



ICRC



Outcome Report

When War Moves to Cities: Protection of Civilians in Urban Areas

An International Committee of the Red Cross (ICRC) and InterAction Roundtable

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Introduction ¹

Today, many armed conflicts are taking place in and around urban areas, with some 50 million people worldwide affected by armed conflict in cities.² This report draws attention to humanitarian challenges specific to urban warfare, notably the protection of civilians, civilian infrastructure, and essential services vulnerable to disruption, such as electricity, water and sanitation. In 2016, an estimated 54.5 percent of the world's population lived in cities, and experts predict that by 2030 that number will rise to 60 percent, with one in three people living in cities with at least half a million inhabitants.³ This rapid population growth and corresponding urbanization contributes to the trend of urban conflict. Research, as well as operational experience, suggests that “the relationship between civil conflict and urban areas is complex: cities sometimes serve as places of refuge or relative security during conflict and can become economic hubs in war economies, but they may also become sites of insurgency and combat.”⁴ Hostilities in populated areas may be driven by the strategic importance parties to a conflict attach to their control over certain population centers, especially where political legitimacy is rooted in a certain social, ethnic, or religious demographic.⁵

Focus of concern: humanitarian challenges specific to urban warfare, especially the protection of civilians and essential infrastructure

Urban contexts pose unique challenges related to protecting civilians and ensuring their access to essential services. Some parties to a conflict may conduct hostilities in urban centers to gain a military advantage. Fighters may fail to distinguish themselves from the civilian population, whether intentionally or not, and may prevent civilians from fleeing urban centers in order to maintain civilian cover. High population density and the close proximity of civilians to military objectives make military planning and targeting decisions more complex. Protecting civilians and civilian objects during urban warfare can thus be far more challenging than in rural areas.

The interconnectedness of urban services, such as between water and power supplies, means that damage to infrastructure, intended or not, affects significant numbers of people and demands large scale humanitarian efforts. To ensure services are maintained or restored, humanitarian interventions must factor in support for the people (e.g., service provider staff) and consumables (e.g., fuel, chemicals for water treatment), as well as the infrastructure (e.g. repairs and rehabilitation). Finally, landmines, cluster munitions, and explosive remnants of war pose threats in densely populated areas.⁶ These unexploded remnants left on the battlefield can complicate and delay reconstruction efforts and returns of displaced people.

Urban warfare and the impact on civilians

Urban warfare can have devastating consequences for civilians, particularly when parties to a conflict fail to respect the relevant rules of international humanitarian law (IHL) regulating the conduct of hostilities.⁷ In conflict in cities, civilians face dangerous journeys to markets, sniper fire, attacks on their homes, schools, and places of work, and may be forced to leave their homes in search of safety elsewhere. Physical and psychological harm also affect civilians caught in urban conflict: loss of limbs, sight, and hearing; burns; injuries caused by collapsing buildings; and post-traumatic stress disorder.

Normally mundane tasks like going to the grocery store become life-threatening excursions. As one Yemeni civilian in Taiz told the Center for Civilians in Conflict: “Going outside was a suicide mission because of snipers. It was very hard to find a grocery store and [it] was too risky to make the journey if there was one open.”⁸ In many cities in Syria, children stopped attending school due to attacks on school buildings or dangerous conditions on the way; moreover, families across the country have been displaced multiple times over as their cities become too hazardous.⁹ Civilians are also particularly vulnerable due to their near total reliance on public services with no or few alternatives when those services are disrupted. This is in stark contrast to rural areas, where civilians often have other mechanisms (e.g. water wells, farms, etc.) to help them cope when they lose access to a system supporting their basic needs.

Explosive weapons with wide area impact include large bombs and missiles, indirect fire weapon systems (e.g., mortars, rockets, and artillery), multi-barrel rocket launchers, and certain improvised explosive devices (IEDs), which can pose hazards well beyond the immediate target.

Recent armed conflicts have exposed the devastating effects of explosive weapons with “wide-area effects” in populated areas. These include: large aircraft bombs and missiles, indirect fire weapon systems (e.g. mortars, rockets, and artillery), multi-barrel rocket launchers, and improvised explosive devices (IEDs). These weapons may affect a wide area, thereby posing hazards to people or infrastructure well beyond the targeted military objective, due to their lack of precision or the large destructive radius (blast and fragmentation) of the

munition. Therefore, use of these heavy explosive weapons in urban areas exposes civilians to heightened risks of harm, driving up the death toll, resulting in lost limbs or other lifelong injuries, and frequently destroying or significantly damaging infrastructure that is essential to the survival of civilians, such as water facilities, hospitals, and sanitation systems. As will be discussed in more detail, destruction of such infrastructure can spread disease, increase displacement, and lead to more deaths.¹⁰

As a result, the International Committee of the Red Cross (ICRC) and the International Red Cross and Red Crescent Movement have called on parties to armed conflicts to avoid using explosive weapons that have a wide impact area in densely populated areas due to the significant likelihood of indiscriminate effects.¹¹ The United Nations (UN) Secretary-General and nongovernmental organizations (NGOs) have also called on parties to conflict to refrain from the use of explosive weapons with wide-area effects in

populated areas or to stop the use of explosive weapons with wide area effects in populated areas.¹² Many states also recognize the devastating effects of these weapons when used in cities.¹³

While there is no express legal prohibition of the use of explosive weapons in cities, any such use must comply with IHL. However, in practice, compliance is challenging. High population density, the inherent lack of precision with unguided weapons, and the large destructive radius of explosive weapons make it difficult for militaries to comply with IHL when using these weapons in cities.¹⁴ Moreover, even where parties to conflict maintain that they have complied with IHL, the use of heavy explosive weapons in populated areas still often results in significant and widespread civilian harm.

Long-term impact on civilian infrastructure and services

Urban warfare tends to result in significant civilian harm with consequences far beyond the immediate casualties of kinetic operations. As the ICRC notes, “The initial effect of the use of explosive weapons in populated areas can trigger humanitarian consequences that affect a much larger part of the population than those in the immediate vicinity of the impact zone.”¹⁵ Although the physical damage might be limited to a single facility or piece of equipment in a service system (e.g., the water system), the consequences reverberate through the whole system and can also have knock-on effects to other service systems.¹⁶

The impact on urban infrastructure and services is so drastic because they are interconnected and interdependent systems. For example, if a power supply is destroyed during fighting, all the services and infrastructure connected to that power supply may cease to function – potentially affecting a wide range of key services such as hospitals, water supply, wastewater collection and treatment, mass communication mechanisms, schools, and public transportation. These reverberating effects build upon one another, resulting in cumulative impacts that may render an area unlivable and reverse development gains by years if not decades.

Reverberating effects of conflict in urban areas build upon one another and can contribute to cumulative impacts that may render an area unlivable.

Urban service systems are complex and require heavy machinery, technological support, human capital, and access to maintain the system or make repairs to restore service delivery. They also depend on steady supplies of critical consumables, such as fuel, chemicals for treatment, and medicine, and often cannot function without support from other services as well. Therefore, urban warfare and attacks on urban services (people, hardware/infrastructure, and consumables), can have **direct, indirect, and cumulative impacts** on service provision and hence consequences for the urban population.

<i>Direct impact</i>	<i>Indirect impact</i>	<i>Cumulative impact</i>
<i>Immediate and physical impact caused directly by armed conflict (e.g., damage to infrastructure, death of technicians and crews, looting, etc.)</i>	<i>Understood to derive from direct impact, affecting an associated component of a system, usually in the short to medium term (e.g. brain drain, inadequate upkeep or repairs to machinery, lack of service provision, etc.)</i>	<i>Long-term deterioration in the performance of essential services through incremental direct and/or indirect impact(s) on one or more of the critical components of essential services (i.e. people, hardware, and consumables)¹⁷</i>

Indirect impacts of conflict on civilians, like the disruption of services, loss of access to medical care, and significant brain drain of service provider staff, are often overlooked when military operations are conducted in urban areas.¹⁸ Urban systems have a whole range of vulnerabilities that make them more susceptible to disruptions: residents’ high dependence on basic services, large geographic areas, sophistication of infrastructure and a reliance on specialized personnel and equipment, diversity of populations and authorities, and asymmetric levels of development and service (e.g. slums vs. wealthy neighborhoods).¹⁹

Failure to repair significant infrastructure systems in middle income countries affected by conflict can set countries back decades in development

Recent urban conflicts in Syria, Iraq, Yemen, and the Gaza Strip have all caused massive disruption of services.²⁰ Destruction of civilian infrastructure in Aleppo, Deir ez-Zor, Homs, and other Syrian cities has impacted millions of civilians. For example, fighting in Aleppo destroyed much of the power grid, leaving the majority of the city and surrounding areas with little or no access to electricity; the resulting blackout conditions were visible in satellite pictures.²¹ When Aleppo experienced severe water shortages in 2015, humanitarian agencies were forced to adapt their responses; the ICRC drilled boreholes across the city as an interim emergency solution and used social media to alert people where they could find water.²² Renewed fighting around Damascus in December 2016 damaged the infrastructure used to divert water from Ain al-Fijeh spring in the Barada Valley north of the city, leaving 5.5 million residents without access to water.²³ In such situations, humanitarian engagement with local service providers is paramount to helping enable a swift response that restores service provision to the population.

Coordinated Responses to Damaged Infrastructure

In situations of protracted urban conflict, responding to humanitarian needs – including maintaining and/or restoring service provision – is very challenging. Large-scale damage to infrastructure, the protracted nature of many conflicts, and mass displacements of people present significant challenges to humanitarian and development efforts. Specific challenges and policy responses include:

- The humanitarian response in urban conflicts is often complicated by a **lack of consistent access** resulting from political obstructionism and security constraints. These restrictions on humanitarian access make it difficult to maintain and repair critical infrastructure for essential services.
- Many international NGOs rely on partnerships with local NGOs to distribute aid and provide services. However, such arrangements may transfer risk from international NGOs to implementing partners, which raises issues of **security and duty of care**.²⁴
- International and local NGOs may also have less experience in **complex urban environments**, making it more difficult for them to know how to respond. Some agencies also may lack the capacity or technical expertise to work with service providers and undertake large infrastructure projects, especially if brain drain has depleted the local work force.
- **More effective cooperation between humanitarians and development actors** before and during a crisis could lessen recovery time, and donor support could facilitate this cooperation. Development agencies can provide a wealth of information on urban services and technical guidance to humanitarian actors at the outset of an emergency, and humanitarian actors could actively strive to work together with development actors during early recovery to ensure an effective transition that allows for more sustainability in the projects implemented by all. Humanitarian agencies could also enhance their efforts to create bridges between short-term, emergency programming and longer-term responses in urban areas of protracted armed conflicts.
- **Flexible funding**, both in timing and in programming, could help agencies better respond to service disruptions and undertake more sizable infrastructure projects. At the World Humanitarian Summit in May 2016, member states emphasized their commitments to people’s safety, dignity, and right to thrive, and also committed to better align humanitarian and development programming.²⁵ Still, humanitarian actors could change their approaches to multiyear programming to be more adaptable to the needs of communities over time, especially when addressing essential service provision in urban conflicts. Importantly, actors responding to a crisis also need to carefully manage the trade-offs between short-term and longer-term development to ensure immediate needs are being met while undertaking larger infrastructure projects.
- Ultimately, **compliance with IHL** is critical to better protect essential services and civilians during urban conflict. As will be discussed in more detail, parties to conflict must limit direct attacks to military objectives and ensure that they consider the cumulative and reverberating effects of incidental damage to civilian objects when conducting a proportionality analysis.²⁶ Improved humanitarian responses can help maintain these services once they are damaged, but better respect of IHL is ultimately needed. Other countries must also ensure that militaries and fighters they support adhere to IHL, including by protecting critical infrastructure.

Policies and Practice on Civilian Harm Mitigation and Urban Combat

Many belligerents have adopted specific policies and practices that seek to limit the destructive impact of urban conflict on civilians, including through restrictions on the use of explosive weapons. Below are a few lessons learned and concrete examples of policies and practice, both past and present, related to

the mitigation of civilian harm in urban military operations. Importantly, this is not an exhaustive list; it largely reflects U.S. and western military operational practices.²⁷

- **Planning and targeting** are particularly important in urban conflict due to the proximity of the civilian population. Military officials rely on rules of engagement and context-specific tactical directives to determine how to engage in a particular theater of conflict. These directives can inform how militaries approach civilian infrastructure, for example.
- Better use of **multiple sources of intelligence** and **other expertise** can ensure more precise targeting, reducing negative impacts on the civilian population. In some instances, military planners can consult with engineers or other civilian experts on the implications of damage to critical civilian infrastructure and how to limit such damage. Such consultation is not always possible, but when it is, doing so during the planning process can reduce damage to critical infrastructure, mitigate prolonged disruption to essential services, and facilitate reconstruction.
- **Timing** is a key consideration for military operations in a densely populated area. In some instances, carrying out an airstrike or combat operation at night can avoid harm to civilians. Conducting an analysis of civilian patterns of life in an area of planned operations may inform tactical choices to avoid and minimize harm. Indeed, timing an operation so as to minimize civilian harm is a tangible step that parties to conflict can take to fulfill their obligation to take all feasible precautions.²⁸
- In planning an air strike or ground operation, whether using direct and indirect fire weapons, military planners consider **exogenous factors**, such as soil, wind, and building materials, as well as the known **presence of civilians** as they consider the type and size of explosive to use.
- In recent years, some militaries have suggested **tactical alternatives to indirect fire and air strikes**. For instance, the U.S. Army “Protection of Civilians” doctrine, issued in 2015, recommends that: “[d]uring actions on contact, use fire and maneuver rather than indirect fires and airstrikes as the default response, and raise the authority for fires clearance to higher command levels.”²⁹
- Militaries also **develop lists of “no-strike entities”** (NSE) which should not be targeted for attack, and should trigger more scrutiny to decide whether an action is lawful and/or warranted. The source and method for defining a NSE is based on IHL, other international and domestic laws, and foreign policy concerns. NSEs can include: hospitals and clinics, electrical grids, water treatment plants, religious, cultural, historical institutions, cemeteries, and intergovernmental organizations and NGO property, equipment, and personnel.³⁰ Primary purposes of a “no-strike” list include ensuring the proper precautions are taken when an entity of particular concern (in addition to the general protection of civilian objects under IHL) is in proximity to a valid military target, as well as raising the decision-making level when that entity is considered for targeting.
- **Strengthening processes for vetting targets** can help avoid damage to medical facilities and other protected sites. This could entail ensuring all parties understand the protected status of facilities like hospitals and schools, communicating with humanitarian actors in the area to address concerns, and improving military processes for identifying protected sites.

- Military planners also must undertake a **proportionality analysis** to determine whether a specific attack "may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated."³¹ The ICRC position is that, in addition to the direct civilian harm caused by an attack, all foreseeable reverberating effects on civilians or civilian objects must be factored in a proportionality assessment.³² The following explanation is instructive:

*The "reverberating" ("knock-on" or indirect) effects of an attack describe notably its long-term consequences, for example, loss of life or injury resulting from incidental damage to civilian objects such as critical civilian infrastructure ... Reverberating effects that are reasonably foreseeable in the circumstances ruling at the time of an attack would include those based on knowledge gained and lessons learnt from past experience of use of explosive weapons in populated areas. Some militaries incorporate relevant technical expertise in the planning of an attack against a military objective located in a populated area, to help anticipate its reverberating effects.*³³

- **Collateral damage estimates** take into account the choice of weapons and targets for each operation. Many effects of combat operations can be foreseen through careful analysis and planning, as well as consultation with engineers and technical experts. When planning strikes in urban areas, the U.S. military has – at times – consulted engineers as discussed above. All parties to conflict should systematize processes for this type of consultation and embed considerations of the impact on civilian infrastructure and services (as systems) in military training and forecasting. In planning for urban operations, parties to conflicts should seek to understand what infrastructure is essential to the survival of the population and which military actions may result in less devastating consequences.
 - Some militaries also develop **contingencies** for canceling or calling off attacks, particularly air strikes. In addition to being a good practice, cancelling or suspending an attack is a specific precautionary measure required by IHL if circumstances have changed and the planned attack would violate the rules of distinction between civilian and military targets and/or proportionality.³⁴
- Cancelling or suspending an attack is a specific precautionary measure required by IHL if circumstances have changed and the planned attack would violate the rules of distinction between civilian and military targets and/or proportionality.*
- **Contingency planning** for various probable scenarios can help reduce risks to the civilian population. Planners should consider scenarios for the "day after," including implications for governance and stability following military operations and what support is required to maintain or restore essential services.
 - **Coalition operations conducted in partnership with other parties to conflict** – both state and non-state actors – can complicate efforts to enhance or ensure civilian protection in urban combat. One party may use strict policies, standards, or extensive training on civilian harm mitigation, while

others may have less capacity or relevant experience. Militaries with expertise on mitigating civilian harm could share their policies and best practices with partners through trainings and by developing military policies to limit civilian harm, including policies that limit the use of explosive weapons with wide area impact in urban areas.

- Policies to mitigate the impacts of indirect fire are also important tools. For example, the International Security Assistance Force (ISAF) in Afghanistan and the African Union Mission in Somalia (AMISOM) developed policies that severely restricted the use of **indirect fire** in urban areas, following concerns about high levels of civilian casualties resulting from these operations.³⁵ The AMISOM policy included a process to avoid, attribute, and amend. First, it stated that AMISOM should avoid the use of indirect fire. Second, where allegations occur AMISOM would attribute responsibility by investigating and assessing incidents. Third, it committed AMISON to making amends to those injured, acknowledging civilian harm, and providing financial assistance.³⁶
- ISAF commanders also **placed restrictions on the use of air-to-ground munitions** in Afghanistan, precluding air strikes if other means were available and requiring senior commanders to authorize attacks.³⁷ Many believe that this tighter control over the use of air power reduced civilian casualties caused by U.S. and NATO operations.³⁸
- The U.S. also developed an **Afghan Civilian Casualty Prevention Handbook** that assisted in training. It also encouraged U.S. forces to consider tactical alternatives when employing force, improve communication and situational awareness, and partner with Afghan forces as far as possible.³⁹
- **Battle damage assessments**, which are principally used to estimate target damage or effect, should also assess collateral damage and be used to inform best practices for preventing civilian harm. The U.S. Army's ATP No. 3-07.6, *Protection of Civilians*, notes that accurate information on civilian casualties "may be obtained through a civilian casualty battle damage assessment, in which Army units inspect the site where the incident took place to understand what effects an operation had on the civilian population."⁴⁰
- Similarly, a number of armed forces, such as in ISAF in Afghanistan and AMISOM in Somalia, have established **civilian casualty tracking mechanisms** that have proved useful to help parties better understand the impact they are having on the civilian population. Assessments can then identify the necessary steps to reduce harmful impact and strengthen the protection of civilians.
- **Safe exit routes** should be designated during urban operations, and such routes should be clearly explained to civilians, along with possible destinations for those who seek to flee.⁴¹ Parties to a conflict are obliged to meet the needs of civilians under their control, including ensuring they have access to humanitarian assistance; impartial humanitarian agencies can help the parties fulfill this duty.⁴²

- Civilians must have the **option to safely leave**, but they also **must be protected if they choose to remain** in their homes. Some civilians may be forced to stay and may be used as human shields against their will. This is unlawful, and such civilians remain protected under the law. Any evacuations should be voluntary; full and informed consent from the individuals being evacuated should be sought as far as possible under the circumstances.⁴³

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- Urban operations also necessitate effective **dialogue** between parties to conflict, humanitarian, and development actors.⁴⁴ In planning operations and determining the possible impact, efficient civil-military coordination and dialogue could minimize harm to civilians and infrastructure. Similarly, discussion and coordination of civilian harm in **after-action reviews** could document lessons learned that could help mitigate issues in the future.
- Finally, many parties to armed conflict have developed the policies and practices discussed throughout this list in consultation with the ICRC, nongovernmental organizations, and other outside experts. A **dialogue with the ICRC and other experts** can help armed forces reduce civilian casualties and comply with IHL. In July 2015, the White House acknowledged this in an Executive Order entitled “U.S. Policy on Pre- and Post-Strike Measures to Address Civilian Casualties in U.S. Operations Involving the Use of Force.”⁴⁵

Civilian Strategies to Protect Themselves

The burden and obligations to protect civilians and civilian infrastructure in urban areas falls on all parties to the armed conflict. Yet, civilians also often develop their own strategies for protecting themselves:

- In Syria, schools and hospitals have moved underground to guard against airstrikes, and local populations have developed early warning systems equipped with small radios and signals to alert others to incoming attacks.⁴⁶
- Despite dangerous conditions, many schools in conflict zones still hold classes in some fashion. For example, in eastern Ukraine, at least one school operates on irregular schedules, closing some afternoons because attacks become more frequent during that time of day.⁴⁷
- Sometimes civilians have little recourse except to flee areas of intense fighting or seek what little safety they can find in their homes. In Iraqi cities under the control of the Islamic State, civilians often move to undamaged homes or safer neighborhoods.⁴⁸ Similarly, Yemeni civilians in Sana’a avoid ground floor windows when airstrikes take place.⁴⁹
- In the densely populated Gaza Strip, civilians sought shelter in hospitals and UN schools to protect themselves from airstrikes during Operation Protective Edge in July and August 2014.⁵⁰
- In a number of conflict situations, many civilians take up arms and develop local militias to protect themselves from state and non-state armed groups.

Explosive remnants of war

The use of explosive weapons in populated areas inevitably results in explosive remnants of war (ERW) that remain in the targeted area after the attack is over. Along with landmines, ERW continue to pose a deadly threat to anyone living or traveling in the area, as they can explode with no warning, especially as they age and degrade. Children are particularly vulnerable to harm from ERW, given their propensity to play with foreign objects that may look like toys or otherwise attract their attention. The International Campaign to Ban Landmines estimates that in 2015 alone, 18 people a day were injured or killed by a landmine explosion;⁵¹ the Campaign also reported that 78 percent of recorded landmine casualties were

Explosive remnants of war (ERW) can include unexploded artillery shells, grenades, mortars, rockets, air-dropped bombs, and cluster munitions.

civilians that year.⁵² ERW can litter agricultural and urban areas for decades, continuing to harm people and otherwise disrupting daily life long after active fighting is over. Laos accounts for more than half of global cluster munition casualties, the result of 80 million unexploded cluster bombs left over from the U.S. air campaign in the 1960-70s.⁵³

Similarly, places like Iraq and Afghanistan deal with legacy contamination in addition to new ERW from current conflicts. Moreover, the use of improvised explosive devices (IEDs), including booby traps, further complicates clearance efforts as teams require additional training to identify these types of weapons. Aside from the sheer number of ERW left on battlefields around the world, the variety and longevity of contamination makes clearance and recovery even more difficult. At current levels of global contamination and capacity efforts, clearance of ERW will take decades to complete.⁵⁴

The combination of legacy contamination, continued hostilities, and dense urban populations severely complicates the task of ERW clearance. Further challenges, as well as responses to these difficulties, are detailed below.

- More **comprehensive steps to record information** on ERW use and to share it with appropriate actors (e.g., the UN or agencies working on mine risk education or clearance) are needed. Ninety-two states have taken the positive step of signing on to Protocol V of the Convention on Certain Conventional Weapons (CCW), which deals with ERW. Article 4 specifically calls on state parties to the convention to take steps to record and retain information related to ERW, and to share it with relevant actors.⁵⁵ Unfortunately, it seems that few states are taking steps to fulfill Article 4 obligations that would help protect civilians. There is a need for states to increase efforts to record and share information related to ERW with relevant actors in order to facilitate risk education as well as the marking, clearance, and removal or destruction of ERW.⁵⁶
- Typically, ERW are not cleared until peace agreements have been signed. However, the scale of the problem in current conflicts and the protracted nature of these conflicts **require clearance teams to dispose of ERW while the conflicts are ongoing**. This presents access challenges as well as greater danger to these organizations and individuals.⁵⁷ The Mines Advisory Group (MAG) recognizes this difficulty but also the importance of prompt action where possible: “[M]ine action NGOs

undertaking emergency response programmes must approach access in terms of ‘areas where active hostilities have ceased,’ rather than seeing or waiting for a clear designation of ‘post-conflict.’”⁵⁸ The risk to ERW clearance teams is significant, and organizations take duty of care very seriously. Access challenges influence not just the physical clearance of mines and other ERW, but also emergency medical care of staff conducting the operations; some organizations will not operate in an area that does not have adequate medical facilities or the option to evacuate staff in need of medical attention.

- Urban ERW clearance is further complicated by the fact that ERW are **often concealed from view in the rubble of collapsed buildings**. Handicap International reported in 2014 that an estimated 7,000 ERW items remained in the rubble of Gaza following Israel’s 2014 air campaign, “posing a threat to the civilian population, and endangering the rubble removal and reconstruction processes as well as the use of agricultural land.”⁵⁹ Rubble removal must take place before reconstruction can begin, and the process of removing contaminated rubble is often dangerous in itself as unexploded ordnance can detonate and injure clearance teams.
- **The presence of booby-traps** in schools, hospitals, and other civilian infrastructure also pose a significant danger to clearance teams and civilian populations returning to neighborhoods.
- Urban ERW clearance also **requires additional training and support**, especially if the area is difficult to access. As with the discussion of local partnerships in the previous section, some agencies working to clear ERW train local organizations to dispose of mines and other weapons, but this involves a transfer of significant risk to the local groups. Some organizations train local actors on mine risk education as a way to spread awareness of ERW risks to populations who remain in contaminated areas. However, even education can be difficult. For example, in cities across Syria, local populations prefer not to gather in large groups out of fear of becoming a target, so some organizations conducting mine risk education drive vehicles through the streets with loudspeakers detailing the risks of ERW and how to avoid them.
- Access to ERW-contaminated areas is sometimes constrained in ways that lead to **changes in demographic or sectarian population patterns** after a conflict. In some instances, governing authorities may limit the ability of ERW clearance teams to conduct operations, or they may simply declare areas clear and invite populations to return without a full clearance being completed. These political maneuvers could be a way to reinforce particular demographic majorities or ensure sympathetic populations occupy a given area; they also represent a politicization of ERW clearance that is not uncommon.
- Civilians themselves find **ways to cope with ERW contamination** in their cities. In Aleppo, the Syrian Civil Defense, or White Helmets, works to clear rubble and detonate ERW using nonexplosive methods. This group of volunteers also disseminates information about the dangers of ERW to people through discussions in schools, mosques, and other public spaces.⁶⁰ When surveyed, Gazans, having experienced three conflicts between 2008 and 2014, were well aware of methods for reporting ERW to the proper authorities; this is likely attributable to mine risk education efforts.⁶¹

In sum, more support and resources are needed to address the problem of ERW. Unfortunately, despite the U.S. role as the largest global funder of ERW clearance, current funding levels do not scratch the surface of the need. Making a dent in the massive scale of ERW contamination requires increased training of local organizations, capacity building for national agencies and governments, and integration of mine action across the humanitarian response. It also will require changes in military practice, including the choice of weapons used in operations and the transfer of arms and ammunition to partner forces, and in political dealings.

Conclusion

Urban operations in Mosul, Sana'a, and potentially Raqqa will continue to have devastating impacts on civilians and the services on which they depend. Cities that have been the subject of intense urban battles – including Aleppo, Homs, Mosul, Taiz, and cities in the Gaza Strip – have been so devastated by urban conflict that development and reconstruction will take years, if not decades, to complete. Reconstruction will be further complicated by the extensive contamination of ERW in many of these conflict zones.

If the past few years are any indication, robust humanitarian responses to urban conflict are likely to remain vitally important. Coordinated efforts related to the intersection between humanitarian and development programming is needed to improve access to essential civilian services during urban conflict. Yet, while donors and aid organizations can take steps to improve the humanitarian response to urban warfare, the burden is ultimately on those fighting wars in cities. Many militaries and armed groups fighting today's wars in cities, and those with influence on them, must do more to ensure respect for IHL and protections for civilians in conflict.

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¹ A closed-door roundtable on October 21, 2016 convened United States (U.S.) policymakers, military officials, humanitarian actors, and other stakeholders to explore challenges associated with the conduct of hostilities and the protection of civilians and civilian objects in cities. It was held under Chatham House rules. The roundtable explored the specific challenges of armed conflict in urban areas from the perspective of military and humanitarian actors, and sought to facilitate a dialogue on protecting civilians and civilian objects in these environments. Discussions examined the impact of urban warfare on people's livelihoods, for example, through the destruction and disruption of essential services (e.g., water, sanitation, and electrical systems). Participants included representatives from the U.S. executive branch, the armed forces, congressional staff, international organizations, NGOs, and other analysts. While the roundtable focused on U.S. actors and actions, the issues of urban conflict extend beyond U.S. policy and practice. Statements in this document may not always reflect the views of the convening institutions, but rather reflect the rich discussion that took place as well as relevant sources.

² ICRC, "Urban Services During Protracted Armed Conflict: A Call for a Better Approach to Assisting Affected People," Geneva: International Committee of the Red Cross (2015), 7. Found here: https://www.icrc.org/sites/default/files/document/file_list/icrc-002-42491.pdf

³ United Nations, Department of Economic and Social Affairs, Population Division (2016). The World's Cities in 2016 – Data Booklet (ST/ESA/SER.A/392). Found here: http://www.un.org/en/development/desa/population/publications/pdf/urbanization/the_worlds_cities_in_2016_data_booklet.pdf

⁴ Jo Beall, Tom Goodfellow, and Dennis Rodgers. "Cities and Conflict in Fragile States in the Developing World," *Urban Studies* (2013): 3065–3083.

⁵ Conflict in Cities and the Contested State, "Urban Conflicts from Local to Global: Why Policy and Practice Must Respond at All Levels," Briefing Paper 10, University of Cambridge (November 2012). Found here: <http://www.urbanconflicts.arct.cam.ac.uk/downloads/briefing-paper-10>

⁶ According to The Landmine and Cluster Munition Monitor, "Explosive remnants of war (ERW) are explosive munitions left behind after a conflict has ended. They include unexploded artillery shells, grenades, mortars, rockets, air-dropped bombs, and cluster munitions. Under the international legal definition, ERW consist of unexploded ordnance (UXO) and abandoned explosive ordnance (AXO), but not mines." Definition can be found here: <http://www.the-monitor.org/en-gb/the-issues/erw.aspx>

⁷ Also known as the law of armed conflict, international humanitarian law is a set of rules that seek to limit the effects of armed conflict. It protects "people who are not or no longer participating in hostilities and restricts the means and methods of warfare." For more, see: <https://www.icrc.org/en/war-and-law>

⁸ Center for Civilians in Conflict, "We Lived Days in Hell": Civilian Perspectives on the Conflict in Yemen," CIVIC (2016), 13. Found here: <http://civiliansinconflict.org/resources/pub/we-lived-days-in-hell-civilian-perspectives-of-the-conflict-in-yemen>

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