Annex A

Literature Review of Gender-Sensitive Indicators for Early Warning of Violence and Conflict

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Executive Summary

The International Foundation for Electoral Systems (IFES) is undertaking the "Enhancing Predictions of Political Violence: Developing and Piloting Women, Peace, and Security Indicators" project in collaboration with the United States Department of State Bureau of Conflict Stabilization Operations. This project aims to develop a publicly available set of qualitative and quantitative gender-sensitive indicators to enhance the effectiveness of global risk analyses and early warning systems, thereby strengthening their ability to monitor, mitigate, and respond to political violence or the threat of political violence.

In the first phase of this project, the research team collected and reviewed efforts to date in gendering global, regional, national, and subnational early warning systems, which are compiled in this literature review. The review also identifies existing gender-sensitive early warning indicators and highlights gaps in gender-sensitive indicators research. More than 60 documents informed this literature review, as well as interviews with key gender, data collection, and early warning experts with expertise that spans the globe.

The literature review observes that while more than two decades of empirical and peer-reviewed research links the status of women to a country's propensity for violence, this knowledge has yet to be translated into tangible early warning indicators that capture gender-based drivers of conflict and unrest. Efforts to include gender-sensitive indicators in early warning systems are infrequent and inconsistent, and studies about their effectiveness are not publicly available.

Within global early warning systems, such as those aimed at predicting mass atrocities and genocide, previous research found that gendered indicators are predominantly absent. This gap persists despite international legal definitions for genocide, war crimes, and crimes against humanity, including gender-specific crimes such as mass rape, forced sterilization, and abortion.

Regional early warning systems appear to be more likely than global ones to mainstream gender within them; however, such efforts are ad hoc. Notable examples include the Economic Community of West African States (ECOWAS) Early Warning and Response Network (ECOWARN) and the Conflict Early Warning and Response Mechanism (CEWARN), which is an initiative of the seven-member Intergovernmental Authority on Development (IGAD) that promotes peace and security in the Horn of Africa. Both of these regional early warning systems have integrated gender-sensitive indicators and analysis, but this information is not publicly available and thus the effectiveness of these specific gender-sensitive indicators is not included here. Indicators within national and subnational systems are also proprietary, and there has been little to no published research on the effectiveness of the gender-sensitive indicators within these systems or how these indicators could apply to other contexts.

This literature review also outlines challenges in data collection and analysis that will need to be addressed to ensure the viability of any gender-sensitive early warning indicators developed as part of this project. These challenges include: connecting gender-sensitive indicators to existing public datasets; developing global indicators that also reflect context-specific dynamics; and ensuring women's involvement in collecting and monitoring of early warning systems. These challenges apply to this specific project but could also

impede other efforts undertaken to further integrate gender considerations in early warning systems for political violence.

Despite these identified challenges and inconsistent approaches to date to mainstream gender considerations into early warning systems, the literature review lists three key risks of not doing so. These include:

1. Overlooking micro-level events stemming from negative gender norms, which could lead to earlier warnings of violence at the macro level;

2. Formulating policies and humanitarian responses that inadvertently further fuel negative gender stereotypes or norms and fail to identify and address the differentiated needs of women, men, girls, and boys; and

3. Excluding local women and women's organizations from the development and monitoring of community-level early warning systems and thus discounting the vital perspectives, knowledge, and observations they may have.

These key findings illustrate that much more needs to be done to understand the effectiveness of existing gender-sensitive early warning systems to develop a global framework for gender-sensitive early warning indicators of violence and conflict. Given the ad hoc nature of current efforts, these findings also demonstrate the need for such a framework that compiles lessons learned not previously documented and makes recommendations on the most effective. Despite the challenges, this global framework will give early warning system operators the tools to ensure that their work is gender-sensitive.

Introduction and Purpose

More than two decades of peer-reviewed research establish the direct links between the promotion of gender equality and conflict prevention, the importance of women's participation in conflict prevention and resolution efforts, and the clear utility of including gender considerations in such efforts. Despite a growing wealth of evidence accompanying the normative development of the women, peace, and security (WPS) agenda, challenges remain in the consideration and integration of gender-sensitive early warning indicators within political violence early warning systems.

To contribute to this effort, IFES is currently undertaking the "Enhancing Predictions of Political Violence: Developing and Piloting Women, Peace, and Security Indicators" project in collaboration with the United States Department of State Bureau of Conflict Stabilization Operations. This project has two overarching objectives: 1) develop gender-sensitive early warning indicators that include gender-related qualitative and quantitative metrics to identify where political violence is likely to occur; and 2) to evaluate the effectiveness of the proposed gender-sensitive early warning indicators through a pilot implementation.

> Indicators are considered gender-sensitive if: 1) they refer specifically to a person's gender identity and/or are disaggregated by sex; 2) they reflect the impact of conflict and violence on the activities, roles, norms or biological functions commonly associated with a specific sex; and/or 3) if the source documentation identifies them as gendered.

Through a comprehensive review of existing political violence early warning system indices and literature, as well as women peace and security normative documents and reports, IFES has developed a gender-sensitive early warning indicators inventory (Annex E). The purpose of this literature review is to contextualize and frame the gender-sensitive early warning indicators inventory and identify gaps and challenges.

This literature review provides an overview of the available literature on this subject, including:

- A brief overview of the theoretical linkages between gender equality and the prevention of violence;

- An overview of existing early warning systems for political violence;

- A summary of attempts to date to gender early warning systems; and

- Persistent data collection and analytical challenges.

The next stage of this project will be to develop a robust and inclusive global framework for gender-sensitive early warning indicators, which will use this literature review and Annex E as a starting point for analysis. Through interviews and consultations with gender, early warning, and data experts, the framework will include the most relevant and effective existing indicators and new indicators to enhance the predictive power of early warning systems. It will also provide guidance for the community of practice on how to

collect and interpret data on these indicators. The text box below defines important terms used through this project as they are commonly understood in established literature.

Gender-sensitive early warning indicators

Gender-sensitive early warning indicators are indicators that measure differentiated gendered behaviors and incidents that, alone or when integrated with other, non-gender specific indicators, can help predict the probability of political violence and conflict

Gender

Gender is the socially constructed set of roles, rights, responsibilities, entitlements, and behaviors associated with being a woman or a man in society. The social definitions of what it means to be masculine or feminine, and negative consequences for not adhering to those expectations, vary among cultures, change over time, and often intersect with other factors such as age, class, disability, ethnicity, race, religion, and sexual orientation (US Gender-Based Violence Strategy, 2016).

Political violence

Political violence is the use of force by a group with a political purpose or motivation. For this project, IFES will use the Armed Conflict Location and Event Data Project's (ACLED) political violence data. According to ACLED's 2019 Codebook: "ACLED records political violence through its constituent events, the intent of which is to produce a comprehensive overview of all forms of political disorder, expressed through violence and demonstrations, within and across states. A politically violent event is a single altercation where often force is used by one or more groups toward a political end, although some non-violent instances – including protests and strategic developments – are included in the dataset to capture the potential precursors or critical junctures of a violent conflict" (ACLED, 2019).

Conflict and political violence early warning systems

Conflicts and political violence early warning systems "involve the regular collection and analysis of data through systematic monitoring and reporting on a series of indicators. These indicators are used to alert decision makers to the potential outbreak, escalation and resurgence of violent conflict and to promote an understanding among decision makers of the nature and impacts of violent conflict" (Defontaine, 2019).

It is important to note that it is very difficult to "predict" violence and conflict. The purpose of this project is to develop gender-sensitive early warning indicators – both quantitative and qualitative, as relevant – to widen the scope of early warning system data to reflect the relationship between gender-related issues and violence and how this should effectively inform policy and programming decisions to mitigate violence.

Gender Equality and the Prevention of Violence

There is now a well-established correlation between the level of gender equality and the status of women within a country and the likelihood of inter- or intra-state violence: namely, that countries with higher levels of gender equality are less likely to be violent, as evidenced by the sources summarized below. Key research spanning two decades is summarized below as is emerging research that highlights the links between the erosion of women's rights with increased community radicalization and support for violent extremism. Monitoring the status of women could therefore result in more accurate forecasting of political violence resulting from both inter- and intra-state conflict and violent extremism.

Even before the United Nations (UN) Security Council unanimously adopted the landmark Resolution 1325 in October 2000, which formally established the WPS agenda, the international community recognized the linkages between gender equality and the prevention of violence. For example, at the 1995 Beijing World Conference on Women, the UN Economic and Social Council highlighted the need to enhance the status of women to strengthen world stability and security.[1] In Resolution 1325, the UN Security Council underscored the important role of women participating in the prevention and resolution of conflict and called on Member States to ensure increased representation of women at all decision-making levels in national, regional, and international institutions and mechanisms for the prevention, management, and resolution of conflict.[2] In December 2004, the Organization for Security and Co-operation in Europe (OSCE) then recognized that equal rights between men and women and the protection of their human rights are essential to peace and sustainable democracy but also that the achievement of gender equality contributes to comprehensive security.[3]

There have since been two decades of empirical research further establishing the correlation between gender-related outcomes and the outbreak of intra- and inter-state violence. Studies establishing the links between gender equality and the prevention of violence represent a significant component of the WPS agenda; however, the WPS normative framework expands beyond this one area. This literature review does not attempt to provide a comprehensive overview of the full WPS agenda but rather focuses on the specific elements pertaining to the development of a Women, Peace and Security Indicators framework for early warning. Additional information spanning the entire WPS agenda is available at UN Women's website.[4] The particular body of work related to gender equality and the prevention of violence includes (but is not limited to):

- A 2001 study undertaken by Mary Caprioli and Mark Boyer describing how gender equality could predict a state's international crisis behavior and finding that the severity of violence in crisis decreases as domestic gender equality increases.[5]

- A 2005 study also by Mary Caprioli concluding that gender inequality has negative repercussions beyond the impacts on women, and actually increases the chance of a state experiencing internal conflict.[6]

- Research undertaken in 2012 by Valerie Hudson supporting other academic findings that the greater the gender gap between the status of women and men in a society, the increased likelihood that a country would be involved in intra- and inter-state conflict.[7]

- A 2015 study conducted by Marie O'Reilly, Andrea Ó Súilleabháin, and Thania Paffenholz revealing that peace agreements are 64 percent less likely to fail if civil society representatives are involved in their negotiations. When women are included, peace agreements are 20 percent more likely to hold for at least two years and 35 percent more likely to last for 15 years.[8]

This cumulative research is highlighted both in the *2015 Global Study on the Implementation of United Nations Security Council Resolution 1325*[9] and in the 2018 UN-World Bank joint report on conflict prevention.[10] Fifteen years after it adopted Resolution 1325, the UN Security Council also again reaffirmed that women's and girls' empowerment and gender equality are critical to conflict prevention and broader efforts to maintain international peace and security.[11]

The last few years has also seen the emergence of research highlighting the links between gender considerations and the prevention of violent extremism. For example:

- In 2017, international relations scholars Jacqui True and Sri Eddyono wrote that the promotion of gender equality, publicly and within the home, is likely to be the single most powerful counter-discourse to extremist interpretations of religion. They further concluded that promoting gender equality at home is a primary preventative factor for extremist behavior.[12]

- In 2018, UN Women commissioned terrorism expert Nelly Lahoud to undertake a study that identified the extent to which gender equality issues and roles were used by the Islamic State group as part of their recruitment and control strategies.[13]

- A research survey conducted in 2018-19 by Melissa Johnston and Jacqui True in Bangladesh, Indonesia, and the Philippines found that hostile sexist attitudes toward women and support for violence against women are the factors most strongly associated with support for violent extremism. The survey also illustrated that misogyny is integral to the ideology, political identity, and economy of violent extremist groups.[14]

- In 2019, the UN secretary-general warned that sudden and extreme restrictions on women's rights are among the earliest signs of the spread of violent extremism.[15]

Early Warning Systems for Political Violence

Early warning systems are simple in concept: flag deteriorating conditions so that decision-makers can respond to and prevent negative outcomes. This idea has mass appeal; as such governments and researchers have invested millions of dollars in studying and developing early warning systems for hundreds of different contexts and purposes. While a valuable tool, practitioners have found the actual application of the early warning concept to be very complex and at times lacking in transparency and metrics of success.

This work focuses on the gap in the linkage between gendered drivers of instability and broader political violence in early warning systems, while acknowledging that some early warning systems focus on other topics such as health or natural disasters. Understanding early warning systems for political violence is key to designing gender-sensitive indicators. The key factors that influence how indicators will be designed are 1) the purpose of the early warning system; 2) how the early warning system obtains data; and 3) the geographic scope of the early warning system.

The use of early warning systems to predict conflict and political violence has grown exponentially in the past two decades, driven by the failure of the international community to respond appropriately during the 1994 Rwandan genocide and the dramatic increase in civil conflict and election-related violence in transitional democracies following the end of the Cold War. Today, there are dozens of analytical frameworks with thousands of quantitative and qualitative indicators of potential concerns. Early warning systems can range in scale from those that are global, comparing indicators across countries, to those that are community-based, measuring more micro changes.

Purpose

Any specific early warning system is unique, and how it fits within a broader system of issues of concern and the need for action will vary widely. Some early warning systems are used to predict the likelihood an event that may occur in a country in the next year to set policy or aid priorities. For example, the "Early Warning Project" from the Simon-Skjodt Center for the Prevention of Genocide of the United States Holocaust Memorial Museum and the Dickey Center for International Understanding at Dartmouth College aims to predict a country's likelihood to experience a new episode of mass killing in the next year. Other early warning systems are much more localized and focused on understanding current dynamics to quickly deploy security forces or other responses to prevent or mitigate violence at the grassroots level.

Given these differences in early warning system goals, the ability and time frame of early warning systems to predict political violence varies according to each early warning system's purpose. For Goldstone et al., for example, predictive ability refers to the likelihood of a state experiencing an onset of instability two years after the date of data observations. For others, predictive ability of early warning indicators can be the ability to predict violence within weeks, days, or even hours; for example, IFES' early warning and early response program implemented in Burundi in 2010 and 2015 developed indicators that were intended to communicate imminent threats to first responders.[16] While early warning systems may try to predict different violent outcomes

– from protests to mass atrocities to other types of conflict – understanding the purpose and timeframe of the early warning system is key to designing and integrating indicators.

Prediction and forecasting are increasingly playing a large role in peace and conflict research, depending on the quality, time span, and granularity of data available.[17] As methodologies improve, evidence-based understanding of the strengths and weaknesses of early warning indicators continues to improve as well. Extensive testing has enabled early warning systems to claim as high as 80 to 90 percent predictive capacity.[18] For example, Uppsala researchers have developed the Violence Early Warning System (ViEWS), which focuses political violence and produces monthly forecasts at the country and subnational levels. Research from 2019 indicates that ViEWS is able to capture long-term political violence and the diffusion of violence in countries such as Cameroon. The study includes forecasts for October 2018 to October 2021.[19] However, as is expanded on below, the majority of early warning systems do not include gender-sensitive indicators within their analytical frameworks.

Data

All early warning systems need to gather data to inform their analysis. This process will vary by purpose and scope. Some early warning systems collect their own primary data, while others rely on secondary data sources. The design of gender-sensitive indicators will need to reflect the ways in which specific early warning systems obtain data. For early warning systems that do not collect their own data, data from third-party sources is needed. For early warning systems that do collect their own data, guidance is needed on how to collect data on gender-sensitive indicators, tailored to the data collection methods of that early warning system. Data collection can be primary or secondary.[20] The design of primary data collection frameworks is generally targeted to a specific context and indicator framework. For example, the IFES "Election Violence Education and Resolution" (EVER) project tailors early warning indicators for each implementation and then actively collects data around those indicators. Primary data collection can include standard, in-person, or electronic surveys. For example, the Ushahidi initiative in Kenya, crowdsources data by consolidating information from SMS reports, web applications, emails, and Twitter.[21] Secondary data collection may be conducted through automated systems and/or be taken from third-party sources that are not specifically geared toward use in early warning systems (e.g., population data).

Data points are collected in a variety of ways, including from community-based monitors; local security force actors; aggregated media reports; police and hospital reports and statements; online crowdsourced content; government intelligence; and/or desk research and policy analysis. Data collection also occurs with varying frequency depending on the early warning system. Systems can collect data annually, weekly, and/or as incidents occur. It is also important to consider how the data is collected and how bias and access might impact the accuracy of the overall early warning system.

Geographic Scope

Early warning systems can be global, regional, national, or subnational in geographic scope.

Global

These early warning systems survey all or most countries, looking for patterns across countries and sometimes using historical data that might predict conflict outcomes in the future. Global early warning systems use available data and do not collect their own. For example:

- The "Early Warning Project" from the Simon-Skjodt Center for the Prevention of Genocide of the United States Holocaust Memorial Museum and the Dickey Center for International Understanding at Dartmouth College mentioned above looks at current and historical data from 34 variables from more than 160 countries to predict the likelihood that a mass killing will occur, sorting countries into risk categories.

Regional

These early warning systems promote collaboration for crisis prevention and response within a defined geographical area. They generally draw on open-source data and information collected by local monitors to inform analysis for institutional responders. For example:

- The African Union's Continental Early Warning System (CEWS) was designed to collect and analyze conflict data, which the chairperson of the Commission uses to advise the Peace and Security Council on potential conflicts and threats to in Africa and to recommend responses. This is a closed system and neither its data nor its indicators are publicly available. A 2010 paper examining various African early warning systems found that CEWS then lacked any gender considerations.[22] No new information is available to indicate whether this has changed.

- CEWARN is an initiative of the seven-member IGAD that promotes peace and security in the Horn of Africa. As outlined below, CEWARN is one of the few known early warning systems that includes gender-sensitive indicators, including at the subnational level; however, there are no available studies or information on the effectiveness of these indicators.

- ECOWAS' ECOWARN was designed to prevent conflict and influence decision-making in West Africa. The African Union has reported that one of the major achievements of ECOWAS in implementing the 1325 agenda has been the inclusion of women and gender equality indicators in ECOWARN;[23] however, the African Union's report does not include information or analysis on how this has contributed to the system's overall preventative actions. The specific indicators are not publicly available, but, as part of initial consultations undertaken for this project, IFES interviewed early warning experts working on the ECOWARN system who stated that ECOWARN's revised framework had gender-sensitive indicators within each of its five pillars: health, crime, environment, security, and government. Field monitors have been trained on how to collect gender-sensitive data and how to then undertake gender analyses. Encouragingly, there has been a noticeable increase in gender-sensitive analysis emanating from the field monitors. However, it is too early to determine whether this improves the overall effectiveness of ECOWARN's early warning forecasting ability.

National

These early warning systems can be governmental or nongovernmental organization- (NGO) led. Their primary aim is to identify and assess security threats occurring within a given country. These systems may draw on quantitative, qualitative, or mixed-method data collection and analysis. They may focus on conflict in general, or on a specific type of conflict or violence. For example:

- The "Nigeria Election Violence Report" (NEVR) project uses IFES' EVER methodology.[24] The NEVR project is run by IFES in partnership with the National Association for Peaceful Elections in Nigeria. IFES partners with six organizations in all six geopolitical zones of Nigeria. Though this early warning system does capture incidences of gender-based political violence, the data do not systematically include gender-related categories. In its current Nigeria program, IFES plans to integrate gender-sensitive indicators into its NEVR work.

- In Colombia, the Early Warning System (*Sistema de Alerta Temprana* [SAT]) is implemented by the National Ombudsperson's Office. The purpose of this early warning system is to monitor the risks that internal armed conflicts pose to civilians, to promote humanitarian prevention of these risks and to protect human rights.[25] In 2007, the United Nations Development Fund for Women collaborated with the Ombudsperson's Office to create gender-specific indicators to be integrated into this early warning system.[26] Data from the SAT shows that that the threat of conflict-related violence against organized women's groups has increased since 2008.[27]

Subnational

These early warning systems collect more targeted data at the state, provincial/county, and district levels. They are often focused on a very specific type of conflict or security threat. For example:

- IFES applied an early warning system using its EVER methodology in 12 regencies and 60 districts in the province of Aceh, Indonesia, in 2012. Based on field monitoring results, IFES' EVER partners issued reports and held press briefings for electoral stakeholders.   This implementation captured instances of political gender-based violence – including targeted attacks against women voters who supported the incumbent governor. However, as was the case with the NEVR project, this data was not sex-disaggregated.

Gendering Early Warning Indicators

This section outlines some of the key attempts in the last two decades to develop either broad or context-specific gender-sensitive early warning indicators, as well as emerging research in this field being undertaken by practitioners and researchers. It also captures the findings from the few notable studies that have examined the extent to which these gender-sensitive indicators are being incorporated into existing early warning frameworks.

There are three noteworthy observations to highlight at the outset of this section. First, the body of research linking the status of women to a country's likely propensity for violence far outweighs efforts to then translate this cumulative peer-reviewed body of work into tangible early warning indicators that could contribute to the forecasting of political violence by tracking gender-based drivers of conflict and unrest. Put simply, while some investment is made to study gender, conflict, and early warning, there are fewer significant efforts to invest in the actual *implementation* of the findings or lessons from this research. Second, the few studies investigating the degree to which gender indicators have been integrated into broader early warning systems all concluded that this has been done infrequently and inconsistently. This then leads to the third and final observation that there has been little to no published testing on the effectiveness of the gender-sensitive indicators that have been developed to date. From initial conversations with early warning system experts, it is clear that much of the information on early warning systems – including the actual language of the indicators – is proprietary.

Early efforts to integrate gender considerations into early warning systems coincided with the 2001 call from then-UN Secretary-General Kofi Annan for a global effort to bring a gender lens to early warning. He issued a comprehensive report on conflict prevention that underscored that the threats to *all* citizens, especially women, in conflict situations required the integration of gender analysis into early warning activities and the need for preventative measures to strengthen women's protection.[28]

Despite Kofi Annan's calls, significant progress to integrate gender analysis into early warning has fallen short, which has led to missed opportunities. The risks of not integrating gender perspectives into early warning systems include:

- Overlooking micro-level events stemming from negative gender norms, which could lead to earlier warnings of violence at the macro level;

- Formulating policies and humanitarian responses that inadvertently further fuel negative gender stereotypes or norms and fail to identify and address the differentiated needs of women, men, girls, and boys; and

- Excluding local women and women's organizations from the development and monitoring of community-level early warning systems and thus discounting the vital perspectives, knowledge, and observations they may have.

There have been some notable efforts to address the lack of gender-sensitive indicators in early warning systems over the last two decades, which are summarized below. These efforts, however, largely remain untested and their overall integration into broader early warning systems is sporadic.

Research published in 2015 on early warning systems, gender and the responsibility to protect found that gender specific indicators – particularly those focused on economic, social, and political discriminatory practices against women – were still not being systematically integrated into early warning frameworks.[29] It noted the possibility that the widespread targeting of women and men in ethnic and political groups for sexual torture, rape, and slavery prior to the onset of conflicts in Mali, Syria, and the Central African Republic may have been overlooked by existing early warning systems as they omit gender inequality indicators. The authors emphasized the need for more careful analysis of gender-specific root causes, which could indicate where mass atrocities, including widespread sexual and gender-based violence, could take place in conflict, post-conflict and civil unrest contexts. The authors warned that solely focusing on gender-specific indicators would be as ineffective as continuing to exclude them altogether; instead, what is needed is the systematic integration of gendered considerations into existing early warning systems to make them more effective.

Gender Matters in Early Warning

The weight of baby girls was one of the first gender-sensitive early warning indicators, used to forecast famines in the late 1980s and early 1990s. This sex-disaggregated data was monitored in recognition of the fact that, in many cultures, boys are fed first and their nutritional intake is prioritized; a food crisis could be anticipated if the weight of baby girls dropped. This is just one example of how gender norms give us information on the likelihood of crisis. The war in Yemen provides a particularly vivid illustration of this phenomenon; in the first 18 months of the war, CARE International estimated that women and girls represented more than 60 percent of those suffering from acute malnutrition; violence against women had increased by 63 percent and child marriage was increasing as a means of increasing family income.

The most significant conceptual contribution dates back to 2002, when SwissPeace and International Alert theorized the notion of engendering early warning.[30] They hypothesized that incorporating gender-sensitive indicators into information collection and subsequent analysis allows for previously overlooked signs of instability to be considered and that the incorporation of gender considerations would also strengthen responses to conflict. The stated aim was to enrich early warning systems, and not just highlight the plight of women and other marginalized populations during conflicts. Their work suggests that gender-based indicators should be considered alongside wider socio-political analyses given the importance for all the underlying causes of violence, demographic, and behavioral changes being simultaneously understood. Their framework suggests 50 gender-sensitive early warning indicators addressing root and proximate causes, as well as intervening factors.

To mark the third anniversary of UN Security Council Resolution 1325, in 2003 then-Director of the Women's International League for Peace and Freedom's UN Office Felicity Hill wrote about the need for preventative strategies to better consider early warning information from civilians, including local women's organizations.[31] Hill recounted the frustration of women in conflict zones who thought their experiences and perceptions were being underutilized as a resource to prevent the outbreak or reemergence of violence. Hill also described the need to pay closer attention to local and community-level gender indicators, which may be apparent at

the local or community levels and could point to rising societal tensions. She suggested these community-level indicators could include: gender-specific human rights violations such as rape, abductions, trafficking, sexual enslavement, domestic violence, and abuse by security forces; killings and disappearances of women; targeting of women human rights defenders and women in public roles; increased rates of prostitution and commercial sex work as a result of military or armed group presence; abrupt changes in gender roles; a rise in the number of single female-headed households; sex-specific refugee migrations; or the sale of jewelry or hoarding of goods.

Since then, early warning frameworks, including the CEWARN outlined below, started integrating community-level indicators to track local changes, such as unusual migrations of all-male groups; the evacuation of women and children from refugee and internally displaced person camps; abduction or trafficking of women and children; and the decrease in number of women going to markets, churches, and other key locations.[32] However, as will be explored further below in the section on foreseeable data and analytical challenges, the collection and analysis of such localized data presents its own challenges.

In 2006, as part of an assessment looking at the Conflict Analysis Framework then used by the World Bank, gender and conflict expert Sanam Anderlini undertook a preliminary attempt at integrating gender indicators into the framework.[33] She reviewed eight conflict analysis frameworks: 1) Conflict-Sensitive Approaches to Development, Humanitarian Assistance, and Peace Building: Tools for Peace and Conflict Impact Assessment (2004) by International Alert, FEWER, and SaferWorld; 2) the Strategic Conflict Assessment (2002) of the United Kingdom's Department for International Development, Conflict and Humanitarian Affairs Office; 3) the Stability Assessment Framework: Designing Integrated Responses for Security, Governance, and Development (SAF, 2005) of the Clingendael Institute; 4) the Conflict Assessment Framework (2004) of the United States Agency for International Development; 5) Conflict Analysis for Project Planning and Implementation (2002) of GTZ; and 6) UN Development Programme Conflict Development Assessment (CDA). The other two are not specifically named in the paper. She observed that gender-related variables are missing in most frameworks. Among the reasons she stipulated for these omissions were that there is a widespread tendency to conflate women and gender – e.g., there is not a focus on how gender norms might affect *men's* behavior, which could tell us something about conflict outcomes – and that gender as a variable is often ignored or considered of secondary importance. She argued that as well as overlooking women's various roles, including as protagonists in promoting violence, existing frameworks ignore the known fact that men's gender identities are often used and manipulated to promote violent action across conflict-affected societies around the world. She further found that gender, if addressed, was often captured within broader social indicators rather than being mainstreamed throughout the analysis. She observed that there were ad hoc mentions of violence against women but insufficient attention given to understanding the gendered nature of the issues and variables.

Anderlini's suggested indicators covered social and ethnic relations; governance and political institutions; human rights and security; economic structure and performance; the environment and natural resources; and external forces. She warned that these indicators only related to women and that more research was needed to develop gendered indicators relating to men, such as male youth unemployment, the existence of "macho" leadership models, or cultural structures that provide young men with limited opportunities for social mobility.

In 2006, the UN Development Fund for Women (UNIFEM, now UN Women) conducted an important pilot project on gendered conflict early warning in the Solomon Islands.[34] The project sought to develop peace and conflict early warning indicators that considered gender perspectives and the differentiated experiences of women and men. Another one of its aims was to establish a gender-sensitive system for the collection, analysis, and dissemination of early warning information. According to UNIFEM, one of the main achievements

of the project was the development of gendered early warning indictors integrating both macro-level data with context-specific dynamics. The 46 indicators were developed in consultation with local partners and tested in different communities to ensure their effectiveness. There were six categories of indicators: governance and political institutions; land and natural resources; economics; public security; social and ethnic relations; and peace building. While this pilot is frequently referred to in other studies, the extent to which these indicators informed other broad or context-specific early warning systems is unknown, and there is not current information on whether these indicators continue to guide preventative action in the Solomon Islands.

In 2010, in response to mass rapes in Walikale in eastern Democratic Republic of Congo in which armed groups raped nearly 400 civilians over a four-day period, the UN Security Council called for the establishment of the "Monitoring, Analysis and Reporting Arrangements (MARA) on Conflict-Related Sexual Violence" initiative to prevent and respond to conflict-related sexual violence, including rape in situations of armed conflict and post-conflict situations.[35] As part of the MARA, the secretary-general is mandated to annually list parties to conflict that are credibly suspected of committing or being responsible for acts of rape and other forms of sexual violence. A UN matrix for early warning indicators of conflict-related sexual violence was developed grouping indicators into three categories (potential risk; impending risk; and ongoing sexual violence) to inform this preventative and monitoring process.[36] MARA data is not publicly available, but the initiative could be an important data source for gender-related indicators in early warning systems.

This early warning and monitoring system on conflict-related sexual violence has now been in place for nearly 10 years. Nevertheless, incidents of mass rape continue to occur despite the warning signs captured within the matrix, most notably in Burundi[37] and Myanmar. An independent report looking at developments in Myanmar from 2010-18 found systematic and structural failures within the UN, which culminated in the ethnic cleansing and orchestrated mass sexual violence targeted at Rohingya Muslims in Rakhine state in August 2017.[38] The report specifically mentions the increasing sexual violence perpetrated against Rohingya women and girls and other ethnic minorities since 2014. It also references the Office of the Secretary-General's special representative of sexual violence in conflict's advocacy to the Myanmar government to comply with UN resolutions that address sexual violence, though these efforts were not supported across the UN.

This tremendous failure does not point to a lack of effectiveness of the UN matrix itself, or the specific indicators of conflict-related sexual violence within it; rather, it points to the complicated landscape for preventive multilateral action and how various diplomatic and geopolitical considerations can outweigh responses based solely on early warning evidence. Had international actors and key decision-makers taken this sexual violence against Rohingya women and girls as a sign of the devastating conflict to come, preventative action could have potentially mitigated some of this violence. The balance between geopolitical concerns and early warning evidence will remain a significant challenge, no matter how robust and effective the early warning framework. On a separate note, sexual violence in conflict researchers warned in 2015 that the focus of MARA is on monitoring known perpetrators to hopefully prevent further escalation of sexual violence, instead of addressing the structural factors that could contribute to the emergence of these acts in the first place.[39]

More broadly at the UN, in 2011, then Secretary-General Ban Ki-moon set a target that, by 2014, 50 percent of UN early warning systems would utilize gender-specific indicators and all of the early warning systems would meet this standard by 2020.[40] While there has been progress made across the UN on developing gender-sensitive early warning indicators, information is not available publicly on how the UN is tracking to meet its 2014 or 2020 targets or what these gender-sensitive early warning indicators actually are. Following an independent assessment of the UN's implementation of its commitments from the three 2015 peace and security reviews, it was recommended that the UN further strengthen considerations of gender indicators for

early warning signs to monitor and respond to anti-women's rights rhetoric; changing local attitudes relating to women's and girls' freedoms, mobility, and dress; as well as increasing rates of sexual and gender-based violence.[41]

Despite these efforts to develop gender-sensitive early warning indicators, most early warning systems and frameworks use indicators that largely overlook gendered predictors and rely on data collection and analysis methodologies that suppress or omit women's experiences. This conclusion is reflected in the United States Strategy on Women, Peace and Security, which states that the gender dimension of standard predictive tools and practices has long been absent.[42] For an early warning system to comprehensively and meaningfully integrate gender considerations, it must include gender-sensitive indicators (mainstreamed into each of its categories/themes); include gender considerations in its data collection methods, data analysis and reporting; and lead to gender-sensitive responses and policy recommendations/outcomes. This section focuses on the first element: whether early warning systems include gender-sensitive indicators. Though understanding the effectiveness of these indicators is a key element of deciding which indicators are most important to include in a comprehensive framework, information about effectiveness of existing indicators is not available publicly. A key challenge identified in the literature is that the majority of attempts to date to develop gender-sensitive early warning indicators have been undertaken in silos by WPS practitioners. There is a recognized lack of gender expertise among early warning experts, as well as a lack of early warning system expertise among gender specialists. Because of these siloes, gender-sensitive early warning indicators that have been developed by gender experts have not been fully integrated into existing early warning systems, and when they have, information about indicator language and/or effectiveness or usefulness has not been made publicly available. This is a persistent challenge today.

During initial consultations with early warning experts for this project, IFES was advised that most of the big data, global early warning systems that the experts were familiar with include gender-sensitive indicators. These include: the Global Forecasting Model for Political Instability; the Democratic Space Barometer; the Uppsala University Violence Early-Warning Systems (ViEWS) or the Worldwide Integrated Conflict Early Warning System. Similar discussions with the Simon-Skjodt Center for the Prevention of Genocide at the United States Holocaust Memorial Museum, revealed that its early warning system only has one gendered variable. It tracks the freedom of movement for men and women as one of its 34 predictive indicators, but it is not considered a useful predictor as its inclusion in the predictive model does not affect the model results (i.e., it is not statistically significant, and its beta coefficient cannot not be statistically distinguished from zero).

Three important studies further highlight some of the gaps. In 2009, UNIFEM's section on Ending Violence Against Women reviewed 832 indicators from 30 early warning systems, based on a review of conflict prediction models and systems from the Center for Strategic and International Studies.[43] UNIFEM found that only 11 of the 832 indicators (or 1.3 percent) included any reference to gender or women. A 2012 mapping undertaken by UN Women[44] to determine the extent to which gender-sensitive indicators were being mainstreamed into numerous early warning frameworks found significant inconsistencies in approaches. For example, CEWARN, an initiative of the seven-member IGAD, mainstreamed gender by highlighting the impact of pastoral and related conflicts on women and girls in early warning reports; incorporating indicators that captured the role of women in peacebuilding or promoting violent behavior; training field monitors on gender; and adding gender-related questions and indicators to their field survey. Examples of gendered indicators used in this framework included the stability of bride prices, which fluctuate depending on the availability of livestock and the frequency of cattle raids; the rates of inter-group marriages; or the unusual movements of all-male groups.[45]   Many of these indicators reflect deeply local conditions and context, which illustrates the importance of locally specific and qualitative indicators. While CEWARN's gender-sensitive indicators are now frequently cited as examples

of such indicators, no further studies have yet to be conducted investigating how these have increased the overall effectiveness of CEWARN.

The UN Women report did not include information on whether any of these indicators had been tested for effectiveness or which were associated with existing datasets. The report did, however, find that – within the limited set of early warning systems reviewed – gendered indicators on root causes of conflict are better developed than those on proximate causes of rising tension and strife. Overall, UN Women identified 75 gender-related conflict indicators relating to context/demography, human rights and security, political, institutional, economic and social factors.

Similarly, a 2015 study found that existing frameworks for predicting mass atrocities and genocide, including the two most utilized ones – the *Genocide Prevention Advisory Network* and *Genocide Watch* – do not incorporate gendered indicators in their analysis.[46] This is despite the references to gender-specific crimes including mass rape, forced sterilization and abortion in international legal definitions for genocide, war crimes, and crimes against humanity. There also appeared to be no consideration as to whether gender-based human rights violations could affect a country's predisposition toward genocide and mass atrocities. The authors suggested that a possible reason for what they labeled as "gender silence" in early warning frameworks was that gendered elements may not affect the results of statistical tests (i.e., they were not statistically significant) and therefore were not included in modeling that provides the best predictive potential.

A 2014 Saferworld literature review on including gender perspectives in conflict early warning observed that indicators on women's empowerment, indicators that measure gender norms, and indicators that measure gender-based violence might be useful in some contexts, but that establishing causal relationships on specific factors in challenging.[47] One key finding was that "gender-sensitive early warning indicators should be developed at the local level based on research to determine which factors drive conflict in the particular context and which could usefully be monitored as part of conflict early warning systems."

Past development and testing of gender-sensitive indicators have also focused heavily on identifying early warning signs of conflict-related sexual violence rather than understanding gender issues as a driver in predicting other forms of political violence. For instance, the 2014 framework for analysis on atrocity crimes groups women and children together – rather than treating them as separate groups with separate experiences and needs – and only in relation to sexual violence and reproductive rights, rather than also including other forms of violence.[48] In other words, gender considerations have been viewed as an outcome (dependent variable) of political violence rather than a predictor of violence (independent variable). Gender-specific indicators, particularly those examining women's social, political, and economic inequality are either underutilized or not considered at all in early warning frameworks.[49] This suggests that the challenges identified by Sanam Anderlini in her 2006 research have yet to be overcome but will need to be addressed in the development of the global framework for gender-sensitive early warning indicators.

In the last few years, WPS researchers have been examining potential gender-sensitive indicators that could help prevent violent extremism. A 2017 pilot project in Indonesia observed community-level gender-specific warnings signs that were critical early indicators of fundamentalism and extremist behavior and violence.[50] The research was conducted using semistructured interviews with research participants across four sites in Indonesia selected to provide variation relating to proximity to past terrorist events; sites of recruitment radicalization and jihadi networks; socio-economic status; ethnic and religious diversity; and rural and urban contexts. Interviews across the different sites were conducted in local languages and dialects. Four key indicators of increasing radicalization were identified: changing trends in use of the hijab; constraints on

women's mobility; social exclusion through derogatory naming and hate crimes; and threats and acts of gender-based violence. Growing intolerance toward lesbian, gay, bisexual, transgender and queer individuals was also considered a warning sign. Researchers found a "significant correlation" between gender-based discrimination and extremism and recommended systematically monitoring community-level changes to women's dress and mobility as part of preventing violent extremism efforts.

One other area of increasing focus among WPS researchers and practitioners relates to the consideration of how gendered norms, including traditional and violent notions of masculinity, are driving conflict. NGOs including Saferworld have noted the potential benefit of conducting further research into developing and measuring specific indicators on gender norms to determine whether they could contribute to anticipating armed conflict.[51] Other than the indicators initially suggested by Anderlini in 2006, outlined above, Saferworld noted that notions of masculinity and how these may contribute to political violence have not been further tried and tested as early warning indicators. One stipulated reason for the exclusion of masculinities indicators in early warning is the lack of research that explores the nexus between masculinities and political violence across a broad range of conflict contexts. This is still the case in that research on how traditional notions of masculinities might drive conflict is focused on context and culturally specific circumstances and might not be applicable to early warning systems in different contexts.

Data for Gender-Sensitive Early Warning Indicators

As noted in the "Early Warning Systems for Political Violence" section, some early warning systems collect their own data and some use data from secondary sources. For early warning systems that collect their own data, data collection approaches for any new gender-sensitive indicators will need to be developed and integrated into the data collection methodology of the early warning system. For early warning systems that do not collect their own data and rely on secondary data sources, it will be important to consider what data the early warning system operator has access to (e.g., a government-run early warning system will likely have access to data that an early warning system led by a local civil society organization might not). Several publicly available datasets include gender-sensitive data, though almost all collect annual data at the country level and focus on structural measures. Potential sources of gender-sensitive data include:

- The WomenStats Database Project, which collects and provides data on more than 350 variables in 175 countries, such as rape, sex trafficking, maternal and child mortality, family law, and women in government and the military, among others.

- The Organization for Economic Cooperation and Development (OECD) lists yearly gender data in its Gender, Institutions and Development Database. This database includes data on discrimination in the family; restricted physical integrity; restricted access to productive and financial resources; and restricted civil liberties.

- The Wilson Center Women in Public Service Project's Global Women's Leadership Initiative Index, which provides a comprehensive comparison and examination of women's leadership by country.

- The United States Agency for International Development's Women's Economic Empowerment and Equality (WE3) Dashboard, which compiles data relating to women's access capital; access to markets; gender-based violence; leadership and agency; and human capital. The dashboard is updated annually.

- The UN Development Programme's Gender Inequality Index, which covers 155 countries and captures data on human development, reproductive health, political participation, and economic status.

- The World Economic Forum's Global Gender Gap Index and Yearly Report, which collates information relating to the difference between women and men across health, education, economic, and political sectors. It includes data on 109 countries and has additional country profiles with further gender indicators and qualitative analysis.

- The World Bank Gender Stats is updated four times a year and covers 687 indicators, including those relating to demography, education, health, access to economic opportunities, public life, decision-making, and agency.

Persistent Data and Analytical Challenges

Key challenges emerged within the reviewed literature, during initial consultations with early warning experts and gender specialists, and while compiling the inventory of existing gendered indicators, which will need to be addressed as part of ensuring the viability of the global framework for gender-sensitive early warning indicators that is developed as part of this project. These challenges, briefly described below, relate to the current ability to measure the effectiveness of gender-sensitive indicators; data collection approaches; the availability of reliable data; and ensuring the participation of women in the data collection, monitoring and analysis. These challenges apply to this specific project but could also likely impede other efforts undertaken to further the integration of gender considerations in early warning systems for political violence. IFES will address the challenges as they relate to this project in future deliverables.

Measuring the effectiveness of gender-sensitive indicators: Defining what makes an indicator "effective" depends on the purpose of the early warning system. For example, the Holocaust Museum's early warning project might define an indicator as "effective" if it influences the outcome of the model (i.e., if it is statistically significant). Other early warning systems, such as ECOWARN, might consider an indicator "effective" if it leads to comprehensive analysis and response (i.e., if data collection on a gender-sensitive indicator leads to gender-sensitive gender analysis and a gender-inclusive policy and/or immediate response, it is considered "effective"). There may not be one universal way to define "effectiveness" for indicators, as it may depend on the purpose and goal of the early warning system.

Connecting gender-sensitive indicators to existing, public datasets: As noted above, some early warning systems collect their own data, while others rely on secondary data sources. Those that collect their own data do not publish their data publicly. For those that rely on secondary data sources, some of this data is available publicly and some is not. The publicly available data is usually global in scope and published annually at the country level. Thus, it is difficult to connect existing or recommended gender-sensitive early warning indicators to publicly available data sources that are subnational or that are updated more often than annually. It is especially challenging to find publicly available data sets for local or context-specific indicators.

One challenge is matching indicators with datasets that can reflect or at least approximate the values. For example, while "number of reports of rape and domestic violence" might be a useful indicator for predicting future violent events, accurate data linked to this indicator are not always available publicly or globally. In addition, many of the available data sources collect data by country and are only published annually (or, in some cases, less often). Given this limitation, it is likely that data will need to be collected for new gender-sensitive early warning indicators, and the data will not be available in existing sources. Annual and country-level data also mean that it is more difficult to track and predict more localized violence.

Developing global indicators that also reflect context-specific dynamics: As has been highlighted above, many of the commonly referenced gendered early warning indicators of political violence occur at the

community level and involve the monitoring of changing subnational dynamics that would not be captured by national-level data collection. These are highly specific to local contexts. Examples include:

- Decrease in women's mobility or frequenting markets, churches, and other places they would usually visit as part of their daily life (applicable in multiple settings);

- An uptick in conservative dress for women, including increased use of the hijab (such as an in Afghanistan and Indonesia);

- Belief by an armed group that rape (particularly of a young child or elderly woman) can cure or protect against HIV or increase potency and protection in combat (specific to the Democratic Republic of Congo and Sierra Leone); and/or,

- Statements from doctors (including war surgeons and gynecologists) and/or medical NGOs that they are increasingly seeing rape-related injuries and/or being asked to perform traumatic fistula surgery (DRC) or hymen repair (Libya).

These are all examples of indicators reflecting very specific cultural issues and beliefs or political situations that are unlikely to apply globally. While it is important to keep in mind that gender norms manifest themselves in different ways across unique country and local contexts, it is also clear that gender norms are deeply ingrained across *all* cultures and contexts in some form, and therefore ensuring that all early warning systems include gender-specific indicators that are tailored to local conditions is likely to result in systems with better predictive ability.

Ensuring women's involvement in collecting and monitoring in early warning systems: Another important consideration, which is deeply related to the need for local contextualization, is that women must be able to participate in these localized processes. They will be best positioned to determine the specific localized gendered dimensions that need to be monitored, and they are likely to be the most informed on how these dynamics are impacting their communities.[52] In early warning systems that only monitor statistics relating to sex- and gender-based violence, the data is usually drawn from countrywide estimates only and does not delve into the key social, economic and political differences experienced by women at the provincial level. For decades, WPS practitioners and academics have been documenting the lack of inclusion of women in conflict settings to prevent or mitigate conflict and its resurgence.[53] Women may have access to key information that may be overlooked by gender-blind early warning initiatives but could be vital to anticipating violence. For instance, the 2015 Global Study on the implementation of UN Security Council Resolution 1325 refers to studies in Kosovo and Sierra Leone that found that women in both of those countries had noticed the stockpiling of weapons and had information on imminent violent attacks but had no way of reporting or sharing this information.[54]

A 2012 study examining how women's engagement in conflict early warning systems was incorporated into cessation of hostilities efforts in Mindanao in the Philippines found that women's involvement was more pronounced and defined at the community level than in more formal and higher-level structures.[55] Women were largely absent from official and (often hierarchical) decision-making processes. Directed at all conflict early warning systems, the recommendations included: developing mentoring programs for women involved in conflict early warning systems; establishing links between localized early warning systems and formal diplomacy, including peace processes and ceasefire negotiations to ensure women participate across the spectrum of conflict prevention, resolution, and rebuilding; and for donors to increase their support for women in conflict affected areas and women's organizations working at the grassroots and community levels.

This study, among others, demonstrates the importance of developing mixed-methodology data collection approaches that focus on both macro- and micro-level data, as well as qualitative and quantitative gender-sensitive indicators and ensuring women's participation across all levels of data collection. It is important to emphasize that women are largely missing from more formal national and regional preventive mechanisms, as well as those at the community level; accordingly, efforts to support their participation need to focus on all levels of early warning systems.

Monitoring and analyzing gendered data that may be unreliable or inaccurate: As noted in a Sara Davies et al. 2015 paper, there are a few additional, salient challenges associated with analyzing gender-sensitive data. Namely, gender-focused data collection is quite new, and some relies on self-reported statistics from United Nations Member States.[56] This approach is unlikely to illustrate discriminatory policies or practices or highlight particular grievances faced by women such as challenges accessing the judicial system. In IFES' experience, electoral commissions often do not provide sex-disaggregated data of voter turnout, potentially because these data could highlight large gender gaps in voters, which could then lead to international criticism. Data can also be heavily politicized, with different monitoring systems producing vastly different results. A very recent example of this relates to the monitoring of assassinations of community leaders and human rights defenders in Colombia. Several Colombian agencies, as well as UN entities and NGOs, monitor and release data on this prevalent issue, all with significantly different findings. I n February 2020, for example, the UN reported an increase of 50 percent increase in killings of women human rights defenders in 2019 compared with the previous year. This statistic was rebuked by Colombian President Ivan Duque, who accused the UN of being biased and of interfering in domestic issues.[57]

Data reliability is also a major challenge when media reports are used for real-time early warning and early response systems. Research conducted by ACLED and the Institute for Development Studies shows that neither traditional media nor social media data accurately reflect the experiences of marginalized populations due to biases in media coverage and lack of access to social media.[58] Challenges with data collection based on media reporting could mean that relying on this data collection method for gender-sensitive indicators for this project might lead to incomplete or inaccurate data.

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