



THE SENTINEL PROJECT  
FOR GENOCIDE PREVENTION

# Localized Early Warning Systems: From Natural Disasters to Human Security

Leveraging a People-Centered Protection Network

August 2013

THE SENTINEL PROJECT FOR GENOCIDE PREVENTION IS A NON-PROFIT ORGANIZATION DEVOTED TO EFFECTIVE **EARLY WARNING OF GENOCIDE** AND THE IMPLEMENTATION OF PREVENTIVE MEASURES BEFORE LIVES ARE LOST.

WE WILL ACHIEVE THIS THROUGH THE CREATIVE **USE OF TECHNOLOGY AND COOPERATION WITH THREATENED GROUPS.**

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## 1.0 - Abstract

Approximately 160 million people died in various wars during the 20<sup>th</sup> century.<sup>1</sup> Nearly a million more died in the 21<sup>st</sup> century, including during current conflicts in Iraq, Sudan, the Democratic Republic of the Congo, Afghanistan, Burma, Syria, and more. Claims that we live in the safest time in human history are true for some, but tragically false for others.<sup>2</sup> The realization of the late 20<sup>th</sup> and early 21<sup>st</sup> centuries that perhaps the international community, especially governments and advocates in the West, can prevent these types of conflicts outside the realm of high-level diplomacy was transformational.<sup>3</sup> However, the last several years have seen several instances of governments failing to prevent conflicts and atrocities, therefore it's time to question how our understanding of conflict prevention, especially atrocity prevention,<sup>4\*</sup> [i.e. Early warning systems (EWS)] is used a strategy in a variety of prevention arenas to warn individuals and communities of impending danger. The most robust systems that exist in the natural disaster management field and the atrocity prevention community can be used as a model for conflict early warning systems. A local, semi-horizontal, people-centered approach to conflict prevention has the potential to revolutionize atrocity prevention in short-term prediction scenarios.<sup>5</sup> This, coupled with help from academics and experts from institutions in the Global North, can create a comprehensive, multilateral, multifaceted system to protect and empower civilians targeted by violence.

*Early warning – the provision of timely and effective information, through identified institutions, that allows individuals exposed to hazard to take action to avoid or reduce their risk and prepare for effective response.*<sup>6</sup>

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<sup>1</sup> <http://goo.gl/dBkTz>

<sup>2</sup> <http://goo.gl/hz9iA>

<sup>3</sup> <http://goo.gl/RGoXkY>

<sup>4</sup> <http://goo.gl/OoMBZQ>

<sup>5</sup> <http://goo.gl/AayI8M>

<sup>6</sup> <http://goo.gl/ln7OP> (p.3)

## 2.0 - Abbreviations

UN	United Nations
EWS	Early warning system(s)
CEWS	Conflict early warning system(s)
LCEWS	Local conflict early warning system(s)
LNDEWS	Local natural disaster early warning system(s)
NGO	Non-governmental organization

*\*For the purposes of this paper, “atrocities prevention” can also mean “genocide prevention”*

### 3.0 - Introduction

This paper identifies a problem with current atrocity prevention theory and practice and proposes a potential solution while providing some direction for future research and work. The problem in question affects fields outside of atrocity prevention, for example how advocates in the Global North interact more fairly and effectively with the Global South. In the case of atrocity prevention, one way that this relationship develops is through cooperation on CEWS. The developers and operators of these systems, based in the Global North, monitor, track and predict events that happen in the Global South. As a result, these systems, in many ways, operate unidirectionally – top to bottom, north to south, institution to community, etc. – and are therefore asymmetric; power and expertise are disproportionately distributed to the Global North.<sup>7</sup> This is the result of the origins of the atrocity prevention movement, which began in Europe, the United States and Canada and, predictably, the resulting EWS rely on those areas to function.<sup>8</sup> However, technology, specifically information and communications technology (ICT), has opened up new space for early warning systems.<sup>9</sup> ICT technology enables advocates in the Global North to cooperate with at-risk communities on a day-to-day basis more than ever and as a result, power can begin to function bi-directionally.

This bi-directionality has the potential to facilitate a power transfer that shifts control from Global North advocates to Global South communities and, ultimately, creates a more effective EWS.<sup>10</sup> Once communities are in control of their short-term security, advocates are free to explore factors that contribute to violence over the medium- and long-terms using tools such as predictive models, database cataloging, and political forecasting. The key to transitioning from a hierarchical, technology-centered CEWS to a horizontal, people-centered LCEWS may be achieved using the principles of existing LNDEWS.<sup>11</sup>

Moreover, similar to the way that the natural disaster prevention community differentiates between short-term prediction (i.e. dust storms, tornados) and long-term prediction (i.e. monsoons, climate change), CEWS should use different strategies to predict different kinds of violence.<sup>12</sup> LCEWS, by nature, help predict immediate threats to civilians. Therefore, Global North advocates can focus on identifying areas that could be prone to violence in the future (comparable to finding fault lines to predict tsunamis<sup>13</sup>) and analyzing long-term conflict-drivers that could contribute to future conflict (comparable to researching the effects of climate change on future natural disasters).<sup>14</sup>

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<sup>7</sup> <http://goo.gl/DmtdVR>

<sup>8</sup> <http://goo.gl/e9Vc0U> (p. 25)

<sup>9</sup> <http://goo.gl/iexQnJ>

<sup>10</sup> <http://goo.gl/2Ief07> (p. 2)

<sup>11</sup> <http://goo.gl/mGklb> (p. 9-10)

<sup>12</sup> <http://goo.gl/In7OP> (p. 6)

<sup>13</sup> <http://goo.gl/S5KPGG>

<sup>14</sup> <http://goo.gl/R3IsRT> (p.5-8)

## 4.0 - Principles of Conventional Early Warning Systems

The international community developed a wide variety of CEWS during the past two decades. In 1992, then United Nations (UN) Secretary-General Boutros Boutros-Ghali published “Agenda for Peace: Preventive Diplomacy, Peacemaking and Peace-keeping” which launched a new commitment to developing a comprehensive and integrated CEWS.<sup>15</sup> The global organization rhetorically stated the need for such a system, but as Boutros-Ghali’s successor, Kofi Annan, noted in 2006, “I regret to report that no significant progress has been made in this area. In fact, unlike some regional organizations, the United Nations still lacks the capability to integrate data into comprehensive early warning reports and strategies on conflict prevention.”<sup>16</sup>

However, the United Nations continues to develop ideas about what an ideal CEWS would look like. Lawrence Woocher’s report prepared for the Office of the Special Adviser to the UN Secretary-General on the Prevention of Genocide lays out one strategy that, in some ways, represents conventional thinking in that it accounts for limited resources and political will that non-UN advocates encounter.<sup>17</sup> His early warning function entails three main components:

### 1) *Periodic global risk assessment*

- Identifies a number of conflicts that could reasonably be addressed by UN conflict prevention capacity.<sup>18</sup>

Problems:

- The UN Special Adviser does not currently have a regular mechanism for identifying high-risk situations, but rather has assessed longer-term risk implicitly based on expert judgment.<sup>19</sup>
- Recommended mechanisms only scan annually leaving intra-year conflicts outside of the scope of monitoring.
- Annual identification primarily focuses on long-term risk that accounts for seismic shifts in conflicts rather than micro-dynamics and indirect conflict-drivers

### 2) *Ongoing situation monitoring (to generate warnings)*<sup>20</sup>

- Detailed monitoring and analysis of selected situations of concern in order for the Special Adviser to alert the Secretary-General, Security Council, and/or others to evidence of escalation.

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<sup>15</sup> <http://goo.gl/XaUeo3>

<sup>16</sup> <http://goo.gl/OoMBZQ>

<sup>17</sup> <http://goo.gl/Feu9PS>

<sup>18</sup> Woocher (p. i)

<sup>19</sup> Woocher (p. ii)

<sup>20</sup> Ibid.

Problems:

- The tremendous amount of information collected through this type of monitoring often goes unused or remains within the confines of the monitoring community.<sup>21</sup>
- In an organization as bureaucratic as the UN, passing on detailed information alone to the Secretary-General, Security Council, and/or others is unlikely to spur action.

3) *Communication of early warning information (to promote preventive action)*<sup>22</sup>

- Briefs the Secretary-General, Security Council, and/or others about preventive measures and potential conflict scenarios.

Problems:

- The Special Adviser will have difficulty finding a firm position in the relevant policy deliberations with the Secretary-General, Security Council, or General Assembly.<sup>23</sup>
- Despite receiving rhetorical support from member states, the Special Adviser's early warning function remains a marginalized component of conflict monitoring and response. This is due to a number of reasons, including a lack of focus on the long-term prevention.<sup>24</sup>
- Even if communicated clearly and with a unique sense of urgency, the Special Adviser and other parties interested in acting on warnings will have difficulty convincing the Security Council or General Assembly to act, especially in a timely and efficacious manner.<sup>25</sup> Moreover, the secretive nature of the preliminary monitoring work, in an effort to ensure neutrality and diplomatic norms, prevents advocates who have a realistic chance of engaging in good faith atrocity prevention from accessing UN information.

Generally, there are two overarching but often unstated problems with a comprehensive UN-based EWS, and with global EWS more broadly.<sup>26</sup> First, the entrenched norm of territorial sovereignty creates a general aversion on the part of UN member states to monitoring inside of a state's borders, even if non-state actors carry out the activities.<sup>27</sup> Second, the UN placing a certain country on an atrocity watchlist will almost certainly have adverse economic impacts on the country's citizens.<sup>28</sup> Similar to the case of sanctions, a UN watchlist might dissuade foreign direct investment.

The process as laid out by the Special Adviser – identification, monitoring, and warning – is flawed and unfortunately it is indicative of how CEWS are often developed. The hope that the UN will devise a system to warn communities at risk of atrocities about impending danger is

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<sup>21</sup> <http://goo.gl/n1TtP>

<sup>22</sup> Woocher (p.iii)

<sup>23</sup> Ibid.

<sup>24</sup> <http://goo.gl/n4tknY>

<sup>25</sup> <http://goo.gl/klPwzO> (p.1)

<sup>26</sup> Micah Zenko & Rebecca R. Friedman (2011) UN Early Warning for Preventing Conflict, *International Peacekeeping*, 18:1, 21-37

<sup>27</sup> <http://goo.gl/OBRFJd>

<sup>28</sup> <http://goo.gl/eOqCAf> (p. 4)

false. As Micah Zenko and Rebecca Friedman note, “given the long-standing resistance of member states to monitoring for political crises or instability, it is difficult to envisage a comprehensive and coordinated UN early warning and assessment system dedicated to preventing conflict”.<sup>29</sup> So goes high-level, global EWS. The challenges, as the international system currently stands, are likely insurmountable. The atrocity prevention field must seek to learn from other prevention communities and adapt if they are to make progress.

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<sup>29</sup> Zenko & Friedman (p. 29)

## 5.0 - Principles of Local Natural Disaster Early Warning Systems

EWS might seem like an abstraction only applicable in the Global South. However, most people in the United States and Canada have likely interacted with an EWS in the past year. In July 2013 alone, Chapel Hill and Toronto have both been under “flash flood warnings” (an example component of EWS) issued by national weather services. Flood, heat, pollen, tornado, hurricane, earthquake, winter storm, severe thunderstorm advisories, watches, and warnings are frequently issued and seem relatively mundane to Americans and Canadians.<sup>30</sup> For many communities in the Global South, these warnings can be the difference between life and death. Unlike a weather warning in the United States and/or Canada, many communities cannot simply turn on their televisions and receive a message from a national weather service.

To fill these gaps, the international community developed a variety of LNDEWS to warn populations of impending danger. There are a few systems, such as tsunami warning systems,<sup>31</sup> which have been scaled up because of the very large-scale nature of global processes such as tsunamis, but some of the most effective systems only monitor sub-national areas of a country or even a single community.<sup>32</sup> According to Mercy Corps’s *Practitioner’s Handbook for Establishing Community Based Early Warning System*, there are four key elements of local LNDEWS that resemble Woocher’s three-part framework:<sup>33</sup>

### 1) Risk Knowledge

- A detailed assessment of all of the risks incurred by living in a specific area where “risk” is defined as “hazard probability x vulnerability” and “vulnerability” is “the susceptibility and resilience of the community and environment to natural hazards”.<sup>34</sup>
- Assessment helps prioritize a community’s unique needs, motivate advocates and community members, and map the implementation of the EWS.

### 2) Monitoring and Warning

- Reliable and constant monitoring of the source of danger (e.g. river, volcano, fault line) by community volunteers or professional EWS operators.
- Warning messages must be generated in a timely and accurate manner by the monitors and coordinating stakeholders.

### 3) Dissemination and Communication

- Simple, reliable messages must transmit the warning triggered by the monitoring system to at-risk community members as well as coordinating organizations (e.g. NGOs facilitating the EWS, nearby towns, disaster relief agencies).

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<sup>30</sup> <http://goo.gl/Apsl9p>

<sup>31</sup> <http://www.cwarn.org/>

<sup>32</sup> <http://goo.gl/d6uL1> (slide 13)

<sup>33</sup> <http://goo.gl/In7OP> (p. 3)

<sup>34</sup> <http://goo.gl/E2Q6F> (p. 4)

- Communication must reach multiple audiences through a variety of media (e.g. radio, bullhorn, SMS) and will be preferably scalable so regional, national and international agencies are alerted before the event or as the event is happening.

#### 4) Response Capability

- Communities must know and be able to implement the appropriate reactions to an adequate warning after it is received (e.g. fleeing area, activating a shielding mechanism, partial evacuation).
- Planning and education are essential to the response so that community members react quickly, calmly and in the best interests of the most vulnerable populations.

There are two essential components that distinguish conventional CEWS from LNDEWS. First, and most obvious, is localization. Unlike the global CEWS described above, many systems aimed at mitigating natural disaster only address one country or areas within a country. This promotes responsiveness and efficiency because system operators live and work in the area affected by the natural disaster.<sup>35</sup> When river levels rise, for instance, EWS monitors can immediately alert nearby community members about the threat. Contrast this with the UN CEWS that must pass through the Special Advisor, Secretary General (or Security Council/General Assembly), and then trickle down to the potentially affected community, which, if the warning is disseminated, could take months or years. In a LNDEWS, a community can respond within hours or days before the flood or other hazard.

The second distinguishing characteristic of LNDEWS is their simplicity. The technology involved is relatively rudimentary and, in the case of local flood EWS, can consist of merely a rainfall gauge, river level gauge, basic computer, and communication device such as a cell phone or satellite.<sup>36</sup> Not only does this allow for people in affected communities to operate the EWS, but it also limits cost for coordinating agencies, such as a Global North NGO.<sup>37</sup> Additionally, the information flow is also simplified since the locus of information is physically in or near the at-risk community and a hazard warning must only flow between the monitor and the community. Compare this with the UN CEWS, which relies on a distant expert to alert UN leadership that then informs relevant agencies that then alert affected communities.

Another more indirect benefit of local EWS is community empowerment. Transferring the agency of civilian protection from distant advocates to at-risk communities is likely to be an empowering process. As the Report of the Commission on Human Security framed the issue:<sup>38</sup>

“[People-centered EWS] offers two general strategies: protection and empowerment. Protection shields people from dangers. It requires concerted effort to develop norms, processes and institutions that systematically address insecurities. Empowerment enables people to develop their potential and become full participants in decision-making.

<sup>35</sup> <http://goo.gl/zDT7A> (p. 4)

<sup>36</sup> <http://goo.gl/mGk1b> (p.39)

<sup>37</sup> <http://goo.gl/f8r96> (p. 22)

<sup>38</sup> <http://goo.gl/rFx60p> (p. 4)

Protection and empowerment are mutually reinforcing, and both are required in most situations.”

In other words, by taking control of their short-term security rather than it being outsourced to distant experts, community members improve the effectiveness of protection because of the immediacy of required responses and added emotional buy-in.

The Philippines famously uses LFEWS to combat damage caused by seasonal typhoons. In 2006, 1,800 people died during a particularly intense typhoon that causes a mudslide.<sup>39</sup> As a result, in 2008, the German technical group Deutsche Gesellschaft für Technische Zusammenarbeit, local governments, and the European Community’s Directorate General for Humanitarian Aid established a LFEWS in the Binahaan Watershed of Leyte Province that then spread to seven other watershed regions. The system functions as many LFEWS do – monitoring stations near the flood-prone area send data to an operations center. The operators send warnings via radios (alert, preparation, or evacuate) to nearby municipalities that in turn tell smaller communities. If these communities receive the highest alert, community members evacuate to predetermined locations. From start to finish, implementing the system consisted of securing local political and community support; conducting a participatory risk assessment; integrating the LFEWS into existing disaster plans and structures; installing hardware and starting to monitor (e.g. 24/7 supervision, maintenance, training, warning activation during crises). Additionally, communities continued to rely on common or indigenous knowledge such as watching for dark clouds, smelling a sulfuric odor in the water and unusual noises from frogs. The EWS has succeeded on several occasions at multiple levels, including saving 200 lives in December 2011 and 158 lives in February 2012 with successful flood warnings<sup>40</sup> and, more tangentially, increased awareness about proper preparation and evacuation procedures.<sup>41</sup>

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<sup>39</sup> <http://goo.gl/CsVyD>

<sup>40</sup> Deutsche Gesellschaft für Internationale Zusammenarbeit (p. 46)

<sup>41</sup> Deutsche Gesellschaft für Internationale Zusammenarbeit (p. 48)

## 6.0 - Transferable Lessons from Natural Disaster Early Warning Systems

There are numerous lessons that LNDEWS can teach the atrocity prevention community. The effectiveness of the Philippines system along with others in different areas suggests that the principles of flood warning are transferrable.<sup>42</sup> For example:

- The bidirectional fluidity of risk knowledge and decision-making produces an effective EWS.
- A simple coding system for warnings allows for a quick response.
- Localization of the systems lowers response times, lowers the chances of a short-term disaster, and increases community responsiveness.<sup>43</sup>
- Incorporating unconventional stakeholders (i.e. community volunteers, local government officials, etc.) during the planning, construction and maintenance of EWS is empowering and mutually strengthening.<sup>44</sup>
- Some components of EWS (forecasting hazard risk, locating prime monitoring locations, etc.) require expertise that might be lacking in at-risk communities and local governments and can be provided by outside NGOs or international organizations.
- Sourcing local risk knowledge during the early stages of EWS construction and implementation improves the efficacy and value of the system.
- A sustainable central operations center is crucial to a successful system, should centralize monitoring and warning dissemination, and serve as a relay to organizations outside of the local area.
- The sophistication of a system's technology should correlate with the community's needs and should not unnecessarily introduce complexity.
- A local EWS primarily involves immediate or short-term danger and other methods should be used for longer-term planning.
- A local EWS should be incorporated into existing disaster response plans during implementation.
- LNDEWS's limited reliance on governments will increase responsiveness.

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<sup>42</sup> <http://goo.gl/axBa4e>

<sup>43</sup> <http://goo.gl/mGklb> (p. 28)

<sup>44</sup> <http://goo.gl/f8r96> (p. 32)

## 7.0 - Mapping a Local Conflict Early Warning System Framework

There are many ways the atrocity prevention community can apply lessons learned from LNDEWS. One of the most obvious ones is to substitute conflict terminology for natural disaster factors. For instance, instead of an impending flood, there would be an impending raid by a local armed group. Here is a simple example, using generalized variables, of how such a system could work.<sup>45</sup>

### 7.1 - Preliminary Work

- 1) Identification (possibly in conjunction with academics and public agencies) of risk area and mobilization of organizational resources.
  - If the primary coordinating partner is a non-profit NGO, the leadership conducts a critical cost-benefit analysis of creating the LCEWS.
- 2) Securing local political and community support
  - In conjunction with previously established contacts (e.g. individuals, organizations, religious institutions) in the risk area.
- 3) Conduct of a multi-stakeholder short-, medium-, and long-term risk assessment.
  - Assessment uses existing risk models (provided by NGOs, academics, public agencies) as well as local knowledge about conflict-drivers and micro-dynamics of violence.
  - Assessment is multidisciplinary (e.g. geography, political science, sociology, public policy, area studies, psychology)
- 4) System coordinators (e.g. NGO, local government/community, public agency, etc.) are institutionalized into existing conflict procedures.
  - Stakeholder roles are clarified and they are given legal authority, if necessary, to monitor area and send warnings.
  - Community members are trained about warning signals, system operations, and evacuations procedures.
- 5) Monitoring and warning systems are established.
  - Central operations center, containing all monitoring and warning information and procedures, is staffed in conjunction with the coordinating organization.
- 6) Monitoring and warning systems are installed.

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<sup>45</sup> <http://goo.gl/A0mXT>

- Installation is conducted by operations center staff and coordinating organizations to allow for local repair and maintenance.

## 7.2 - EWS Operation

- 1) Central operations center is monitored 24/7 by community volunteers and, indirectly, by coordinating partners.
  - Coordinating agencies should be prepared to alert decision-makers in their respective countries and at relevant international organizations.
- 2) Danger signals are received at the operations center and relayed to the surrounding communities via locally-appropriate means such as radio, bullhorn, two-way radio, SMS, and colored flags.
  - Signals originate from other system volunteers, such as local governments in nearby areas or individuals recruited by the coordinating partners to participate in the EWS. In the long term, coordinating partners can potentially help generate signals by monitoring the surrounding region via unmanned aerial vehicles or satellites with a short orbit.
  - Warning signals are simple and coded (e.g. alert [level 1], prepare [level 2], evacuate [level 3]).
- 3) Communities receive and respond to the warning signals.
  - Community members report to pre-planned evacuation positions, if necessary and if possible, and communicate their safety or further danger to the operations center.
  - Operation center volunteers communicate with pre-assigned liaisons about the information they are receiving about the threat and instruct them to direct community members appropriately (e.g. retreat further, stay in current positions, return home)
- 4) Community members return to their home area after the threat dissipates.
  - The threat level remains elevated after communities return in case of a subsequent attack.
  - Operations center grants an “all clear” signal after communicating with the coordinating partners.

## 7.3 - Early Warning Early Action Follow-Up

- 1) Community and coordinating partners conduct a comprehensive participatory review of the warning and response procedure.

- Community members and operations center volunteers can suggest changes to warning dissemination and evacuation procedures.
- 2) Coordinating partners, especially forecasting specialists, use the attack as a data point to predict future attacks in the area affected by the EWS.
    - Attack data is sourced from community members, operation center volunteers, local government officials, and coordinating partners in the area.
  - 3) Physical EWS infrastructure is checked for damage and repaired, if necessary.
  - 4) Community members meet with operations center volunteers and/or representatives from the coordinating partners to discuss how the EWS can be improved in the short- and long-term.

## 8.0 - For The Atrocity Prevention Community

- 1) Engage in a series of paradigm shifts in order to radically change conventional thinking and practice based on the principles of LNDEWS including:
  - Technology-centered systems → people-centered systems
  - Vertical information flow → circular information flow
  - EWS warning Global North advocates → EWS warning Global North advocates and Global South at-risk communities
  - Early warning → early warning and response
  - Annual global monitoring and warning → frequent sub-national monitoring and warning
  - Responding to a disaster → responding to a warning
  - Complex technology development → useful, accessible technology diffusion
  - Building systems for national/international organizations → building systems for sub-national and/or local communities
  - Long-term forecasting → short-term threat response and long-term peace building
  - Reliance on political will → relocate centers of power into the hands of at-risk communities
- 2) Invest in small-scale EWS that can provide precise, transferable data about the nature of atrocities.
- 3) Consider working outside of national or international government bureaucracies that have traditionally been tasked with atrocity prevention.
- 4) Identify key decision-makers in the EWS area early in the development stage in order to maximize system relevance and effectiveness.
- 5) Place LCEWS systems in an appropriate local-national-regional-international nexus that allows for all of the levels to converge on and aid the system.
- 6) A LCEWS should act as a “system of systems” that operates on multiple scales instead of a siloed conflict-prevention strategy.
- 7) Value national, subnational, and local projects on equal footing as global monitoring and warning projects because of their responsiveness.

- 8) Seek to incorporate information and recommendations provided by community members that have been affected by atrocities.
- 9) Develop a mutually beneficial, genuinely participatory relationship with at-risk communities.
- 10) Conceptualize and build EWS in a human security framework that prioritizes the needs of people on the ground and, ultimately, community empowerment.

## 9.0 - Anticipated Challenges and Areas for Future Work

Despite the promising outlook for LCEWS, there will be several challenges facing Global North advocates, including the following:

- 1) Even though LCEWS are relatively inexpensive, NGOs and government partners will have to secure funds to support systems several years after their construction. No matter how effective a LCEWS is, it will become irrelevant without constant support and maintenance.
- 2) Experts will have to improve the information flow of data coming into the operations center. Unlike LNDEWS, LCEWS cannot rely on simple river gauges or volcano monitors for two reasons. First, monitoring a human threat is more complex than monitoring a natural disaster threat. Armed groups and other perpetrators have complex motivations, politics, and strategies. They will not likely act in linear, predictable patterns like a rising river would. Second, atrocity prevention cannot rely on reference points like natural disaster management can. For example, if a remote area upstream floods, then communities downstream can prepare. In an atrocity context, this example means that a community has to be attacked in order to activate their EWS. For example, Town A is attacked, then it alerts Town B, and Town B is spared. There are ad-hoc mechanisms to prevent this procedural failing such as informal communication networks between neighboring communities, but a LCEWS should seek to eliminate the trigger factor.
- 3) LCEWS designers will need to integrate their systems into international agencies typically tasked with atrocity prevention. Small-scale LCEWS will be valuable for advocates and at-risk communities, but the ultimate goal should be to have organizations such as the UN incorporate LCEWS frameworks into their work. A popularization of the LCEWS idea has the potential to create a norm of people-centered thinking and community empowerment objectives.
- 4) The LNDEWS literature commonly states that systems should focus on natural events (e.g. rising water, tsunamis) and not disasters. In other words, systems should prevent natural disasters all together. Similarly, LCEWS should not only reduce violence, but also, ideally, eliminate mass atrocities. However, because of the short-term focus of LCEWS, several other strategies should be employed by the atrocity prevention community (e.g. systematic livelihood improvement, governance improvement, security sector reform, etc.) to reduce violence over the long term. This will require a sustained, substantial, multi-disciplinary, and multi-organizational project that is already underway in many areas of the Global South.

## 10.0 - Conclusion

The international community largely failed to protect its citizens from atrocities on a horrific scale during the twentieth century. At the heart of this violence lie systems of hatred, inequality, and greed. However, the global community of advocates concerned about the well-being of civilians unjustly ravaged by systematic violence is growing.<sup>46</sup> Advocates have more tools and more political space than ever. The increasing tendency to focus on atrocity prevention rather than atrocity response is encouraging.<sup>47</sup> LCEWS is one strategy that advocates can use to prevent the heartbreaking consequences of mass atrocities. The more the atrocity prevention community focuses on developing practical, people-centered systems and promoting a norm of human security, the better. Creating new power centers in areas prone to violence, via LCEWS, rather than distant, disinterested states has the potential to change atrocity prevention convention.

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<sup>46</sup><http://goo.gl/ArIpE3>

<sup>47</sup><http://goo.gl/nyi7p>