UNIDIR

FINAL REPORT

# Leveraging Data to Reduce Civilian Harm during Military Operations in Populated Areas

## Practical, Data-Driven Steps to Implement the Political Declaration on EWIPA

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**Cover Image:** Ukraine, 2024. Credit: Laurin Strele

## Acknowledgements

Support from UNIDIR core funders provides the foundation for all the Institute's activities. The research for this report is supported by the Governments of Germany and Norway. Special thanks go to all participants in the expert workshop "Leveraging data to reduce civilian harm: Identifying practical, data-driven steps to implement the Political Declaration on EWIPA", held on 7–8 April 2025 in Geneva, Switzerland. The authors would also like to thank Paula Soumaya Domit, Mae Ballena, Matilde Vecchioni, Dr. Fiifi Edu-Afful and Dr. Paul Holtom of UNIDIR for their support for the workshop, Alessandro Viola and Paula Soumaya Domit for their research support, as well as Vedika Pillai for her assistance in preparing this publication.

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# List of abbreviations and acronyms

| | |
|---|---|
| **AMISOM** | African Union Mission in Somalia |
| **ATMIS** | African Union Transition Mission in Somalia |
| **AUSSOM** | African Union Support and Stabilization Mission in Somalia |
| **CCMT** | Civilian Casualty Mitigation Team (ISAF) |
| **CCTARC** | Civilian Casualty Tracking and Analysis and Response Cell (AMISOM) |
| **CCTC** | Civilian Casualty Tracking Cell (ISAF) |
| **CCTPG** | Civilian Casualty Tracking Provisional Group (Ukraine) |
| **COE** | Centre of excellence |
| **DOD** | Department of Defense (United States) |
| **EWIPA** | Explosive weapons in populated areas |
| **HRMMU** | Human Rights Monitoring Mission in Ukraine (United Nations) |
| **IDF** | Indirect Fire Policy (AMISOM) |
| **IHL** | International humanitarian law |
| **ISAF** | International Security Assistance Force |
| **NGO** | Non-governmental organization |
| **NZDF** | New Zealand Defence Force |
| **POC** | Protection of civilians |

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Gaza Strip, 2024. Credit: UNOCHA/Themba Linden

# 1. Introduction

Civilians around the world endure tremendous harm and suffering during armed conflict. In his report to the Security Council on the protection of civilians (PoC) in armed conflict, United Nations Secretary-General António Guterres called on states and militaries to adopt a comprehensive approach to the protection of civilians – one that addresses the evolving risks and acknowledges the multifaceted nature of civilian harm, while providing effective legal, policy and operational responses.[1]

This call for urgency must remain at the forefront of the international community's efforts, as civilians continue to bear the brunt of today's hostilities.[2] In describing the global situation, the Secretary-General's 2025 report on PoC underscores the dire humanitarian situation across conflict-affected regions:

> *In Afghanistan, Colombia, the Democratic Republic of the Congo, Ethiopia, Lebanon, Myanmar, Somalia, South Sudan, the Sudan, the Syrian Arab Republic, Ukraine, the Occupied Palestinian Territory which encompasses the West Bank, East Jerusalem and the Gaza Strip, and elsewhere, civilian death and injury were prominent, including in urban areas where heavy explosive weapons were used and as a result of unexploded ordnance and improvised explosive devices.*

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1 Security Council, "Protection of Civilians in Armed Conflict", Report of the Secretary-General, S/2024/385, 14 May 2024, para. 69 and conclusion, https://docs.un.org/S/2024/385. See also United Nations, "We Must Go Above, Beyond Compliance, Fully Protect Civilians against 'Harms They Are Suffering on Our Watch', Senior Humanitarian Official Tells Security Council", SC/15702, 21 May 2024, https://press.un.org/en/2024/sc15702.doc.htm.

2 See, for instance, Center for Civilians in Conflict (CIVIC), "CIVIC's 2024 Trends Report Finds Global Civilian Protection in Sharp Decline", October 2025, https://civiliansinconflict.org/press-releases/civics-2024-trends-report-finds-global-civilian-protection-in-sharp-decline/; Explosive Weapons Monitor 2024, Annual Report (Explosive Weapons Monitor: May 2025), https://explosiveweaponsmonitor.org/reports/1/explosive-weapons-monitor-2024/.

*In the Sudan, frequent artillery shelling and air strikes in densely populated areas, attacks directed against civilians and sexual violence were reported. Civilians were killed and injured from the use of explosive weapons in Lebanon, Myanmar, Sudan, Syrian Arab Republic, Ukraine, Gaza and elsewhere.*[3]

In this context, the Political Declaration on Strengthening the Protection of Civilians from the Humanitarian Consequences Arising from the Use of Explosive Weapons in Populated Areas (Political Declaration on EWIPA) represents an important step towards a comprehensive approach to PoC.[4] If the Declaration is effectively and meaningfully implemented by states, then it can promote the overarching goal of rigorously protecting civilians while allowing governments, militaries, humanitarian organizations and other stakeholders to meet their respective objectives.

The upcoming second international conference of the Political Declaration on EWIPA – to be held in San José, Costa Rica, in November 2025 – provides a critical opportunity to reflect on progress made since the Declaration's adoption in 2022, as well as to identify concrete avenues and priorities to guide its future implementation.[5]

UNIDIR's research has explored how data on the full scope of civilian harm from military operations can be improved and then leveraged to strengthen the protection of civilians in fulfilment of the Political Declaration's commitments.[6] By taking a **data-driven approach** to the implementation of the Declaration, states and their militaries can identify specific risks to civilians during the planning and execution of military operations and can manage and mitigate those risks more effectively. A data-driven approach also allows for mitigation strategies that consider other operational priorities, such as operational effectiveness and the protection of friendly forces. Reliance on data can further strengthen governmental and military institutional preparedness by informing tailored training, doctrine development, organizational

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3 Security Council, "Protection of Civilians in Armed Conflict", Report of the Secretary-General, S/2025/271, 15 May 2025, **https://docs.un.org/en/S/2025/271**, paragraph 4.

4 Political Declaration on Strengthening the Protection of Civilians from the Humanitarian Consequences Arising from the Use of Explosive Weapons in Populated Areas, 18 November 2022, **https://ewipa.org/the-political-declaration**. For a list of the 88 states that had endorsed the Declaration as of October 2025, see **https://ewipa.org/endorsement**

5 For more information on the 2025 EWIPA San José Conference, see United Nations Office for Disarmament Affairs (UNODA), "Second International Conference", 2025, **https://ewipa.org/calendar/SanJose-Conference-2025**. The Conference follows from the EWIPA Oslo Conference, which took place in April 2024. See United Nations Office for Disarmament Affairs (UNODA), "Chair's Summary: First International Follow-up Conference of the Political Declaration on Strengthening the Protection of Civilians from the Humanitarian Consequences Arising from the Use of Explosive Weapons in Populated Areas", 2024, **https://cms.ewipa.org/uploads/Oslo_Conference_Chair_s_Summary_a5652ebf3e.pdf**.

6 Barbara Morais Figueiredo and Katherine Young, *Understanding Civilian Harm from the Indirect or Reverberating Effects of the Use of Explosive Weapons in Populated Areas: Strengthening Data Collection to Implement the Political Declaration* (Geneva: UNIDIR and Explosive Weapons Monitor, October 2024), **https://unidir.org/publication/understanding-civilian-harm-from-the-indirect-or-reverberating-effects-of-the-use-of-explosive-weapons-in-populated-areas-strengthening-data-collection-to-implement-the-political-declaration/**; Christina Wille and Alfredo Malaret Baldo, *Menu of Indicators to Measure the Reverberating Effects on Civilians of the Use of Explosive Weapons in Populated Areas, Reference Framework* (Geneva: UNIDIR, 2021), **https://doi.org/10.37559/CAAP/21/PACAV/01**; Alfredo Malaret Baldo and Francesca Batault, *Second Menu of Indicators to Measure the Reverberating Effects on Civilians from the Use of Explosive Weapons in Populated Areas* (Geneva: UNIDIR, 2022), **https://doi.org/10.37559/CAAP/22/PACAV/02**. See also Roger Lane, Larry Lewis and Himayu Shiotani, *Opportunities to Improve Military Policies and Practices to Reduce Civilian Harm from Explosive Weapons in Urban Conflict* (Geneva: UNIDIR, November 2019), **https://doi.org/10.37559/CAAP/19/PACAV/11**; Roger Lane et al., "Urban Conflict & Targeting: A Special Problem for Protection", Policy Brief, UNIDIR, 2020, **https://doi.org/10.37559/CAAP/20/PACAV/02**

changes and capability improvements. Moreover, the use of data supports civil–military coordination, which enables relevant stakeholders to work together to improve outcomes for the civilian population.

This report builds on UNIDIR's research and on insights from an expert workshop held in Geneva in April 2025 on "Leveraging data to reduce civilian harm: Identifying practical, data-driven steps to support the implementation of the Political Declaration on EWIPA".[7] It presents recommendations on how to effectively leverage data to achieve the ultimate end of the Declaration: to strengthen PoC and reduce harm from the use of explosive weapons in populated areas.

The report is structured around six interrelated areas that collectively frame actions that states and other stakeholders can take to develop and use data in support of the Declaration's implementation:

- Building Foundations for a Data-Driven Implementation (Section 2)
- Improving Command Guidance and Operational Planning Processes (Section 3)
- Mitigating and Responding to Civilian Harm during Operations in Populated Areas (Section 4)
- Institutionalizing Good Practices through Military Training, education and doctrine (Section 5)
- Developing and Adapting Tools and Capabilities to Strengthen Implementation Efforts (Section 6)
- Assessing Progress in Implementation and Exchanging Good Practices (Section 7)

Taking action in this framework will help states translate their commitments into policies and good practices to enhance PoC.

## 1.1. The Political Declaration on EWIPA and Data Collection

As contemporary armed conflicts have become increasingly protracted, complex and urbanized, the use of explosive weapons in populated areas has become one of the leading causes of civilian harm in conflict. When used in cities, towns, villages and other populated areas, these weapons – including large bombs, missiles, rockets, artillery and mortar shells, and improvised explosive devices (IEDs) – result in a consistent and often widespread pattern of civilian harm.

The Political Declaration on EWIPA is the first international instrument that recognizes these harms and provides a collaborative framework for addressing them. In its preamble, the Declaration highlights the specific risks associated with the use of explosive weapons in populated areas, where the proximity of military objectives to civilians and civilian infrastructure, combined with the interconnected nature of urban systems and services, significantly increases both the likelihood and magnitude of harm to civilians.

In doing so, the Declaration also recognizes that civilian harm can result from both direct and indirect effects of military operations involving the use of explosive weapons in populated areas. **Direct effects**

7 The workshop brought together nearly 40 experts from the armed forces of states in various regions, as well as selected representatives from relevant international and civil society organizations. It provided a platform for sharing good practices and lessons learned in both collecting and using data to prevent and mitigate civilian harm and advancing the effective implementation of the Political Declaration.

refer to immediate deaths and injuries, as well as damage to or destruction of civilian infrastructure caused by the blast and fragmentation effects of explosive weapons and their interactions with the surrounding environment. **Indirect – or reverberating – effects** are those that often arise as a consequence of these direct effects. These typically stem from damage to or destruction of critical civilian infrastructure and, as further elaborated in the Declaration, can manifest in various forms. These include the disruption of access to essential services (e.g., healthcare, education, water and electricity), as well as environmental degradation, large-scale displacement, permanent disability, and psychosocial and psychological trauma.[8]

While recognizing that several militaries have adopted policies and practices to help avoid or minimize civilian harm during hostilities in populated areas, the Declaration underscores that there remains significant scope to improve their implementation. It further encourages the broadening and strengthening of these initiatives through the sharing of good policies and practices.[9] In doing so, it also explicitly acknowledges the role – and the importance – of data collection in contributing to these efforts: the Declaration notes that improved data can help "inform policies designed to avoid, and in any event minimise, civilian harm; aid efforts to investigate harm to civilians; support efforts to determine or establish accountability, and enhance lessons learned processes in armed forces".[10]

In the operative section, the Declaration includes commitments explicitly related to the collection and sharing of data.[11] Endorsing states commit to collect, share and make publicly available disaggregated data on both the direct and indirect effects of military operations involving the use of explosive weapons in populated areas.[12] This data should ideally reflect the full range of harms outlined in the preamble and be disaggregated – by age, gender, disability and other relevant factors – to help identify trends and understand differentiated impacts on civilians.[13] Crucially, this provision emphasizes that data collection must go beyond tracking civilian casualties to encompass information on damage and destruction to infrastructure and the indirect effects of this damage for civilians, such as the disruption of essential services. This broader scope enables a more comprehensive understanding of how military operations involving the use of EWIPA affect civilian populations and helps inform more effective measures to prevent and mitigate harm.

The commitment to collect and share data is closely linked to the Declaration's calls for states, when planning and executing military operations in a populated area, to consider the reasonably foreseeable

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8 Political Declaration on EWIPA, paragraphs 1.3–1.6.

9 Political Declaration on EWIPA, paragraph 1.7.

10 Political Declaration on EWIPA, paragraph 1.8.

11 On specific recommendations for implementing commitments of the Political Declaration regarding data collection, see International Network on Explosive Weapons (INEW), "Political Declaration on the Use of Explosive Weapons in Populated Areas: An Implementation Framework", March 2024, https://www.inew.org/wp-content/uploads/2024/02/Implementation-Framework.pdf, pp. 15–16; Simon Bagshaw, "Implementing the Political Declaration on the Use of Explosive Weapons in Populated Areas: Key Areas and Implementing Actions", Policy Briefing, Article 36, November 2022, https://article36.org/wp-content/uploads/2022/11/Article-36-Implementing-the-Political-Declaration-November-2022.pdf, pp. 5–8; Human Rights Watch, "Safeguarding Civilians – A Humanitarian Interpretation of the Political Declaration on the Use of Explosive Weapons in Populated Areas", 26 October 2022, https://www.hrw.org/news/2022/10/26/safeguarding-civilians, pp. 13–17; Center for Civilians in Conflict (CIVIC), "Limiting the Humanitarian Consequences from the Use of Explosive Weapons in Populated Areas: Next Steps in Implementation of the Political Declaration", November 2022, https://civiliansinconflict.org/wp-content/uploads/2022/11/CIVIC-Explosive-Weapons-in-Populated-Areas-Political-Declaration-Implementation-Briefer.pdf, pp. 5–7.

12 Political Declaration on EWIPA, paragraph 4.2.

13 Human Rights Watch, "Safeguarding Civilians".

direct and indirect effects on civilians and civilian objects and to assess battle damage and identify lessons learned.[14] These activities inherently rely on data collection and are essential to informing operational planning and the development of effective mitigation measures.

The Declaration further reinforces the role of data collection by committing states to facilitate the work of the United Nations, the International Committee of the Red Cross (ICRC) and relevant civil society organizations in collecting and sharing data on the impact of military operations involving the use of EWIPA.[15] While this does not replace the responsibility of a state to collect data on the impact of its own operations, it recognizes the role of various organizations based on their mandates and expertise. Such data can support both immediate humanitarian responses and longer-term policy development. The data collected by these stakeholders can also help complement or strengthen a state's own assessments of the harm resulting from its own operations.

Beyond these specific provisions, data collection supports the implementation of several other commitments under the Declaration. It is essential for informing the review, development and further improvement of national policies and operational practices, and it contributes to the development of comprehensive training for armed forces.[16] It also helps guide operational decisions on when to refrain from or otherwise restrict the use of explosive weapons in order to avoid or minimize civilian harm, including how such decisions may be operationalized through changes in relevant policies and practices.[17] Data on types of weapons and munitions, along with the specific circumstances of their use – including intended targets and locations – is vital for protecting civilians from explosive remnants of war and in support of activities such as risk education, marking and clearance.[18]

Moreover, data collection and sharing play key roles in facilitating international cooperation and assistance, including by supporting exchanges of technical and tactical expertise and humanitarian impact assessments and by helping to identify specific needs and priorities in these areas.[19] Disaggregated data on the direct and indirect effects can support a holistic, integrated, and gender- and age-sensitive approach to victim assistance.[20] It can also support broader post-conflict recovery efforts, including through humanitarian protection and assistance activities carried out by relevant international and civil society organizations.[21]

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14 Political Declaration on EWIPA, paragraph 3.4. On recommendations for implementing this commitment, see International Committee of the Red Cross (ICRC), *Preventing and Mitigating the Indirect Effects on Essential Services from the Use of Explosive Weapons in Populated Areas: ICRC Recommendations* (Geneva: ICRC, June 2024), **https://www.icrc.org/en/publication/preventing-and-mitigating-indirect-effects-essential-services-use-explosive-weapons**.

15 Political Declaration on EWIPA, paragraph 4.3.

16 Political Declaration on EWIPA, paragraphs 3.1 and 3.2, respectively.

17 Political Declaration on EWIPA, paragraph 3.3.

18 Political Declaration on EWIPA, paragraph 3.5.

19 Political Declaration on EWIPA, paragraph 4.1.

20 Political Declaration on EWIPA, paragraph 4.5. See also Anna de Courcy Wheeler and Delphine Valette, *From Casualties to Care: Implementing Age-and Gender-Sensitive Victim Assistance* (Geneva: UNIDIR, 2025), **https://unidir.org/publication/from-casualties-to-care-implementing-age-and-gender-sensitive-victim-assistance/**

21 Political Declaration on EWIPA, paragraph 4.6. Humanity and Inclusion (HI), "How Can the Political Declaration on Explosive Weapons in Populated Areas Promote Safe and Principled Humanitarian Access?", 30 May 2024, **https://cms.ewipa.org/uploads/HI_Report_Online_Workshop_Humanitarian_access_in_EWIPA_settings_30052024_fbb3706e85.pdf**; Humanity and Inclusion

Finally, data collection is essential for the broader follow-on work under the Declaration. It enables processes to monitor progress in efforts to implement the Declaration, supports adherence to its commitments, and provides a basis for continued exchanges of policies and good practices, including through intergovernmental and military-to-military exchanges.[22]

## 1.2. Foundational Steps: International Humanitarian Law and Civilian Harm Mitigation

The imperative for parties to armed conflict to comply with international humanitarian law (IHL) is the foundation of the Political Declaration on EWIPA. In section 2 of the preamble, states stress "the importance of full compliance with International Humanitarian Law as a means to protect civilians and civilian objects and to avoid, and in any event minimise, civilian harm when conducting military operations, in particular within populated areas".

The Declaration reaffirms the relevance and applicability of IHL to the use of explosive weapons in populated areas. It highlights the importance of strengthening compliance with and implementation of key principles and rules of IHL governing the conduct of hostilities. These include distinction between civilians and civilian objects and military objectives; prohibitions on indiscriminate and disproportionate attacks; and the obligation to take all feasible precautions during attacks, including in the choice of means and methods of warfare, as well as against the effects of attacks.

In translating the Declaration's commitments into concrete policies and operational measures, states can draw upon existing and emerging frameworks to help reinforce the protection of civilians. In particular, the framework for **civilian harm mitigation** – a systematic, data-driven approach to identifying and reducing risks of harm to civilians across all stages of military operations – can offer concrete insights to help inform implementation efforts, building on the foundation of IHL.

Civilian harm mitigation has been defined as "the collective efforts armed actors, militaries and nations can take to reduce the scale and impact of this harm to civilians, both direct and indirect, from their actions".[23] It includes both mitigation of and response to civilian harm: mitigation is reducing the scale of harm to civilians whenever possible, while response focuses on reducing the impact of that harm when it occurs. Considering the challenges of mitigating the broad scope of direct and indirect harm, particularly during the conduct of hostilities in populated areas, effectively protecting civilians requires a comprehensive approach, with steps taken at all stages of planning and execution of military operations.

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(HI), "How Can Healthcare Access Be Strengthened in Settings Where Explosive Weapons Are Being Used", February 2025, https://www.hi.org/sn_uploads/document/Report-Healthcare-access-in-EWIPA-settings-FINAL-022025.pdf; Humanity and Inclusion (HI), "Saving Lives in Conflicts: Risk Education and Conflict Preparedness to Protect Civilians in EWIPA Contexts", June 2025, https://www.hi.org/sn_uploads/document/Report-EORE-CPP-in-EWIPA-settings-FINAL-2025.pdf.

22 Political Declaration on EWIPA, paragraph 4.7, 4.8.

23 Larry Lewis et al., Preparing for Civilian Harm Mitigation and Response in Large-Scale Combat Operations (Arlington, VA: CNA, August 2024), https://www.cna.org/reports/2024/08/preparing-for-civilian-harm-mitigation-and-response-in-large-scale-combat-operations, p. 6.

Building on an iterative approach, civilian harm mitigation includes two learning cycles:

- **Operational learning**, in which assessments of causes and trends directly inform the improvement of operational practices and policies in the context of an ongoing operation
- **Institutional learning**, in which assessments of challenges and requirements inform necessary changes to, for example, doctrine, policy, organization, training and leadership, along with equipment and facilities[24]

24 Lewis et al., Preparing for Civilian Harm Mitigation and Response in Large-Scale Combat Operations.



Lebanon, 2024. Credit: Laurin Strele

## 2. Building Foundations for a Data-Driven Implementation

**This section outlines the foundational steps needed to support a data-driven approach to the implementation of the Political Declaration on EWIPA. It examines the processes and tools required to collect and analyse data that enhance the understanding of the civilian environment and risks that military operations involving the use of explosive weapons in populated areas may pose to civilians. It also explores how mechanisms to systematically track, analyse and learn from data on civilian harm can be established to inform decision-making and lessons-learned processes within armed forces, thereby strengthening prevention, mitigation and response efforts.**

When militaries operate in populated areas – where civilian infrastructure and systems are highly interconnected and often intermingled with military objectives – collecting and analysing data throughout all stages of military operations is critical to the effective mitigation of civilian harm.

- **Before and during an operation:** Data that enables the identification of who civilians are and where civilians and civilian objects are located – including an understanding of vulnerabilities and interdependencies of infrastructure and services in populated areas – can contribute to better-informed mitigation strategies and can reduce the risk of unforeseen or unintended harm. In addition, data on available weapon systems and munitions and their technical characteristics (including their potential

"wide-area effects"[25]) is essential for anticipating – and minimizing – the adverse impacts of military operations on civilians and civilian objects.

- **After an operation (including specific attacks):** An accurate and timely assessment of the full range of civilian harm resulting from a military operation can inform appropriate responses to such harm, and can enable learning for more effective prevention and mitigation efforts. In addition, data on the types, numbers and locations of weapons used in the operation can contribute to the understanding of their impacts, including the risk of contamination from explosive remnants of war. This information is critical to informing clearance operations and better supporting victims and affected communities.

## 2.1. Improving Understanding of the Civilian Environment

Enhancing the understanding of the civilian environment – the civilian component of the operational environment – through all-source data collection can both help efforts to mitigate harm and reinforce detection of such harm when it occurs. This can support continuous learning and adaptation by militaries.

Militaries have become increasingly sophisticated in understanding the operational environment, including by collecting, fusing and sharing information to support targeting decisions and combat assessments. However, these processes typically focus on the likely effects of an operation on enemy targets and friendly forces. As a result, civilians and civilian objects can be a blind spot for militaries – their presence goes undetected and risks of harm are overlooked in operational planning and military decision-making processes. At the same time, damage to or destruction of civilian infrastructure and systems, particularly those enabling the provision of essential services, are often insufficiently anticipated or recognized during the planning and execution of an attack.[26]

Operational experiences and lessons learned from past conflicts, supported by extensive documentation efforts from international and civil society organizations, have established a robust evidence base that demonstrates the consistent patterns of civilian harm resulting from the use of EWIPA. This has contributed to improving the understanding of the various factors within the civilian environment that militaries should consider when planning and conducting operations in order to prevent and mitigate harm to civilians.[27] Beyond population density and demographics, these factors include the nature, location and condition of civilian infrastructure, as well as its interconnectedness with essential services systems.[28] They also encompass information on requirements to keep such services operational (e.g.,

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25 Explosive weapons with "wide-area effects" include weapons that employ an individual munition with a large destructive radius; weapon systems with inaccurate delivery systems; and weapon systems that are designed to deliver multiple munitions over a wide area. See International Committee of the Red Cross (ICRC), *Explosive Weapons with Wide Area Effects: A Deadly Choice in Populated Areas* (Geneva: ICRC, January 2022), https://www.icrc.org/en/document/civilians-protected-against-explosive-weapons.

26 See also International Committee of the Red Cross (ICRC), *Preventing and Mitigating the Indirect Effects on Essential Services from the Use of Explosive Weapons in Populated Areas*.

27 Wille and Malaret Baldo, *Menu of Indicators*; Malaret Baldo and Batault, *Second Menu of Indicators*.

28 To the extent feasible, a knowledge base on the civilian environment, particularly the conditions and interconnectivity of infrastructure and essential services, should be established in peacetime in collaboration with relevant civilian authorities and institutions. See International Committee of the Red Cross (ICRC), *Preventing and Mitigating the Indirect Effects on Essential Services from the Use of Explosive Weapons in Populated Areas*. See, for instance, International Committee of the Red Cross

supply routes, the locations of power and water supply lines, and the availability of personnel and consumables) as well as other critical interdependencies that are often inadequately considered during the planning of a specific attack.[29]

To support these improvement efforts, states and their armed forces should establish appropriate systems and should allocate sufficient resources to enable the collection of data and intelligence from all reasonably available sources. They should then ensure that those responsible for planning and deciding on an attack have access to all this relevant information on the civilian environment.[30] Such information should be integrated into assessments of the potential direct and indirect impacts on civilians and civilian objects of military operations, and should thus support the adoption of practical measures to avoid or minimize these impacts.[31]

Additional steps to support the development and operationalization of information collection and processing on the civilian environment may include:

- Developing processes for collecting and fusing data on the civilian environment in collaboration with other relevant stakeholders with valuable information on civilians, civilian objects, and critical interdependencies between infrastructure and services, such as international and civil society organizations
- Disseminating and presenting information on the civilian environment along with other elements of the operational environment to commanders and other relevant personnel to inform operational planning and decision-making
- Providing relevant training and education of commanders and other relevant military personnel to allow them to better understand the information on the civilian environment shared with them, as well as the implications for informed risk-identification and risk-mitigation measures
- Developing interoperable systems to identify and classify civilian objects through a common ontology – a standard approach to classifying data on the civilian environment to enable consistent and effective information exchange among militaries and other relevant stakeholders to minimize risks of harm

As an illustration of the final step, standardized formats for communication can support interoperable exchange of information, including on location and other attributes specific to different types of civilian object. Such formats can be created and tailored for different types of civilian object (e.g., healthcare

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(ICRC), *War in Cities: Preventing and Addressing the Humanitarian Consequences for Civilians* (Geneva: ICRC, 2023), **https://shop.icrc.org/war-in-cities-preventing-and-addressing-the-humanitarian-consequences-for-civilians-print-en-1.html**. For an overview of the importance of understanding the terrain, population and infrastructure in an urban environment and related operational challenges, see also Sahr Muhammedally, *A Primer on Civilian Harm Mitigation in Urban Operations* (Washington, DC: Center for Civilians in Conflict (CIVIC), June 2022), **https://civiliansinconflict.org/wp-content/uploads/dlm_uploads/2022/11/CIVIC_UrbanWar_FINAL-2022_Web-1.pdf**.

29 See, for instance, International Committee of the Red Cross (ICRC), War in Cities. For an overview of the importance of understanding the terrain, population and infrastructure in an urban environment and related operational challenges, see also Muhammedally, *A Primer on Civilian Harm Mitigation in Urban Operations*.

30 Loren Voss, "The Overlooked Importance of Intelligence Analysis in IHL", *International Review of the Red Cross*, no. 928, June 2025, **https://international-review.icrc.org/articles/the-overlooked-importance-of-intelligence-analysis-in-ihl-928**.

31 Austrian Federal Ministry for European and International Affairs and Austrian Federal Ministry of Defence, "Vienna Military Workshop on the Implementation of the EWIPA Political Declaration", Workshop Report, 24–25 January 2024, **https://cms.ewipa.org/uploads/Vienna_Military_Workshop_on_EWIPA_Workshop_Report_496dd35045.pdf**, p. 7.

facilities, schools, cultural property), as well as other critical infrastructure (e.g., power-generation and power-distribution equipment, water treatment plants). For example, when militaries, governments, and humanitarian organizations exchange information about the static locations of humanitarian entities and their movements, reporting can use a standard, agreed-upon template including information such as location (in a standard decimal degree latitude and longitude format), function, organization, specific identification measures (e.g., logo, Red Crescent, infrared signature), and point of contact for questions.[32] Putting these standard types and formats in place would allow a state to integrate this information into its military planning systems and operations to strengthen prevention and mitigation measures. This would include facilitating their incorporation into No Strike Lists (NSL), Restricted Target Lists (RTL), designation of No Fire Areas (NFA), as well as other fire-support coordination measures as relevant. Such information should also be regularly reviewed and updated both prior to and during operations.

## 2.2. Tracking and Leveraging Data on Civilian Harm

Conducting assessments of the full range of civilian harm through the collection, analysis and sharing of data – ideally disaggregated by gender, age and disability – is critical for identifying relevant trends and patterns and for informing efforts to prevent, mitigate and respond to such harm. This practice also advances transparency, enabling relevant stakeholders to better understand the scope and nature of civilian harm during hostilities in populated areas.

### 2.2.1. Rationale and Objectives

Establishing and resourcing dedicated mechanisms to track, analyse and learn from data on civilian harm is a critical step that states can take to effectively implement the Political Declaration on EWIPA.[33] Over the past two decades, civilian harm tracking has increasingly become an expectation for militaries, although the practice is still evolving and is not yet widely adopted or systematically implemented by all States.[34]

Civilian harm tracking can be defined as "an internal process by which an armed actor can systematically gather data on civilian deaths and injuries, property damage or destruction, and other instances of civilian harm caused by its operations".[35] Using information gathered through tracking efforts, a party to an armed conflict can estimate, to the best of its ability, the likely civilian toll of its operations. This process should involve the gathering of information on potential civilian harm through both internal reporting

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32 Larry Lewis, *Improving Protection of Humanitarian Organizations in Armed Conflict* (Arlington, VA: CNA, March 2022), https://www.cna.org/reports/2022/03/Improving-Protection-of-Humanitarian-Organizations-in-Armed-Conflict.pdf.

33 See, for instance, Simon Bagshaw, "Committing to Civilian Casualty Tracking in the Future Political Declaration on the Use of Explosive Weapons in Populated Areas", Article 36, 2021, https://article36.org/updates/committing-to-civilian-casualty-tracking-in-the-future-political-declaration-on-the-use-of-explosive-weapons-in-populated-areas/.

34 For an overview of existing civilian harm tracking tools and investigations mechanisms and related implementation challenges, see Erin Bijl, "Literature Review: Civilian Harm Tracking Tools & Investigation Mechanisms", Pax, April 2020, https://protectionofcivilians.org/report/literature-review-civilian-harm-tracking-tools-investigation-mechanisms; Erin Bijl, "Civilian Harm Tracking and Investigation", Discussion Paper, Pax, July 2020, https://protectionofcivilians.org/report/civilian-harm-tracking-and-investigation/.

35 Center for Civilians in Conflict (CIVIC) and Every Casualty, "Examining Civilian Harm Tracking and Casualty Recording in Afghanistan", Briefing Paper, May 2019, https://civiliansinconflict.org/wp-content/uploads/2017/09/CCCERP_4_page_FINAL_May_19.pdf.

and information from external organizations.[36] Civilian harm tracking then involves an assessment to determine whether the potential harm can be regarded as credible, given the information available.

Such tracking and the subsequent analysis of data can be leveraged as a first step towards operational learning and adaptation, as well as to inform institutional changes. For instance, assessments of the nature and scale of civilian harm following operations can help in identifying factors that present the highest risks to civilians, while also shedding light on potential systemic challenges – such as cognitive biases or operational blind spots – that might otherwise go unnoticed until long after an operation. Such analyses, coupled with a detailed understanding of the technical characteristics of weapon systems and munitions and the ways in which they are deployed, can inform decisions on when it may be appropriate to impose restrictions on their use or to refrain from such use altogether to help avoid or minimize civilian harm.[37]

In line with the Political Declaration's commitments, civilian harm-tracking processes should capture both the direct and indirect effects of military operations involving the use of EWIPA – covering not only the immediate deaths and injuries and infrastructure damage and destruction resulting from an attack, but also their resulting impacts on the civilian population.

- Civilian harm tracking data and analysis can serve multiple purposes:
- Informing commanders' guidance and operational planning (see Section 3 below)
- Supporting the review and further improvement of harm-mitigation and response measures (Section 4)
- Feeding into training activities and doctrinal development (Section 5)
- Guiding decisions on capability development and resource allocation (Section 6)
- Identifying gaps and challenges as well as opportunities for strengthening implementation efforts, including through international cooperation and assistance (Section 7)

### 2.2.2. Structural and Procedural Requirements

Dedicated civilian harm-tracking mechanisms can take the form of specialized cells, functional teams or working groups, and they may be established at different levels within military command structures. While their design and composition can vary depending on several factors – such as the type of mission and institutional capacities – effective systems should typically include:[38]

- **Dedicated resources:** personnel and capabilities assigned to gather and analyse civilian harm data, including staff with relevant technical, analytical and contextual expertise (e.g. local language skills, weapons and munitions expertise, data management and analysis, etc.)

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36 Morais Figueiredo and Young, *Understanding Civilian Harm*.

37 For specific examples of mitigation measures, see International Committee of the Red Cross (ICRC), *Explosive Weapons with Wide Areas Effects: A Deadly Choice in Populated Areas*, p. 146.

38 For additional details on requirements for creating a national approach to civilian harm tracking, see Megan Karlshoej-Pedersen, "Tracking Civilian Harm from the Use of Explosive Weapons in Populated Areas", Policy Briefing, Article 36 and Airwars, May 2025, https://article36.org/wp-content/uploads/2025/07/Tracking-civilian-harm-from-use-of-EWIPA.pdf, pp. 4–5. See also InterAction, "Military Assessments, Investigations and Tracking of Civilian Harm: NGO Recommendations for DoD Policy on Civilian Harm", 2020, p. 2, https://civiliansinconflict.org/wp-content/uploads/2020/03/6-FINAL-2020-02-18-NGO-White-Paper-DOD-Assessments-and-Investigations.pdf



Ukraine, 2022. Credit: UNOCHA/Dmytro Smolienko

- **Standardized procedures and methodologies:** clearly defined roles, responsibilities and steps for collecting and analysing data from a wide range of sources, including protocols for verifying and integrating information from external sources
- **Robust data-management systems and practices:** secure and accessible databases to enable consistent data entry, validation and analysis, and support the identification of relevant trends and patterns across operations, time frames and other relevant indicators
- **Effective internal and external reporting mechanisms:** established channels for timely internal reporting of analyses that can inform tactical adjustments and operational decision-making, as well as for external reporting to promote transparency and strengthen accountability

### 2.2.3. Adapting Tracking Procedures to Support the Declaration's Implementation

In establishing civilian harm-tracking mechanisms, specific procedures for tracking and storing data can be developed or adapted to support the implementation of the commitments in the Political Declaration. This can involve coding relevant indicators into reporting and tracking processes and data ontologies in order to identify incidents of civilian harm that occurred in populated areas involving specific types of explosive weapons. Relevant data fields may include:

- Weapon system and munition employed
- Target type (e.g. individual, vehicle, structure, etc.)
- Nature and circumstances of the attack (e.g. domain, deliberate or dynamic strike, etc.)
- Location and characteristics of the affected infrastructure
- Anticipated civilian harm as estimated prior to the attack

An analysis of these types of data in combination can provide additional insights into both the magnitude of harm caused and into specific pathways leading to civilian harm in a specific operational context. This approach better enables militaries to identify feasible steps to mitigate such harm in future operations, including by identifying potential good practices and lessons learned.

### 2.2.4. Examples of Civilian Harm-Tracking and Similar Mechanisms

As noted above, the structure and resourcing of mechanisms to track and analyse data on civilian harm may vary significantly between States depending on a range of factors, including the operational context, available resources and institutional mandates. Although there are only a few instances where civilian harm-tracking mechanisms have been effectively operationalized, these offer valuable insights into how such mechanisms can be implemented in practice.

In addition to states and multinational coalitions (see Box 1), several international and civil society organizations collect and analyse data on civilian harm for a variety of purposes based on their different mandates, objectives, technical expertise and operational capacities (see Box 2).[39] Although their goals differ from those of state armed forces, the data collected by such organizations can be used to complement or strengthen state-led assessments. Moreover, some of the categorization methods and standardization practices that they employ can offer valuable insights that can inform military approaches to civilian harm tracking.

39 Morais Figueiredo and Young, *Understanding Civilian Harm*.

BOX 1.

## Examples by Multinational Coalitions and States

### *ISAF Civilian Casualty Tracking Cell and Civilian Casualty Mitigation Team (Afghanistan)*

The International Security Assistance Force (ISAF), a multinational coalition that was led by the North Atlantic Treaty Organization (NATO) and was active in Afghanistan between 2001 and 2014, established a Civilian Casualty Tracking Cell (CCTC) in response to concerns over civilian casualties attributed to ISAF operations. The CCTC began as a small team tasked with collecting and analysing data from field reports to verify allegations of civilian harm (e.g., date and time of the incident, location and type of operation, as well as numbers of civilians killed or injured). By 2009, the CCTC had enough data to analyse trends, which informed internal reports and recommendations to ISAF leadership. In 2011, the CCTC was expanded into the Civilian Casualty Mitigation Team (CCMT), which had more personnel, resources and responsibilities, including structured channels for engagement with international and civil society organizations. Data and analysis from the CCMT were increasingly used to inform adjustments to tactics and updates to operational guidance and pre-deployment training.[40]

For instance, analysis of data from civilian harm incidents in US and coalition operations from 2007 to 2010 revealed that nearly half of all incidents stemmed from target misidentification. These insights informed the adaptation of practices, including through greater consideration of contextual and cultural factors. While civilian casualties had been steadily increasing, the identification of these patterns enabled the adoption of more effective mitigation measures during the campaign. This contributed to a gradual decrease in civilian harm incidents over time.[41]

### *AMISOM's Civilian Casualty Tracking Analysis and Response Cell and AUSSOM (Somalia)*

In 2011, in response to an increase in civilian casualty incidents, the African Union Mission in Somalia (AMISOM) adopted an Indirect Fire Policy (IDF) to support efforts to reduce harm to civilians. Building on recommendations from the implementation of the IDF, AMISOM established a Civilian Casualty Tracking Analysis and Response Cell (CCTARC) in 2012 to record and analyse incidents of civilian harm reportedly caused by AMISOM forces. The cell served as the mission's central mechanism for recording and analysing harm resulting from its operations, including deaths and injuries and property damage, as well as sexual exploitation and abuse by military personnel. This was intended to support the integration of relevant information into the planning of operations and contribute to the adoption of

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40 Jennifer Keene, *Civilian Harm Tracking: Analysis of ISAF Efforts in Afghanistan* (Washington, DC: Center for Civilians in Conflict (CIVIC), 2014), **https://civiliansinconflict.org/wp-content/uploads/2017/09/ISAF_Civilian_Harm_Tracking.pdf**

41 Lewis et al., *Preparing for Civilian Harm Mitigation and Response in Large-Scale Combat Operations*. For more details, see also United Nations Office for the Coordination of Humanitarian Affairs (OCHA), *Compilation of Military Policy and Practice: Reducing the Humanitarian Impact of the Use of Explosive Weapons in Populated Areas* (New York: OCHA, August 2017), https://www.unocha.org/publications/report/world/compilation-military-policy-and-practice-reducing-humanitarian-impact-use-explosive; Sahr Muhammedally, "Minimizing Civilian Harm in Populated Areas: Lessons from Examining ISAF and AMISOM Policies", *International Review of the Red Cross*, no. 901, April 2016, **https://international-review.icrc.org/articles/minimizing-civilian-harm-populated-areas-lessons-examining-isaf-and-amisom-policies**; Keene, Civilian Harm Tracking.

practices to enhance the protection of civilians, as well as to strengthen accountability. CCTARC's mandate also included advising on the distribution of ex gratia payments, although the implementation of this policy has been complicated by the lack of dedicated funds.

CCTARC's work continued under the African Union Transition Mission in Somalia (ATMIS) – which succeeded AMISOM in 2022 – and the cell remains operational under the African Union Support and Stabilization Mission in Somalia (AUSSOM), which replaced ATMIS in 2025. AUSSOM's mandate includes a specific call to strengthen the CCTARC as a critical enabler of PoC.[42]

The cell leverages a wide range of internal and external sources, such as operational reports from mission headquarters, information shared by Somali Government offices, hospitals, security services, humanitarian organizations and civilians, including media reporting. These inputs are stored in a centralized database and subjected to both qualitative and quantitative review. The cell is staffed by a multidisciplinary team including civilian, military and police personnel. Members of the cell deliver regular briefings on their findings to commanders to identify patterns, compare operations and spot anomalies, including indications of misconduct by the mission's forces.

### *Ukraine: Civilian Casualty Tracking Provisional Group and Civilian Harm Mitigation Cell*

In 2018, the Armed Forces of Ukraine established the Civilian Casualty Tracking Provisional Group (CCTPG). It was tasked with collecting and verifying information on civilian harm from internal and external sources, as well as analysing their root causes to provide military commanders with recommendations to minimize harm in future operations.[43] For instance, analysis conducted by the CCTPG identified that the use of certain types of mortar was associated with a disproportionately high number of civilian casualties. Further analysis of such incidents revealed that this trend could be partly attributed to the lower level of authority required to approve the use of such mortars in comparison to other artillery. As a result, the Armed Forces of Ukraine introduced a measure to require a higher level of authorization for the use of such weapons.[44] Building on the CCTPG's experience, the Civil–Military Cooperation Directorate of the Armed Forces later established a Civilian Harm Mitigation Cell, although limited public information is available on its structure and activities.[45]

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42 Security Council resolution 2767, 27 December 2024, https://docs.un.org/S/RES/2767(2024), para. 26.

43 Bagshaw, "Committing to Civilian Casualty Tracking", p. 6.

44 See the submission by the Center for Civilians in Conflict (CIVIC) to the Office of the United Nations High Commissioner for Human Rights (OHCHR), Comprehensive Report on "Importance of Casualty Recording for the Promotion and Protection of Human Rights, 2023, https://www.ohchr.org/en/calls-for-input/2023/call-input-comprehensive-report-importance-casualty-recording-promotion-and.

45 Serhii Tarasov, *The Role of Civil–Military Cooperation in the Protection of Civilians: The Ukraine Experience* (Washington, DC: Center for Civilians in Conflict (CIVIC), October 2023), https://civiliansinconflict.org/wp-content/uploads/2023/10/The-Role-of-Civil-Military-Cooperation-in-Protection-of-Civilians-The-Ukraine-Experience.pdf.

BOX 2.

## Examples by International and Civil Society Organizations

### *United Nations Human Rights Monitoring Mission in Ukraine*

The Human Rights Monitoring Mission in Ukraine (HRMMU) operates a dedicated five-person protection of civilians unit based in Kyiv, which is responsible for monitoring incidents of civilian harm. The unit comprises a team leader, three thematic analysts (specializing, respectively, in civilian casualties, energy infrastructure, and health and educational infrastructure) and a military expert focused on munitions analysis.

HRMMU utilizes standardized information-gathering forms during site visits to document alleged harm. The PoC unit reviews and verifies this input to construct detailed incident records, capturing information such as the number of casualties and injuries, the nature and extent of the damage sustained by infrastructure, as well as the location, timing, and the types of weapon used, which are entered into a comprehensive database. Civilian casualty data is disaggregated by age, gender, injury or fatality status, location, and special protection status (e.g., persons with disabilities, journalists, humanitarian workers, etc.). Infrastructure damage is categorized by type (e.g., energy, health, education, water and sanitation, etc.).

This structured and disaggregated data feeds into an analytical tool, which enables HRMMU to identify and assess trends across multiple variables, including the geographic distribution of attacks, weapon types and categories of targeted infrastructure. The system supports both internal analysis and external reporting on patterns of harm and potential violations of international law, facilitating engagement with parties to the conflict on relevant concerns.[46]

### *Airwars*

Airwars is an independent non-governmental organization (NGO) dedicated to tracking, investigating, assessing and archiving information on civilian harm in conflict-affected areas. It aims to create a transparent, long-term public record of civilian harm, grounded in verifiable open-source evidence and analysis, to inform policy, accountability and efforts to reduce civilian harm.

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46 The data is compiled and published in the monthly updates on the protection of civilians in armed conflict for Ukraine. See, for instance: OHCHR, "Protection of Civilians in Armed Conflict — September 2025", 10 October 2025, **https://ukraine.ohchr.org/en/reports/protection-of-civilians**; For examples of analytical outputs produced by HRMMU, see also: Office of the United Nations High Commissioner for Human Rights (OHCHR), T*he Impact of the Armed Conflict and Occupation on Children's Rights in Ukraine 24 February 2022–31 December 2024* (Kyiv: OHCHR, 2024), **https://www.un.org/sexualviolenceinconflict/wp-content/uploads/2025/03/report/auto-draft/2025-03-21-ohchr-report-children-s-rights-in-ukraine.pdf**; Office of the United Nations High Commissioner for Human Rights (OHCHR), *Deadly Drones: Civilians at Risk from Short-Range Drones in Frontline Areas of Ukraine 24 February 2022–30 April 2025* (Kyiv: OHCHR, 2025), **https://ukraine.ohchr.org/sites/default/files/2025-06/Deadly Drones. Civilians at Risk from Short-Range Drones in Frontline Areas of Ukraine_ENG.pdf**; and United Nations Human Rights Monitoring Mission in Ukraine, "Attacks on Ukraine's Energy Infrastructure: Harm to the Civilian Population", Bulletin, September 2024, **https://ukraine.ohchr.org/en/Attacks-on-Ukraines-Energy-Infrastructure-Harm-to-the-Civilian-Population**.

Airwars employs a rigorous, incident-based methodology led by a specialist team of analysts and casualty recorders. This team continuously monitors local-language media and social platforms, as well as international and local news outlets, NGO reports, and, when relevant, information shared by belligerent themselves (clearly identified when used). Each reported incident is identified alongside all available supporting material (e.g., videos, photographs, witness accounts and reports) and disaggregated by date, location, demographics and other relevant variables. Where possible, responsibility for an incident is attributed to specific actors, with belligerent self-assessments archived and graded for credibility separately. Based on the consistency and quality of the sources, each analysed incident is classified into one of six categories: confirmed, fair, weak, contested, discounted and no civilian harm reported.[47]

All this information is made publicly accessible through Airwars' online database. Users of the database can filter incidents by multiple criteria, such as strike type, cause of death or injury, casualty demographics, infrastructure damage, belligerent assessment and time frame.[48]

To enhance understanding of the harm beyond fatalities and injuries, Airwars has also introduced an advanced tagging system for "civilian infrastructure", along with an evolving list of relevant "observations" to facilitate future analysis of resulting types and patterns of harm. This includes coding for damage in or on religious institutions, residential buildings (including camps for refugees or internally displaced people), healthcare facilities, energy and gas installations, schools, marketplaces and water stations, as well as humanitarian facilities and evacuation routes, alongside each casualty record.

47 See Airwars, "Methodology", n.d., https://airwars.org/about/methodology/.

48 As of August 2025, the data set comprised over 12,300 incidents of civilian harm, monitored in 11 separate conflicts and resulting at least 76,000 deaths. See Airwars,

## 2.3. Considerations for Coalition and Partnered Military Operations

Civilian harm tracking and subsequent analysis to identify mitigation measures are crucial in the context of coalition and partnered military operations, although they can also be more challenging in such contexts. For instance, factors such as classification and releasability of information with coalitions or partners may hinder effective information sharing between partners. This can apply to allegations of civilian harm, operational records that provide insight into the presence and nature of such harm, and eventual conclusions of assessments determining whether civilians and civilian objects were in fact harmed.

To address these challenges, coalition or partnered forces should seek to establish clear data-sharing policies, ideally as standing agreements established in advance. These policies should outline specific protocols for sharing information on civilian harm incidents and include processes that enable "shared tracking" and joint operational reviews of analysis and lessons-learned processes. They should also promote long-term collaboration on data analysis to improve such processes.

This data-driven approach would enable militaries to identify feasible steps to mitigate civilian harm in future partnered operations, including by identifying potential good practices.[49]

49 On reducing civilian harm in the context of partnered military operations, see International Committee of the Red Cross (ICRC), *Preventing Civilian Harm in Partnered Military Operations: A Commander's Handbook* (Geneva: ICRC, 2022), https://www.icrc.org/en/document/preventing-civilian-harm-partnered-military-operations-commanders-handbook. See also Lane et al., "Urban Conflict & Targeting".



United States of America, 2025. Credit: DVIDS/Jennifer Gangemi

# 3. Improving Command Guidance and Operational Planning Processes

**Effective mitigation of harm requires consideration of possible risks to civilians and civilian objects in the development and evolution of guidance and planning processes before and during military operations in populated areas.**

## 3.1. Commander's Guidance

Effective mitigation of civilian harm during military operations falls primarily within the responsibility of the commander. As such, the commander's guidance, developed through operational orders, directives or instructions (including rules of engagement), should emphasize the importance of mitigating harm to civilians and civilian objects during operations in populated areas. This guidance should translate both legal obligations and policy commitments, such as those in the Political Declaration on EWIPA, into clear strategic and operational objectives. Having this guidance on hand should then ensure the allocation of sufficient resources, capabilities and training support for their practical implementation.[50]

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50 See also International Committee of the Red Cross (ICRC), *Reducing Civilian Harm in Urban Warfare: A Commander's Handbook* (Geneva: ICRC, 2022), https://www.icrc.org/en/document/reducing-civilian-harm-urban-warfare-commanders-handbook, pp. 35–37. On the role of commander's guidance in the implementation of the Political Declaration on EWIPA, see also Article 36 and Airwars, "Report on a Military Workshop on the Use of Explosive Weapons in Populated Areas", April 2024, https://article36.org/wp-content/uploads/2024/04/Workshop-Report.pdf, pp. 3–5; Sahr Muhammedally, "Understanding Risks and Mitigating Civilian Harm in Urban Operations", *Canadian Army Journal*, October 24, 2024, https://www.canada.ca/en/army/services/canadian-army-journal/articles/2024/21-1-muhammedally-mitigating-civilian-harm.html.

In developing the commander's intent – which typically defines the mission's objectives – within an operational order, for example, the commander should:

- Place the protection of civilians as a **strategic priority** to ensure that risks to civilians and civilian objects are adequately identified and managed as part of the operational planning process. This could include overarching guidance on avoiding harm to civilians and damage to civilian objects, including on the importance of preserving civilian infrastructure and essential services.
- Establish clear **red lines** regarding the impacts of operations on the civilian population. This should take into account the direct and indirect effects of individual attacks, as well as their potential cumulative effects over the course of a campaign. It could include issuing a "strategic proportionality" guideline: a policy-level description of the acceptable cumulative damage to the civilian environment from the overall operation.[51] This guidance can guard against situations in which the cumulative effects during a campaign of individual strikes – each of which may be considered lawful – result in widespread harm to civilians and civilian objects. This is particularly important during protracted or high-intensity operations.

Commander's guidance should also direct the use of mitigation measures adapted to specific operational contexts. In some operations, these may take the form of "tactical directives". Mission-specific directives should incorporate lessons learned, both historical and from the ongoing campaign. They should be updated as the operation evolves based on an analysis of relevant trends and patterns. Examples of such measures may include:

- Establishing additional review and approval requirements for attacks against military targets located in populated areas
- Restricting or conditioning the deployment of certain weapon systems and munitions based on their technical characteristics, such as explosive power, level of accuracy and number of munitions used
- Designating the appropriate level of authority required to authorize certain types of engagement depending on the expected level of harm

The development and adaptation of the commander's guidance should be informed by robust data collection and analysis throughout the operation. To ensure that guidance is well-informed and remains responsive to evolving risks, commanders should explicitly incorporate the civilian environment into the Commander's Critical Information Requirements (CCIRs) – information identified by the commander as essential for timely decision making – so that appropriate intelligence-collection capabilities are allocated to capture relevant information and inform planning and decision-making processes.[52]

Commander's guidance should also provide direction for civilian harm-response efforts, including strategic communications and amends to affected populations (see Subsection 4.2).

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51 Noam Lubell and Amichai Cohen, "Strategic Proportionality: Limitations on the Use of Force in Modern Armed Conflicts", *International Law Studies*, vol. 96 (2020), https://digital-commons.usnwc.edu/ils/vol96/iss1/6/.

52 See Loren Voss, *The Overlooked Importance of Intelligence Analysis in IHL*.

## 3.2. Operational Planning

Data on the civilian environment, along with estimates of the potential effects of military operations on civilians and civilian objects, are essential for developing and evaluating courses of action during the planning of operations. The process for development of a course of action should assess risks to civilians alongside risks to operational effectiveness and to friendly forces; it should also identify options to achieve mission objectives while mitigating harm to civilians and civilian objects.[53]

For example, hostilities in populated areas might affect objects simultaneously used by militaries and civilians. When seeking to minimize disruption to civilian access to essential services during such an operation, those responsible for its planning should consider options that create limited and focused damage to "downstream" components with a view to minimizing the likely impacts on the civilian population.[54]

Effective operational planning therefore requires detailed knowledge of the civilian environment in order to assess these risks and balance competing considerations, including the potential indirect or reverberating effects from different courses of action.[55] This information can help in identifying critical elements of the civilian environment that need to be protected, or where effects need to be mitigated to reduce risks to civilians. This should be a fusion of many different types of information that can be generated or held by a wide variety of actors, including international and civil society organizations (see Subsection 2.1).

Planning should also ensure that appropriate weapon systems and munitions are available and carefully selected during operations to minimize risks to civilians and civilian objects. This selection should consider each weapon's technical characteristics – such as its explosive power, level of accuracy and number of munitions – as well as the planned circumstances of its use, including the surrounding environment.[56] This can inform decisions on when to impose specific restrictions on, or refrain from, using explosive weapons in populated areas to help avoid or minimize civilian harm, in line with the Political Declaration's commitments.

Beyond integrating good practices and lessons learned from past operations, planning should also consider options to overcome or mitigate possible cognitive biases that can increase risks to civilians during military decision-making processes.

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53 See International Committee of the Red Cross (ICRC), *Reducing Civilian Harm in Urban Warfare*.

54 For recommendations on this topic, see International Committee of the Red Cross (ICRC), *Preventing and Mitigating the Indirect Effects on Essential Services from the Use of Explosive Weapons in Populated Areas*.

55 See International Committee of the Red Cross (ICRC), *Preventing and Mitigating the Indirect Effects on Essential Services from the Use of Explosive Weapons in Populated Areas*.

56 On appropriate munitions for operations in urban environments, see Muhammedally, *A Primer on Civilian Harm Mitigation in Urban Operations*, pp. 28–29.



Syria, 2025. Credit: Laurin Strele

# 4. Mitigating and Responding to Civilian Harm during Operations in Populated Areas

**Building on commander's guidance and operational planning, states and militaries can implement a range of practical measures to prevent and mitigate civilian harm during hostilities in populated areas. These include both actions to reduce harm to civilians from attacks, as well as to respond to such harm when it occurs.**

## 4.1. Mitigating Civilian Harm

Systematic collection and analysis of data on operations and civilian harm are critical for understanding the specific factors that may lead to civilian harm during hostilities in populated areas. They are also essential for guiding targeted mitigation measures, which are often hampered by a poor understanding or misconceptions of how such harm happens in practice.

Detailed operational records, combined with incident reports and assessments, can enable militaries to better identify and anticipate key risk factors in specific contexts or specific types of operation. For example, in operations involving the use of air-dropped munitions in populated areas, a common risk is failing to detect civilians transiting around the target area during the engagement. Similarly, air strikes typically do not account for civilians inside structures, which may lead to unintended harm.Misidentification

in air strikes often occurs when civilians are mistakenly perceived as combatants based on their appearance or behaviour. While rarer, misidentification can also result from a disconnect in engagement location, such as when a ground controller and a pilot coordinate for an air strike but they are, in fact, referring to two different target locations, with this confusion resulting in an attack on civilians or civilian objects.[57]

Analysing the prevalence of these risk factors can support the adoption of practical measures to mitigate harm to civilians in the context of an operation, and it can also facilitate the identification of good practices and lessons learned. Moreover, data on the effects of the use of specific weapon systems and munitions can inform adjustments to reduce their area of impact and the associated risks to civilians and civilian objects, based on an understanding of their technical characteristics as well as on the manner and circumstances of their use.

Effective mitigation approaches include general measures applicable across operations and measures tailored to specific operational contexts, including populated areas. General good practices may include:

- **Exercise tactical patience**: take additional steps and time to understand the civilian environment and identify and validate targets before authorizing attacks that risk harming civilians or civilian objects. This could include empowering relevant military personnel to pause or refrain from attacks if unforeseen risks to civilians arise during an operation, when the tactical situation allows.
- **Consider operational alternatives:** evaluate different tactical options to achieve the mission objectives while seeking to avoid or minimize risks to civilians and civilian objects, including potential indirect or cumulative effects. This could include choosing the timing of attacks to reduce civilian presence in the area, or selecting alternative tactics that limit the extent, severity and duration of potential impacts on civilian infrastructure and associated systems and services.
- **Shape the operation:** explore options to influence the operational environment to achieve the mission objectives while reducing the exposure of civilians and civilian objects to risks. This could include seeking ways to channel adversary forces into less populated areas or creating windows of time or space to allow civilians to move to safety.[58]

In addition to general good practices, specific mitigation measures during operations in populated areas may include:[59]

- Conditioning the deployment of specific weapon systems and munitions on the adoption of robust procedures for target development and engagement, such as:
  - Applying stringent positive identification requirements (e.g., multiple corroborating intelligence sources and precise target coordinates)

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57 Lewis et al., *Preparing for Civilian Harm Mitigation and Response in Large-Scale Combat Operations*.

58 Lewis et al., *Preparing for Civilian Harm Mitigation and Response in Large-Scale Combat Operations*.

59 For specific recommendations on mitigating civilian harm from the use of explosive weapons in populated areas, see International Committee of the Red Cross (ICRC), Explosive Weapons with Wide Area Effects, pp. 146–150; Laura Boillot, "Avoiding Civilian Harm by Restricting or Refraining from Use of Explosive Weapons in Populated Areas", Policy Briefing, Airwars and Article 36, May 2025, https://article36.org/wp-content/uploads/2025/07/Avoiding-civilian-harm-by-restricting-or-reafraining-from-use-of-EWIPA.pdf; Lane et al., *Opportunities to Improve Military Policies and Practices*.

- Conducting pre-strike collateral damage estimates (CDEs) and systematically updating them for follow-on strikes
- Adjusting weaponeering techniques (e.g., fuse settings, warhead type and size, etc.) as well as considering the timing, angle and location of attacks

- Favouring the use of precision-guided, "non-lethal", "non-kinetic" or low-collateral-damage munitions, including those that incorporate features such as render-safe mechanisms, pre-planned "mission abort" options or shift-cold procedures, as well as scalable yields
- Implementing measures for fire adjustment and coordination, as well as "eyes on target" requirements that restrict firing on unobserved targets
- Applying "minimum safety distances" or risk-estimation tools to limit the adverse impacts of operations on civilians and civilian objects

Over time, analysis of both operational and civilian harm data can help identify additional measures and good practices that enhance the mitigation of harm in specific operational contexts, including through the establishment of specific conditions or restrictions on the use of explosive weapons in populated areas.[60]

## 4.2. Responding to Civilian Harm

During military operations in populated areas, some level of civilian harm may be unavoidable. A more complete assessment of civilian harm better enables militaries to respond to such harm after it has occurred. This response may follow at least three steps:

1. Issuing public statements and apologies concerning cases where the military believes civilian harm has occurred as a consequence of the military operation
2. Publicly reporting estimated levels of civilian harm in a show of transparency
3. Providing assistance to victims and affected populations or humanitarian aid as appropriate, including support to repair infrastructure or restore essential services

Despite some examples of good practice, including in establishing mechanisms to enable reporting on civilian harm (see Box 3),[61] these measures have rarely been implemented effectively and consistently over time. These are all areas in which further exchanges of good policies and practices are necessary.

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60 For specific recommendations mitigating civilian harm from the use of explosive weapons in populated areas, see International Committee of the Red Cross (ICRC), *Explosive Weapons with Wide Areas Effects: A Deadly Choice in Populated Areas*, pp. 146–150. See also Lane et al., Opportunities to Improve Military Policies and Practices.

61 On civilian harm reporting mechanisms, see Erin Bijl, "Civilian Harm Reporting Mechanisms: A Useful Means to Support Monitoring and Accountability?", Pax, April 2020, **https://protectionofcivilians.org/report/literature-review-civilian-harm-tracking-tools-investigation-mechanisms https://paxforpeace.nl/wp-content/uploads/sites/2/import/2022-05/PAX_PoC_REPORT_04_Reporting_Mechanisms_FINAL_digi_singlepage.pdf**

BOX 3.

## Establishing Mechanisms and Procedures for Reporting on and Responding to Civilian Harm

### *The Netherlands: The Ministry of Defence's Civilian Harm-Reporting Mechanism*

In 2024, the Ministry of Defence of the Netherlands launched a mechanism for reporting civilian harm that allows civilians and non-governmental organizations to report allegations of harm that result from military operations involving the Dutch armed forces. The mechanism is intended to reinforce accountability mechanisms, as well as to help identify lessons learned to prevent and mitigate the risk of civilian harm in the future.[62]

### *New Zealand: Defence Order 35 on Civilian Harm Response*

In 2021, the New Zealand Defence Force (NZDF) issued Defence Order 35, which establishes a comprehensive framework for reporting on and responding to incidents of civilian harm that result from military operations in which the NZDF directly or indirectly participated, including during multinational coalition operations.[63] The order outlines several steps for making such a report and for providing adequate responses, which must be tailored both to the nature of the harm and the operational environment.[64] It also mandates the establishment of "sound data management processes for handling civilian harm reports, including documentation, transmission, storage, retrieval, and monitoring for continual learning".[65]

Importantly, the framework stipulates that, when considering deployment as part of a multinational force, New Zealand should encourage the codification of civilian harm-response procedures in relevant agreements or arrangements, including by setting clear expectations regarding the sharing of relevant information.[66]

The framework also defines the types of amends that may be offered in response to acknowledged harm. These are categorized into three broad areas:[67]

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62 See Ministry of Defence of the Netherlands, "Meldpunt voor vermoedens burgerslachtoffers geopend" [Hotline opened for suspected civilian casualties], 31 December 2024, **https://www.defensie.nl/actueel/nieuws/2024/12/31/meldpunt-voor-vermoedens-burgerslachtoffers-geopend**; Ministry of Defence of the Netherlands, "Reporting Civilian Harm", n.d., **https://english.defensie.nl/topics/civilian-casualties/reporting-civilian-harm**. As of August 2025, the Netherlands had completed assessments into reported incidents resulting from operations in Afghanistan, Gaza, Iraq and Syria. See Ministry of Defence of the Netherlands, "Investigating Suspected Civilian Harm", n.d., **https://english.defensie.nl/topics/civilian-casualties/investigation-into-suspected-civilian-casualties**.

63 New Zealand Defence Force, "New Zealand Defence Force Response to Civilian Harm", Defence Force Order 35, Version 1.01, Chief of Defence Force, Headquarters New Zealand Defence Force, 21 January 2021, **https://www.nzdf.mil.nz/assets/Uploads/DocumentLibrary/dfo_35.pdf**, Chapter 3.

64 These include incident awareness; initial notification report; initial assessment; incident report; investigation; sharing findings; amends; and closing authority. New Zealand Defence Force, "New Zealand Defence Force Response to Civilian Harm", Chapter 3.

65 New Zealand Defence Force, "New Zealand Defence Force Response to Civilian Harm", p. 3-1.

66 New Zealand Defence Force, "New Zealand Defence Force Response to Civilian Harm", p. 2-1.

67 New Zealand Defence Force, "New Zealand Defence Force Response to Civilian Harm", p. 3-9.

- **Restitution:** restoring affected persons to their situation prior to harm, including monetary payments, livelihood assistance or contributions to local infrastructure
- **Rehabilitation:** providing medical, psychological, legal or social services, as well as resources to support locating missing persons
- **Satisfaction:** actions such as pledges of non-repetition, communicating changes in policy to prevent further civilian harm, official acknowledgement of the facts, public or private apologies, commemorations to victims, or acceptance of responsibility

As a transparency measure, the NZDF publishes an annual report on all reports of civilian harm involving the NZDF, as well as on its responses.[68]

### *The United States: The Department of Defense's Policies on Reporting and Responding to Civilian Harm*

In the United States, Department of Defense (DoD) Instruction 3000-17 on Civilian Harm Mitigation and Response supports the implementation of the Civilian Harm Mitigation and Response Action Plan (CHMR-AP). It directed the US military to develop a holistic framework for responding to harm to individuals and communities caused by US military operations. According to DoD Instruction 3000-17, this should include establishing a "diverse menu of options" for responding to civilian harm, ranging from public and private acknowledgements of harm and condolence payments to the provision of medical care, repairs to damaged structures and infrastructure, removal of ordnance, and locally held commemorative events or symbols. Importantly, these responses should be developed and selected in consultation with affected individuals and communities to ensure that they are contextually and culturally appropriate.[69]

Moreover, the US DoD releases an annual report on civilian casualties in connection with US military operations. Each recorded incident of a civilian casualty is listed by date, location, operation type, and the number of civilians injured or killed. It also includes recommendations resulting from the assessments with a view to improving future practices. Moreover, the report also outlines the methodology used by the DoD for evaluating reports of civilian harm, as well as the criteria and process for dispensing ex gratia payments or other forms of response to harm caused.[70]

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68 See, for instance, New Zealand Defence Force, "Annual Report: Defence Force Order 35: New Zealand Defence Force Response to Civilian Harm for the Period 01 July 2021–30 June 2022", 2022, https://www.nzdf.mil.nz/assets/Uploads/DocumentLibrary/Annual-Report-DFO-35.pdf.

69 US Office of the Under Secretary of Defense for Policy, "Civilian Harm Mitigation and Response", Department of Defense Instruction 3000.17, 21 December 2023, https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/300017p.pdf, pp. 41–42. See also US Department of Defense, "Annual Report on Civilian Casualties in Connection with United States Military Operations in 2023", March 2024, https://policy.defense.gov/Portals/11/Documents/CHMR/CY2023-ANNUAL-REPORT-ON-CIVILIAN-CASUALTIES-IN-CONNECTION-WITH-U.S.-MILITARY-OPERATIONS.pdf, p. 10.

70 US Department of Defense, "Annual Report on Civilian Casualties in Connection with United States Military Operations in 2024", April 2025, https://policy.defense.gov/Portals/11/Documents/CHMR/TAB B-2024_1057_Report_final.pdf, p. 4.



United States of America, 2024. Credit: DVIDS/Iris Gantt

# 5. Institutionalizing Good Practices through Military Training, Education and Doctrine

**Incorporating civilian harm mitigation into military training, education and doctrine is critical to the institutionalizing of good practices and to ensuring that lessons learned translate into policies and operational measures that can be sustained over time and applied consistently across operational contexts.**

Comprehensive training for military operations in populated areas should integrate relevant elements of the civilian environment and support the inclusion of civilian harm-mitigation considerations into operational planning and execution. These considerations should be adequately codified and reinforced in doctrine, military manuals and handbooks, as well as being integrated into professional military education curricula.[71]

Training activities and exercises should be adapted for specific forces and operational environments, including urban operations. They should also promote an understanding of the potential effects of using explosive weapons on military targets located in these environments and the associated risks to civilians and civilian objects. This is particularly important in the context of the implementation of the

71 On training for urban warfare and specific considerations for different military personnel, see International Committee of the Red Cross (ICRC), *Reducing Civilian Harm in Urban Warfare*, pp. 26–29; Muhammedally, *A Primer on Civilian Harm Mitigation in Urban Operations*, p. 14. See also Muhammedally, "Understanding Risks and Mitigating Civilian Harm in Urban Operations".

Political Declaration on EWIPA, since the effects of the use of explosive weapons in populated areas can be magnified or unexpected compared to their use in controlled training environments.

In addition to promoting technical proficiency in executing specific types of attack or operating certain weapon systems, training should encourage consideration of operational alternatives that account not only for the intended effects on the target but also for their impacts on civilians. This should include anticipating and assessing the potential reverberating effects of using explosive weapons during hostilities in populated areas, especially given the nature and interconnectedness of critical civilian infrastructure and essential services in such areas.[72]

Dedicated training modules and exercises could be developed by militaries to support the implementation of the Political Declaration on EWIPA. By building on existing good practices and lessons learned from past operations, these could reinforce both the understanding and practical application of measures to mitigate civilian harm in relevant operational contexts. Training and doctrine should also address different types of operation – such as close air support, raids and use of artillery fire – through the development of tailored training packages and the refinement of doctrine informed by operational and civilian harm data. For example, historical vignettes and case studies can help militaries better understand the challenges they may face, including mistakes made in past operations, while scenario-based exercises can address likely adversarial tactics that may put civilians at risk and explore practical mitigation measures. Examples of effective operational mitigation measures and how tactics can be adapted to avoid or minimize civilian harm should also be incorporated into training and inform updates to doctrine.

Training can be delivered individually or in groups, through various formats, including:

- Classroom-based instruction
- Virtual training
- Modelling and simulation
- Scenario-based or tabletop exercises
- War-gaming and red-teaming activities

Where appropriate, pre-deployment and in-theatre training should integrate relevant information on the civilian environment and the technical characteristics of weapon systems and munitions that may be deployed during operations.[73]

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72 For example, the Geneva International Centre for Humanitarian Demining (GICHD) developed a simulator that models the effects of five explosive weapon systems in different settings (e.g. open area, hamlet, village, town and city) using accuracy, precision and known munitions effects. Geneva International Centre for Humanitarian Demining (GICHD), "Explosive Weapon Effects", February 2017, https://www.gichd.org/publications-resources/publications/explosive-weapon-effects/ On the effects of explosive weapons in built-up environments and impacts on civilians, see Article 36, "Damage to the Built Environment from the Use of Explosive Weapons", Briefing Paper, September 2013, https://article36.org/wp-content/uploads/2013/09/DAMAGE.pdf.

73 On the technical characteristics of explosive weapons, see Armament Research Services (ARES) and International Committee of the Red Cross (ICRC), *Explosive Weapons in Populated Areas: Technical Considerations Relevant to their Use and Effects* (Geneva: ICRC, May 2016), https://www.icrc.org/en/document/explosive-weapons-populated-areas-use-effects.

BOX 4.

## Centres of Excellence

### *Austria: The Centre of Excellence on the Protection of Civilians*

In August 2024, the Austrian Ministry of Defence established the Centre of Excellence on the Protection of Civilians. Through awareness raising and training activities, the CoE is expected to support the implementation of the Political Declaration on EWIPA.

### *United States: The Civilian Protection Center of Excellence*

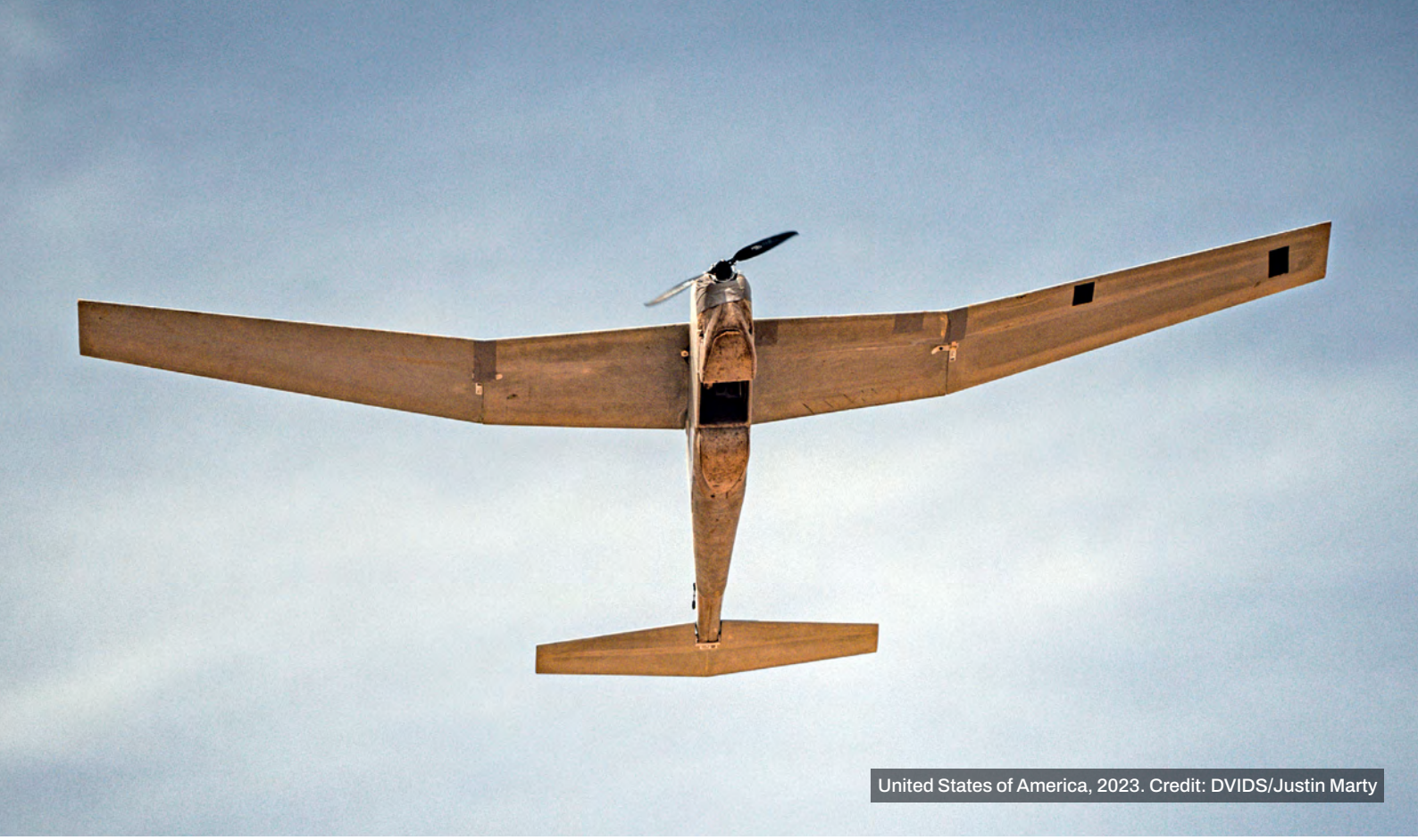
The US Department of Defense Civilian Protection Center of Excellence (CP CoE) was established in 2022 as part of the Department's implementation of its 2022 Civilian Harm Mitigation and Response Action Plan (CHMR-AP). The CoE was established to help accelerate implementation of CHMR-AP commitments across the Department and to promote operational and institutional learning to improve mitigation of and responses to civilian harm during US operations, including by helping institutionalize good practices.

Furthermore, military training and doctrine should establish clear requirements for specific support functions, such as:

- Individuals responsible for tracking and analysing civilian harm in relevant cells, teams or groups
- Military personnel responsible for estimating collateral damage and assessing battle damage
- Military personnel responsible for identifying and validating targets prior to engagement
- Military leaders and staff responsible for overseeing institutional changes, including the implementation of the Political Declaration on EWIPA

The provision of adequate training for operations in populated areas, along with the institutionalization of good practices and lessons learned, could be further supported by the establishment of dedicated centres of excellence (COE) focused on the protection of civilians and other related topics (see Box 4). These centres can serve as hubs for research, training and learning, can promote the dissemination of existing practical measures to mitigate civilian harm, and can encourage focused exchanges of technical and tactical expertise within and between States. For instance, existing COEs dedicated to PoC or civil–military coordination could be leveraged to address challenges relevant to the implementation of the Political Declaration on EWIPA.[74]

74 In August 2024, for instance, the Austrian Ministry of Defence established the Centre of Excellence on the Protection of Civilians. Through awareness raising and training activities, the CoE is expected to support the implementation of the Political Declaration on EWIPA. See also Austrian Federal Ministry for European and International Affairs and Austrian Federal Ministry of Defence, "Vienna Military Workshop".



United States of America, 2023. Credit: DVIDS/Justin Marty

# 6. Developing and Adapting Tools and Capabilities to Strengthen Implementation Efforts

**Investing in the development or adaptation of tools and capabilities can support a state in addressing challenges that it may encounter in mitigating civilian harm during operations in populated areas, while enhancing operational effectiveness and protecting its forces.**

Most progress achieved to date in mitigating civilian harm has been driven by the professionalism and ingenuity of military forces. However, there is a limit to how much these can achieve. Existing approaches typically focus on reducing certain types of risk to civilians (e.g., civilian and civilian objects in proximity to military targets), while overlooking others (e.g., misidentification of civilians and civilian objects as military targets). As a result, militaries often need to adapt and innovate with tools and capabilities that are not necessarily fit for their purposes. This adaptation is particularly challenging when forces operate in populated areas, where the use of explosive weapons, especially those with wide-area effects, introduces a myriad risks to civilians – this creates operational dilemmas and forces trade-offs that creativity and resolve cannot fully navigate.

For example, if an adversary deliberately positions its forces among the civilian population – especially if it uses civilians or civilian objects, such as hospitals or schools, as shields – this poses additional complexities if explosive weapons are used. While existing approaches (e.g., conducting ground raids or precise weaponeering combined with a nuanced understanding of the operational environment) can help to limit the weapon effects and reduce risks to civilians, they are rarely sufficient to address the full scope of challenges. In addition, the dynamic nature and high-tempo operational environment in such contexts often exacerbates risks of civilian harm.

In implementing the Political Declaration on EWIPA, states should explore how to achieve its goals using different or new capabilities that enable a better understanding of potential risks to civilians and respective mitigation measures. Opportunities may include:

- Leveraging situational awareness tools to help identify risks to civilians and civilian objects. For example, in the case of command-and-control systems that include a common operating picture of the battlefield, integrated monitoring systems can track relevant information to detect and alert operators in cases of potential misidentification of civilians or civilian objects as military objectives.
- Using various sources of intelligence or surveillance to better identify civilians and to characterize the civilian environment in a particular area. For example, advanced sensors or uncrewed systems can be used to collect information about civilians or potential hazards in a dense urban area (including inside compounds or tunnels) as well as to map critical infrastructure nodes in a particular area. As another example, visual recognition tools can be used to identify healthcare facilities and workers and other protected objects and persons through displayed symbols (e.g., a Red Cross or Red Crescent, a Blue Cross, the symbols of international organizations or NGOs such as the United Nations, Médecins Sans Frontières, etc.).
- Applying data fusion to develop a robust understanding of the civilian environment, as well as data networks and systems to help disseminate and deconflict information. For example, self-reported information from humanitarian organizations, survey information on critical infrastructure, and reporting of civilian migration and displacement patterns can be used to better identify and mitigate risks of direct and indirect harm to civilians.
- Using additional means to anticipate civilian harm resulting from both direct and indirect effects in specific geographic areas or phases of operations. This can both aid future planning and inform assessments of civilian harm resulting from such operations.
- Employing modelling and simulation capabilities to support training as well as exercises and experimentation.

Data obtained through civilian harm-tracking efforts, combined with operational data on the types and circumstances of explosive weapon use and their effects, can help to prioritize and further refine the use of available capabilities.[75] Ideally, this data-driven approach can also inform the development of new tools and capabilities to help militaries to more effectively address the actual challenges and dilemmas they face.

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75 Previous analyses of capabilities deployed to support soldiers at checkpoints, for instance, revealed a mismatch between the intended design of certain tools and the operational contexts in which they were most frequently needed. For example, some capabilities tend to focus on either very short-range (e.g., batons, pepper spray) or long-range interventions (e.g., vehicle arrestors), while most civilian harm incidents may occur in the intermediate ranges. See Larry Lewis and Andrew Ilachinski, *Leveraging AI to Mitigate Civilian Harm* (Arlington, VA: CNA, February 2022), **https://www.cna.org/analyses/2022/02/leveraging-ai-to-mitigate-civilian-harm**.



Lebanon, 2024. Credit: Laurin Strele

# 7. Assessing Progress in Implementation and Exchanging Good Practices

**As outlined in earlier sections, operational and institutional change is crucial for the effective implementation of the Political Declaration on EWIPA. This change must be managed and overseen, which in turn requires that the necessary organizational structures and processes are established and adequately resourced.**

As states work to fulfil the Declaration's commitments, their efforts should be guided by periodic assessments of levels of readiness and proficiency. These assessments should monitor progress across key areas and identify gaps, challenges and opportunities for improvement. While approaches will vary depending on specific national contexts, including each military's capabilities and missions, all states that have endorsed the Political Declaration can benefit from a structured assessment process that:

- **Evaluates readiness:** The assessment pro- cess should measure progress in adopting the policies, practices and structures that are necessary to meet the Declaration's commitments. This should include identifying areas where progress has been made – including good practices that could be shared with other states – as well as gaps and challenges.
- **Assesses proficiency**: The assessment pro- cess should determine how effectively these policies and practices are being implemented in practice. This should include identifying areas where additional refinement or support may be needed and areas where exchanges of technical or tactical expertise with other states and stakeholders would be valuable.

Such assessments would not only strengthen national implementation efforts but also facilitate exchanges of good policies and practices among states and other stakeholders, reinforcing the collaborative spirit of the Declaration. For instance, building on national-level progress assessments can make the structured intergovernmental and military-to-military exchanges envisaged in the Declaration more substantive and can enable states to collectively "identify any additional measures that may need to be taken" to further the implementation process.[76] These exchanges could include the sharing of good policies and practices related to operational mitigation measures, as well as to institutional steps to improve the overall capacity and readiness of states and their militaries to implement the various commitments of the Declaration.

As states assess their progress in implementing the Declaration, other stakeholders (e.g., international and civil society organizations) can play a valuable role in supporting this process. This can include conducting assessments of their own or providing technical expertise and support in relevant areas. However, their contributions will depend on the transparency that states demonstrate in sharing their own progress.[77]

Finally, the Declaration also commits states, inter alia, to "pursue [the Declaration's] adoption and effective implementation by the greatest possible number of states".[78] This commitment is particularly relevant for states that provide military assistance to other states or are engaged in partnered military operations.[79] Implementing this commitment in the context of such assistance can involve several activities, including:

- Engaging with political and military leaders of partner states to encourage them to endorse and meaningfully implement the Political Declaration on EWIPA
- Integrating support for the implementation of the Declaration into ongoing military assistance and cooperation efforts, including working with partners on all relevant steps outlined in this report
- Exchanging good practices and maintaining transparency regarding institutional and operational measures undertaken to implement the Declaration's commitments
- Sharing data concerning civilian harm, as well as exchanging views on challenges and opportunities in effectively preventing, mitigating and responding to such harm

While all states should work together to advance the objectives of the Declaration, states engaged in military assistance and cooperation relationships have a unique opportunity to further this commitment.

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76 Political Declaration on EWIPA, paragraph 4.7.

77 See *Explosive Weapons Monitor 2024*; *Explosive Weapons Monitor 2023*, Annual Report (Explosive Weapons Monitor: April 2024), **https://explosiveweaponsmonitor.org/reports/1/explosive-weapons-monitor-2023/**.

78 Political Declaration on EWIPA, paragraph 4.8.

79 See also Bagshaw, "Implementing the Political Declaration", p. 17.



Syria, 2025. Credit: Laurin Strele

# 8. Conclusion and Recommendations

In today's complex and increasingly urbanized armed conflicts, strengthening efforts to protect civilians must remain a priority for the international community. A data-driven approach to mitigating civilian harm in the context of military operations in populated areas offers a way to build on the critical foundation of international humanitarian law to achieve this. States and their militaries can take such a comprehensive approach using existing tools and capabilities, with practices tailored to specific contexts and challenges depending on the military force used, the nature of the threat and the characteristics of the operational context, including the civilian environment. In short, a data-driven, adaptive approach to the implementation of the Political Declaration on EWIPA provides states and their militaries with the necessary tools to adopt a comprehensive approach to the protection of civilians, as called for by the United Nations Secretary-General.

In their efforts to implement the Political Declaration on EWIPA, states should assess the adequacy of their existing policies and operational practices, as well as their supporting functions such as training, doctrine, capabilities, processes and leadership structures. This report aims to support such efforts by identifying good practices and lessons learned, as well as by providing practical considerations to guide an effective and meaningful implementation process. Based on this, the following recommendations are put forward for consideration.

### 1. Building Foundations for a Data-Driven Implementation

- States and their militaries should develop a robust understanding of the civilian environment in populated areas to inform military planning, operations and assessments of impacts on civilians and civilian objects.
- All stakeholders – states, militaries and other relevant organizations – should systematically track, analyse and report data on civilian harm to strengthen operational and institutional learning and support the fulfilment of the Declaration's commitments.
- States preparing for engagement in coalition or partnered military operations should develop data-sharing policies, collective training packages, and standard operating procedures (SOPs) for collecting, analysing and reporting civilian harm data, as well as collective approaches for mitigating harm to civilians in the expected operational environments.

### 2. Improving Command Guidance and Operational Planning Processes

- Militaries should integrate considerations of risks to civilians and civilian objects, as well as relevant practical mitigation measures, into the development and refinement of command guidance and the planning of military operations in populated areas.

### 3. Mitigating and Responding to Civilian Harm during Operations in Populated Areas

- Militaries should leverage their operational records and assessments to adapt their operational approaches, including by adopting a range of practical measures to anticipate, prevent and mitigate civilian harm during hostilities in populated areas.
- States and their militaries should establish civilian harm-reporting mechanisms and comprehensive frameworks for responding to civilian harm that results from their operations.

### 4. Institutionalizing Good Practices through Military Training, Education and Doctrine

- Militaries should develop and adapt training, education and doctrine to include understanding the civilian environment, assessing and reporting on civilian harm, as well as practical measures for mitigating and responding to such harm during operations in populated areas.

### 5. Developing and Adapting Tools and Capabilities to Strengthen Implementation Efforts

- States and their militaries should develop and field tools and capabilities to better understand and reduce risk of civilian harm during military operations in populated areas, including by supporting an understanding of the civilian environment and of the direct and indirect effects of such operations on civilians.

### 6. Assessing Progress in Implementation and Exchanging Good Practices

- States should establish processes to assess progress in implementing the Declaration's commitments, supporting the identification of gaps, challenges and opportunities for further improvement. They should ensure that implementation is responsive to evolving operational and humanitarian needs and realities.
- Military cooperation with and assistance to partners should include an encouragement to endorse the Declaration, along with the provision of technical support for its implementation, particularly around the specific areas of military assistance.

- To advance collaborative work and promote further exchanges of good policies and practices, states could establish formal or informal mechanisms – such as a standing or ad hoc working groups – to serve as platforms for continued dialogue and engagement. In line with paragraph 4.7 of the Declaration, such efforts could contribute to identifying additional measures that may be needed to strengthen its implementation.

**Possible composition and functions**

These groups could include representatives of interested endorsing states and their armed forces, as well as stakeholders from international and civil society organizations with relevant expertise. Regular meetings could be convened around specific themes or areas of interest. Key functions could include:

- Facilitating the identification and exchange of good practices for improving the understanding of the civilian environment; anticipating, preventing and reducing the foreseeable indirect or reverberating effects on civilians and civilian objects; and mitigating and responding to civilian harm during operations in populated areas, including options for specific contexts and missions
- Identifying gaps in knowledge, resources and capacity, including the types of expertise and support necessary to build or strengthen civilian harm-tracking mechanisms, while accounting for the varied needs and capabilities of endorsing states
- Supporting the development of voluntary guidance and tailored tools, as well as scenario-based exercises, simulations and other activities that can be incorporated into training packages, educational materials and techniques, including approaches to incorporating into doctrine considerations on mitigating direct and indirect harm to civilians in populated areas
- Enabling exchanges of assessment processes, interim assessment results and collective lessons, thereby helping to identify areas of progress and opportunities to further the implementation of the Declaration



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