adviser's relationship with the Security Council. Despite the Security Council's express willingness to consider EW communications from the Secretary-General, it is highly unlikely that the Council will use information and analyses from the Secretary-General and/or his Special Adviser in a way akin to a decision-support role. When policy actors fail to see vital interests in acting on EWs, as will often be the case for the Security Council, "much more importance must be placed on developing the analysis of the information and communicating that analysis to key decision makers."[16] One-time communications will almost never be adequate.[17]

EW of genocide vs. EW of violent conflict

This basic conceptual framework applies equally to EW of violent conflict as it does to genocide or other forms of mass violence. There are, however, a number of special aspects of EW for the prevention of genocide. First, EW of genocide requires greater precision than EW of violent conflict. An EW system for violent conflict would almost certainly include situations likely to lead to genocide since genocide almost always occurs in the context of large-scale violent conflict.[18] EW for the prevention of genocide would ideally foresee not just that widespread violence is likely, or likely to escalate, but that it is likely to take a particular path. Second, genocide is infamously difficult to define. After intense negotiations, the Convention on the Prevention and Punishment of the Crime of Genocide defined genocide as any of an enumerated set of acts "committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such." Numerous scholars have offered their own definitions, seeking to improve on the Convention's definition for analytic purposes. Yet none has found a way to resolve completely fundamental ambiguities—e.g., related to protected groups, number of victims, kinds of harm required, and most prominently, genocidal intent. As a result, some analysts have moved away from the concept of genocide altogether, preferring an objectively measurable category of mass killing. Increasingly, policy actors seem acknowledge that debates about whether a situation amounts to genocide or not distracts from the mobilization of effective action to prevent or halt atrocities.

These difficulties with the concept of genocide as such point to unique difficulties using a strict definition of genocide to guide an EW function. In their evaluation of EW before the 1994 genocide in Rwanda, Howard Adelman and Astri Surhke wrote:

The problem with the term "genocide" as a signal comes in the different implications and illustrations of the two uses of the term. The use of the legal definition of the term in an accusatory sense arguably diminished the impact of the term in its function as a warning signal. If the killing of 300 Tutsis constitutes genocide (in the legal sense), then warnings about a potential genocide signal the potential death of a few hundred more. The linking of the deaths of 300-1N people to the terms "Apocalypse" and "genocide" diminished the impact of these terms as warnings. While significant in and of itself, early warning about a legal genocide leads to very different thinking about consequences and reaction than would a clear signal of an impending genocide in the popular sense.[19]

Governments' acceptance of the principles of "responsibility to protect," and its accompanying call for an EW capacity, reinforces the notion that an EW function for genocide prevention should not be limited strictly to genocide. As articulated in the 2005 World Summit Outcome Document, responsibility to protect refers more broadly to "genocide, war crimes, ethnic cleansing and crimes against humanity."

This suggests expanding a genocide EW mandate to include warning of situations of mass abuses that might never meet the legal definition of genocide. Politically, the responsibility to protect formulation would probably garner the most support. One adjustment to the responsibility to protect formulation is necessary for the purposes of EW: because the category of "war crimes" can include individual acts that bear little resemblance to genocide (e.g., improper use of the flag of the enemy), it is important to limit one's focus to where war crimes threaten to become "massive and serious," as referred to in the terms of reference of the UN Special Adviser.

One key implication of expanding the scope for genocide EW as suggested above would be to clearly include cases threatening to develop into mass killing of persons identified by characteristics outside of the classes granted protection in the Genocide Convention—most importantly, political groups. Mass killings of civilians based on their political identity— sometimes called "politicide"—would clearly represent crimes against humanity, though not

genocide. It would also ease the analytic challenge for a genocide EW function since understanding the nature of violence—e.g., whether it is along political or ethnic lines—is frequently difficult to discern.

Illustrative application of a genocide risk assessment model

Numerous competing risk assessment and EW models exist for violent conflict. For genocide, the risk assessment model developed by Barbara Harff is widely recognized as the leading systematic effort. Developed as an outgrowth of the US-sponsored State Failure Task Force (renamed Political Instability Task Force [PITF]), Barbara Harff created a statistical risk assessment model to explain which situations of state failure (defined as internal wars and/or regime collapse) led to genocide or politicide since 1955. Harff found six risk factors that explained with 74 percent accuracy which situations of internal war and regime collapse led to genocide or politicide between 1955 and 1997 and which did not.[20] The six risk factors are: prior genocide, magnitude of political upheaval (not including prior genocide), exclusionary ideology of ruling elite, autocracy, ethnic minority ruling elite, and low trade openness. Furthermore, Harff wrote, "When the model is applied to current information, it provides the basis for a global 'watch list' that identifies countries in which the conditions for a future episode are present." She has suggested, moreover, that without additional statistical analysis, one could conduct useful risk assessments simply by counting how many of these risk factors are exhibited by each state experiencing a major armed conflict.[21]

Given that Harff's is the most prominent model designed to assess risk of genocide, it is worth exploring in some detail how outputs from the model might have performed as an early warning tool over the last few years. Harff published or presented updated analyses using her

risk assessment model at periods of roughly 12-18 months between late 2002 and early 2005: in the *American Political Science Review*, at the 2004 Stockholm International Forum, and in *Peace and Conflict 2005*. Table 1 displays information from these analyses selected for the purpose of this review. There appear to be several limitations of this model:

[insert Table 1 about here]

Using armed conflict/state failure as a screening criterion: Because Harff's model originated as part of a larger study of state failure, it "assesses the risk that a country will experience a genocide or politicide, given that it is already experiencing another form of political instability."[22] In recent analyses, Harff seems to use existence of a major armed conflict as the screening criterion and recommended to the UN Special Adviser's office to collect data on risk factors "for all states in the world that have ongoing armed conflict."[23] Limiting genocide risk assessment to states already in crisis seems sensible since virtually all episodes of genocide occur during armed conflict.[24] Yet, according to the PITF Phase IV report, 18 of 39 (46%) geno-/politicides that occurred between 1955-2002 began less than one year after the onset of a state failure event.[25] Thus, the historical record suggests that an annual watch list produced using this model would miss a significant percentage of future geno-/politicides because of the short span between state failure and genocide onset. For example, had Harff's risk assessment procedures been used to produce a watch list in January 1988, it would not have included Burundi because civil conflict had not yet begun. But according to the PITF, the civil violence and the genocide began in the same month—August 1988. As one government official wrote, after analyzing Harff's risk assessment model and the case of Uzbekistan in 2005, "Although political conflict

may be a required condition for a genocide or politicide to actually occur, it is inappropriate to use political conflict as a screening criterion when attempting to forewarn policymakers."[26]

Time lag of needed data: In Harff's historical analysis, "all model variables are measured one year prior to the onset of geno-/politicide." Data on these risk factors, however, are rarely available without a considerable time lag. For example, Harff's most recent published analysis was conducted in February 2005, but the data for this watch list were drawn from 2002 for trade openness and 2003 for other variables. The period for which these data were intended to be used to estimate risk had already passed by the time needed data were available. Harff herself suggests that "the lag structure in the data used to estimate the model" may help explain why politicides in Chile in 1973 and the Philippines in 1972 were misclassified by the model.[27]

Re-estimating Harff's model using data 2-3 years prior to the beginning of historical genocidal episodes, thereby more accurately reflecting the timeframe in which data are available, could resolve this issue. Members of the PITF reported that they tested their state failure model with data available at different times before onset of an instability event. They found "the same causal pattern emerges" whether they chose one, two or three years prior to onset. The closer to the onset, the greater accuracy the model demonstrated, but the magnitude of improvement was relatively modest (3% more cases identified accurately going from two years prior to one year prior). A similar analysis was not reported for Harff's geno-/politicide model.

The possibility of multiple crises in a single state: Like most analysis of international political behavior, Harff's model uses the state as the primary level of analysis. This is a limitation, in particular, when considering large, diverse states that could have quite different levels of risk in

different parts of the country. In addition, once a state has been identified as being at elevated

risk of genocide, in some cases it will not be obvious which group is at risk. For example,

according to the Minorities at Risk project, there were eight distinct politically significant

minority groups in India and seven in Kenya. Models that rely on state-level data will not

provide guidance at this level.

The watch lists Harff produced in the last few years offers a striking illustration of this

challenge. The atrocities committed in Darfur, Sudan since 2003 did not receive any mention in

Harff's lists published in 2003 or 2004; the list published in May 2005 did cite "Darfur peoples"

as potential victims. The watch list presented at the Stockholm International Forum in January

2004 included Sudan, but it listed Southerners and Nuba as "possible target groups"—there was

no reference to Darfur, despite the fact that violent clashes began in that region in early 2003.

Highly fluid/transitional states: The cases of Iraq and Afghanistan suggest that structural models

are challenged when states undergo significant and rapid transitions. In the 2003 analysis, Harff

listed Iraq atop the list of genocide risk with all six risk factors. Updated analyses conducted in

November 2003 and February 2005 each counted Iraq as having 3 of 6 risk factors, falling lower

on the list of risk than 9 and 13 states respectively. Meanwhile, events in Iraq have borne signs

of genocidal-type violence. Genocide Watch, for example, judged Iraq to be in the stage of

genocidal massacres in 2005. With respect to Afghanistan, Harff noted two separate scores in

her early 2003 analysis, finding Afghanistan under the Taliban regime exhibited all six risk

factors, while the transitional governing structure in 2002 showed only four risk factors.

Together with Harff's discussion about Chile and the Philippines, cited above, these examples

suggest that structural models do not perform well when states are in the midst of major political transitions.

Explanation, prediction and prevention: Harff's model was developed to explain past events, seeking the best fit model to historical data. This explanatory model is then used to assess future risk of geno-/politicide in various states. But as the UK Prime Minister's Strategy Unit observed, "Crucially, the forecasting performance of a risk assessment method is distinct from its ability to explain [past] variations." Gerd Gigerenzer has illustrated, for example, that a "best fit" model in explaining past weather patterns performs worse at forecasting weather than a "good fit" model from historical data. Therefore, a risk assessment model should be built on a body of historical data and tested "prospectively" on separate historical data. In other words, developers should test a model's out-of-sample as well as in-sample goodness-of-fit. Harff has not reported out-of-sample tests in any of her major publications.

Moreover, the purpose of any genocide risk assessment system should be to support appropriately targeted preventive measures. Harff notes, "Some factors are historically inescapable, including the occurrence of prior genocides, but most are susceptible to external influence." This may be true theoretically, but how "susceptible to external influence" are the risk factors in Harff's model in reality? Two of the six are historical (prior genocide, magnitude of political upheaval in last fifteen years) and thus fixed. Three risk factors describe characteristics of the ruling structure or regime: exclusionary ideology of ruling elite, autocracy, and ethnic minority ruling elite. Short of coercive regime change—which, in any case, frequently fails to leave liberal democratic regimes in its wake—policymakers lack tools to influence these factors, particularly in a reasonably short time frame. This leaves the final risk

factor: low trade openness. Policymakers will sometimes be able to reduce or eliminate trade barriers against repressive regimes. But if, as Harff suggests, "Trade openness serves as a highly sensitive indicator of state and elite willingness to maintain the rules of law and fair practices in the economic sphere,"[28] external actors will be hard pressed to affect the underlying genocide risk in any policy relevant time frame. Thus, Harff's model provides few clues for practical policy measures to reduce genocide risk.

Even if the difficulties discussed above could be resolved, a risk assessment tool of less than 100 percent accuracy will predict some "false positives" and some "false negatives." Harff notes that her model misclassified 9 cases that led to geno-/politicide, and misclassified 25 non-genocidal cases as more likely to become genocidal—over a period of nearly five decades. In this same period, Harff's model correctly classified 26 instances of genocide. Assuming even distribution, this translates to one genocide every five years or so that occurred but was incorrectly classified (i.e., false negative), and one falsely classified genocide every other year (i.e., false positive)—almost exactly the same number of genocides that would be correctly classified.

Furthermore, Gigerenzer and Edwards recommend presenting data about uncertainty using absolute rather than relative risks based on analysis of human beings' capacities to understand information about risk.[29] Rather than reporting the percentage of geno-/politicides that the model correctly explained, for example, they argue for simple presentations of data within a single reference class. In this fashion, the data from Harff's *APSR* study could be presented as follows: [30]

	Numbers	Percentage
• How many of all state failure cases led to geno-/politicide:	35/126	28%
• How many of all cases that "tested positive" for geno-/politicide led to geno-/politicide?	26/51	51%
• How many of all cases that "tested negative" for geno-/politicide led to geno-/politicde?	9/75	12%

From this alternative presentation of the same data, it is easier to grasp the extent to which this model improves one's predictive power beyond a very simple heuristic (e.g., watch closely for potential genocide in any situation of large-scale violent conflict), and the price one pays in terms of "false negatives."

Comments: This analysis does not suggest that Harff's risk assessment model is fundamentally flawed or lacking in value. Indeed, it remains the most accurate statistical model for estimating risk of genocide and politicide. The limitations discussed above, in part, reflect the inherent challenges of genocide risk assessment. No risk assessment tool will be perfectly reliable for such complex phenomena as genocide and crimes against humanity, but the review above presents compelling evidence that exclusive reliance on Harff's model—or any other single model—would be unwise at this stage. Revised and/or new models should be tested for their utility to key policy actors as well as their statistical validity and reliability in explaining historical cases. Likewise, other models and approaches—including relying on expert judgment alone and in combination with systematic data—should be tested against one another.

Additional challenges for genocide early warning

Near-term EW and complexity: This paper has focused on the first stage of an effective early warning mechanism: global risk assessment. As noted, however, early warning for effective

preventive action requires far more detailed and fine-grained information and analysis than is produced by structural/long-term risk assessments. Some analysts have tried to develop statistical models for near-term anticipation of genocide or related crimes, but they remain less well developed. It is likely that this reflects inherent complexity, uniqueness and randomness in accelerating and triggering events. Therefore, scholars and EW analysts should seek to strengthen methods for providing EW in complex environments, where traditional approaches that rely on stable cause-effect patterns are ill suited.

Systematization of warning function: Beyond limitations in methods for assessing risk of genocide or mass atrocities, there are large political and institutional barriers to effective genocide EW. Some governments undoubtedly analyze potential for genocide and mass atrocities in the context of broader intelligence analysis and warning functions, but indications that genocide EW has become systematic, regular and politically valued are hard to find. The most visible institution globally with an explicit mandate for genocide EW is the Office of the Special Adviser to the UN Secretary-General on the Prevention of Genocide—a very small office that has yet to establish a firm place in the UN bureaucracy or as an input to political deliberations among member states. In fact, the office has run against political resistance to active monitoring of government actions in situations that bear warning signs of potential atrocities. Thus, while creation of this office represents a step forward, it has also highlighted the difficulty in making warning of mass atrocities a regular and valued part of global policymaking.

Priming, framing and other cognitive issues: As a tool designed to influence the decision making of policymakers and political leaders, EW must take account of the realities of cognitive processing and decision making, which are often at odds with implicit assumptions. Gerd Gigerenzer et al. have argued that non-rational decision making theories "provide us with a more realistic picture of decision making when knowledge is scarce, deadlines are rapidly approaching, and the future is hard to predict."[31] These characteristics certainly hold for policy actors seized with situations at risk of escalating toward genocide or mass atrocities.

Cognitive capacities and limitations affect the way in which information is used for EW of all kinds of violence, conflict and other disasters. Yet, it is possible that they pose a greater challenge to EW of genocide than other types of violent conflict because of the effects of priming and framing. These concepts refer to the ways in which previous psychological associations and the packaging and transmission of information, respectively, affect one's understanding and interpretation. Most non-experts have extremely strong associations between "genocide" and the Holocaust and Rwanda. The extreme, massive and unambiguous nature of the violence in these two cases leaves strong psychological impressions. If these are one's principal associations with the concept of genocide, it may lead to a tendency to neglect the possibility that a situation that does not look like Rwanda in 1994 or Nazi Germany could become genocidal. On the other hand, the priming effect increases the chances that a new situation that bears signs of Rwanda or the Holocaust will be recognized and confronted. The problem for genocide EW is that genocide can manifest itself in many different ways as is illustrated by major cases in the 20th Century: Armenia, the Holocaust, Cambodia, Rwanda and Srebrenica. Violent conflict more generally is more common, meaning most people will not a single instance affect their cognitive map so strongly. Moreover, no one questions that war takes

many forms, even while it has a simple marker: large numbers of violent deaths committed for political ends.

Conclusion

Effective early warning of potential atrocities cannot guarantee successful prevention. Yet the more accurate risk assessments and warnings are, the greater is the likelihood that limited policy attention and resources will be devoted to positive effect. Most analysts have judged current risk assessment and early warning practices to be adequate, if imperfect, pointing to other factors in explaining failures to prevent mass atrocities. This paper found significant limitations in using the model developed by Barbara Harff, which is generally accepted to be the best currently available, for prospective risk assessment of genocide and politicide. This analysis, and the identification of additional challenges, suggests that the field may be further than is commonly acknowledged from developing effective early warning methods and mechanisms for the prevention of genocide and mass atrocities.

Table 1
Selections from Harff's geno-/politicide risk assessment: 2003-2005

Source (date)	*American Political Science Review* (published Feb. 2003)	Stockholm International Forum 2004 (conducted Nov. 2003)	*Peace and Conflict 2005* (conducted Feb. 2005)
Number of states with ≥4 risk factors:	11	9	13
Number of risk factors for selected states:			
Afghanistan	6/6 (Taliban regime) 4/6 (Karzai regime)	3/6	4/7*
Cote d'Ivoire	Not included**	Not included***	2/7
Iraq	6/6	3/6	3/7
Rwanda	5/6	5/6	5/7
Somalia	4/6	4/6	3/7
Sudan	Not included****	5/6*****	6/7
"Watch list" (i.e., states with 4 or more risk factors) (in alphabetical order)	Afghanistan Algeria Burundi D.R. Congo Ethiopia Iraq Myanmar (Burma) Rwanda Sierra Leone Somalia Uganda	Algeria Burundi China D.R. Congo Myanmar (Burma) Rwanda Somalia Sudan Uganda	Afghanistan Algeria Angola Burundi China D.R. Congo Ethiopia Myanmar (Burma) Pakistan Rwanda Sri Lanka Sudan Uganda

In her 2005 analysis, Harff included a seventh risk factor: "minorities are targeted for severe political or economic discrimination." However, the table summarizing risk for countries with "serious armed conflicts, regime crises, or high vulnerability" does not display data on this new variable.

** *Cote d'Ivoire was excluded because it was not considered to have had a "major armed conflict" in 1995-2000 according to Gurr, Mashall, and Khosla. See* Peace and Conflict 2001.

*** *Unclear why Cote d'Ivoire was not included. Since only countries with three or more risk factors are included on this list, one can assume that Cote d'Ivoire was absent because it had fewer than three risk factors.*

**** *Sudan (and Angola) excluded because, according to Harff, they had "ongoing geno-/politicides in 2001." The PITF Phase IV report characterized this geno-/politicide in Sudan as being targeted against "secessionist non-Muslim southerners and Nuba." (p. 99)*

***** *Harff listed "possible target groups" as Southerners and Nuba. No mention of Darfur.*

[1] S/2004/567 Annex.

[2] This follows Adelman & Suhrke's definition of EW as "the collection, analysis and communication of the relevant evidence and conclusions to policy-makers to enable them to make strategic choices." See Howard Adelman & Astri Surhke, *Early Warning and Conflict Management: Genocide in Rwanda* (Study II of the Evaluation of Emergency Assistance to Rwanda, 1996), p. 2. Available on-line at: <129.194.252.80/catfiles/2050.pdf>

[3] This follows the definition used by the UN Staff College's program on "Early Warning and Preventive Measures:" "The process of collecting and analyzing information for the purpose of identifying and recommending strategic options for preventive measures." (Fabrizio Bilucaglia, personal communication.) A similar emphasis on the timing of EW is found in Max van der Stoel's "working definition" of early warning when he served as OSCE High Commissioner on National Minorities, which specified that EW communication should be "far enough in advance in order for [OSCE bodies] to react timely and effectively, if possible still leaving them time to employ preventive diplomacy and other non-coercive and non-military preventive measures." Quoted in Netherlands Institute of International Relations (Clingendael). *Conflict Prevention and Early Warning in the Political Practice of International Organizations* (1996), p. 10. Available on-line at: <http://www.clingendael.nl/publications/1996/19960000_cru_paper.pdf>

[4] This categorization basically follows those of Barnett R. Rubin, *Blood on the Doorstep: The Politics of Preventive Action* (New York: Century Foundation, 2002), pp. 138-150; and Barbara Harff & Ted Robert Gurr, Systematic Early Warning of Humanitarian Emergencies. *Journal of Peace Research* (1998), 35(5): 551-579. Harff and Gurr do not consider risk assessment part of EW as such, whereas Rubin considers both risk assessment and events monitoring different categories of warning.

[5] Rubin, *op. cit.*

[6] Robert O. Keohane writes that legitimacy "is conferred either through the quality of the processes used to produce the rules—'inputs'—or the quality of the results achieved—'outputs.' Input legitimacy is achieved through following established procedures of authorization and activity that are consistent with standards conforming to prevailing concepts of fairness, even if not of perfect justice. The procedures must include considerable transparency, mechanisms for accountability, and integrity—that is, a pattern of practices consistent with the stated purposes of the institution. Output legitimacy is achieved through a record of accomplishments that can be judged, on the whole, to be good—and, crucially, better than any feasible alternative institutional arrangements would have produced." (Robert O. Keohane, Decisiveness and Accountability as Part of a Principled Response to Nonstate Threats. *Ethics and International Affairs* (2006), 20:2, p. 219.)

[7] Harff & Gurr, *op. cit.*, p. 556.

[8] Alex P. Schmid, "Indicator Development," in John L. Davies & Ted Robert Gurr (Eds.) *Preventive Measures* (Lanham, MD: Rowman & Littlefield Publishers, Inc., 1998), p. 47.

[9] See Baruch Fischoff, "Hindsight ≠ foresight: the effect of outcome knowledge on judgment under uncertainty." *Journal of Experimental Psychology: Human Perception and Performance*, 1:288-299 (1975); Richard J. Heuer, *Psychology of Intelligence Analysis* (Washington, DC: Center for the Study of Intelligence, 1999). Available on-line at: <https://www.cia.gov/csi/books/19104/index.html>.

[10] Philip A. Schrodt & Deborah J. Gerner, "The Impact of Early Warning on Institutional Responses to Complex Humanitarian Crises." Presented at the Third Pan European Conference of the Standing Group for International Relations (ECPR) in cooperation with International Studies Association, Vienna, Austria (1998), p. 3 (emphasis in original). Available on-line at: <http://www.ku.edu/~keds/papers.dir/wien98.pdf>.

[11] Forum on Early Warning and Early Response, *Generating the Means to an End: Planning Integrated Responses to Early Warning* (2nd Edition) (2000), p. 4. Available on-line at: <http://www.reliefweb.int/library/documents/studplan.pdf>.

[12] Samantha Power, *A Problem from Hell: America and the Age of Genocide* (New York: Basic Books, 2002).

[13] Ted Robert Gurr in Gavan Duffy et al., An Early Warning System for the United Nations: Internet of Not? *Mershon International Studies Review* (1995), 39(2), p. 318. More generally, the amount of information has grown at a staggering rate in recent years and shows no signs of abating. One study estimated that the amount of new information stored on paper, film, magnetic and optical media doubled in the first three years of the 21st Century. (*How Much Information 2003*; available on-line at: <http://www.sims.berkeley.edu/research/projects/how-much-info-2003/execsum.htm#summary>.

[14] Alexander L. George & Jane E. Holl, *The Warning-Response Problem and Missed Opportunities in Preventive Diplomacy* (Carnegie Commission on Preventing Deadly Conflict, 1997). See also Alexander Austin, *Early Warning and The Field: A Cargo Cult Science?* (Berghof Research Center for Constructive Conflict Management, 2004), p. 12. Available on-line at: <www.berghof-handbook.net/uploads/download/austin_handbook.pdf>.

[15] John L. Davies & Ted Robert Gurr (Eds.) *Preventive Measures* (Lanham, MD: Rowman & Littlefield Publishers, Inc., 1998), p. 11. See also Heinz Krummenacher & Susanne Schmeidl. *Practical Challenges in Predicting Violent Conflict: FAST: An Example of a Comprehensive Early-Warning Methodology*. (Swisspeace, 2001). Available on-line at: <http://www.swisspeace.org/uploads/FAST/working%20paper%2034.pdf>

[16] Howard Adelman, "Defining Humanitarian Early Warning." In Schmeidl & Adelman, *op. cit*.

[17] Netherlands Institute of International Relations (Clingendael), *op. cit.*, p. 6.

[18] Paul Bartrop, The relationship between war and genocide in the twentieth century: a consideration. *Journal of Genocide Research* (2002), 4(4), 519-532.

[19] Adelman & Suhrke, *op. cit.*, p. 65.

[20] Barbara Harff, No Lessons Learned from the Holocaust? Assessing Risks of Genocide and Political Mass Murder since 1955. *American Political Science Review* (2003).

[21] Barbara Harff, *Risk Assessment and Early Warning of Genocide: Some Guidelines for the Office of the Special Adviser to the Secretary-General on the Prevention of Genocide*. (New York: United Nations Association of the USA, 2006). Available on-line at: <http://www.unausa.org/atf/cf/{49C555AC-20C8-4B43-8483-A2D4C1808E4E}/Harff%20January%202006.pdf>.

[22] Robert H. Bates, David L. Epstein, Jack A. Goldstone, Ted Robert Gurr, Barbara Harff, Colin H. Kahl, Kristen Knight, Marc A. Levy, Michael Lustik, Monty G. Marshall, Thomas M. Parris, Jay Ulfelder, and Mark R. Woodward. *Political Instability Task Force: Phase IV Findings* (McLean, VA: Science Applications International Corporation, 2003), p. 89.

[23] Harff, 2006, *op. cit.*, p. 4.

[24] Jack A. Goldstone, Ted Robert Gurr et al. *State Failure Task Force Report: Phase III Findings*. (McLean, VA: Science Applications International Corporation, 2000), p. 47.

[25] The Phase III Task Force report stated, "Although some genocides and politicides occurred the same year as the onset of state failure, most (59 percent) occurred considerably later" (Goldstone, Gurr et al., *op. cit.*, p. 45). The Phase IV report extended the analysis to include episodes through 2002, which added two cases. It also included the case of Equatorial Guinea between 1969-1979, which had not been included in the Phase III analysis. Equatorial Guinea and Yugoslavia (1998) were both cases of geno-/politicide that began less than one year after onset of state failure.

[26] Mike Daniels, Assessing the Genocide and Political Mass Murder Framework: The Case of Uzbekistan. *The George Washington International Law Review* (2005), 37, p. 928.

[27] Harff, 2003, *op. cit.*, p. 69.

[28] *Ibid.*, p. 65.

[29] Gerd Gigerenzer and Adrian Edwards. Simple tools for understanding risks: from innumeracy to insight. *British Medical Journal* (2003), 327: 741-744.

[30] These numbers could be shifted based on the "cut point" used to distinguish "positive" from "negative" tests.

[31] Gerd Gigerenzer. Decision making: nonrational theories. *International Encyclopedia of the Social and Behavioral Sciences* (2001), p. 7.