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PROTECTING CIVILIANS AND HARM FROM WEAPONS: ILLUSTRATIONS FROM IRAQ

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Article 36 is a specialist non-profit organisation, focused on reducing harm from weapons.

KEY MESSAGES

✕ Two years after Iraqi forces and the international coalition declared the conflict with 'Islamic State' (ISIS) in Iraq complete, civilians living in conflict-affected areas continue to deal with harms resulting from the weapons, means and methods of warfare that were used. The wide-ranging and lasting impact of the conflict illustrates that the full protection of civilians requires recognising and acting on how harms to civilians develop over time.

✕ The recent and accumulated physical legacies of conflict in Iraq – including the destruction and hazardous remnants left by the use of explosive weapons in populated areas in particular – continue to have a huge impact on the health, housing, services and livelihoods of Iraqis today, including through the continued displacement of over one million people.

✕ The impacts of the previous use of and current availability of weapons continue to interact with other social, political, economic and conflict dynamics to pose challenges to civilian protection in Iraq.

KEY RECOMMENDATION

✕ In developing global policy towards the full protection of civilians, states should analyse the short, medium and longer-term effects of patterns of weapons use, and how harm to civilians from specific, immediate decisions during conflict can transmit through space and time. Such an analysis should inform the adoption of further international measures to prevent and address civilian harm.

A young resident of Tulaband, Iraq, whose family fled the village when ISIS were spotted advancing towards it. They returned after more than a year, when explosives were cleared and schools were restored in the area.
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OVERVIEW

Protecting civilians should be conceived of as a wide goal of conflict prevention and sustainable development, which gives attention to the health and wellbeing of people, the social structures that ensure justice and dignity, and the environment. Its objective should be the highest standards of public health, evidence and transparency in analysis for policymaking, accountability in governance, and environmental protection. As such, it is a goal towards which more can always be done.

At the level of global policymaking, working towards the full protection of civilians requires taking a wide, evidence-based view of civilian harm from conflict and the factors and actions that generate patterns of harm over time. It should also involve acknowledging that while International Humanitarian Law provides a baseline towards civilian protection, the full protection of civilians involves centring civilians and their health and making a continued effort to prevent and address harm, based on evolving knowledge.

This paper is based on research undertaken during November 2019 in northern Iraq.[1] It begins with an overarching snapshot of the key protection challenges for civilians in northern Iraq at that time. It takes as a starting point the issues perceived as most urgent by what might loosely be referred to as the humanitarian community, focusing on protection-related issues stemming from or linked to the recent conflict between the government of Iraq (and international allies that intervened militarily in support of it) and ISIS. The purpose of this analysis is to highlight some of the relationships of these current dynamics and impacts to weapons.

The paper then focuses in from this contextual snapshot to look at the case of the Al-Shifa hospital complex in Mosul, which was destroyed during the conflict with ISIS. This gives a specific example of some of the particular post-conflict hazards, the complexity of clearance, remediation and recovery, and the challenges for civilian protection that emerge when a medical facility is destroyed by explosive weapons.

These accounts are presented towards building understandings of how weapons and tactics link with different types of harm and the transmission of harm through communities, within the complex overall landscape and task of protecting civilians. The paper aims to contribute towards a broader conceptual model of how particular weapons and the ways they are used can affect the goal of protecting civilians. The contemporary picture of challenges to protecting civilians in Iraq gives indications of how some of these effects of weapons can be understood – and in particular underscores the need to address how the use of explosive weapons in populated areas can be restricted in order to better protect civilians in the short, medium and long term.

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Over the past four decades, civilians in Iraq have experienced the impacts of several armed conflicts and violence from different actors, as well as economic crises that have been sometimes related or intertwined. The legacies and continuing dynamics of this for people and their environment are wide-ranging, both in the present and for the future. The impacts experienced by Iraqis range from those on individual health and wellbeing to the negative effects on essential services, livelihoods, and nodes of social organisation and community.

By November 2019, when Article 36's research took place, it had been more than two years since the conflict with ISIS was declared over.[2] At this point, damage and disruption to services and housing from the use of explosive weapons in populated areas during the conflict still required significant time and resources to remediate. Approximately 1.5 million people remained internally displaced, 70 per cent of whom had been displaced for over three years.[3] Challenges to remediation and continued displacement were closely intertwined – along with the risks from explosive remnants of war (ERW) including the many explosive devices left and emplaced by ISIS, which remain a factor preventing Iraqis from safely returning home.

The accumulation of legacies from other, previous conflicts and patterns of weapon use can be seen in the current challenges to protecting civilians in Iraq. For example, prior to the conflict with ISIS, many services and much of Iraq's infrastructure was already in poor condition, partly because of damage or degradation due to a lack of investment that can be linked to previous conflicts. New ERW contamination, particularly from the actions of ISIS, has also been layered on top of Iraq's already large and challenging clearance needs.

This underlines that in developing global policy for the full protection of civilians, analysing the short, medium and longer-term effects of patterns of weapons use, and how harm from specific, immediate decisions during conflict transmits through space and time, should be key to developing effective international policy interventions addressing civilian harm from conflict.

SNAPSHOT: CHALLENGES TO PROTECTING CIVILIANS IN NORTHERN IRAQ AND THE ROLE OF WEAPONS

DISPLACEMENT, RETURN, AND THE ROLE OF THE EFFECTS OF WEAPONS

At the time of research, in the areas most affected by the conflict with ISIS, one of the major immediate challenges facing civilians were dynamics around the continued displacement of people, their vulnerabilities, and challenges to their return home. In November 2019 one and a half million people were still displaced from their homes as a result of the conflict (over four million had been displaced since 2014 in total). The range of issues associated with this fact was a primary focus for the humanitarian assistance community.[4]

The effects and legacies of weapons use has contributed in several ways to the picture of why some people are still displaced, and the challenges facing those wanting to return, ranging from physical barriers and dangers, to challenges with essential services.

Houses in Hasansham village, Hamdaniya district, remain damaged from actions taken during the conflict. Many Arab former residents still live in neighbouring Hasansham IDP camp, reportedly prevented from returning to the village. Kurdistan Regional Government authorities have stated that returns have been prevented by ERW, lack of services, and concerns for IDP safety given social conflict and desire for revenge against ISIS. Displaced Kurdish families have returned to other similarly affected villages in the area.[8]
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DESTRUCTION, LOSS AND PHYSICAL DANGER

A huge number of residential buildings were damaged or destroyed in some towns and cities during the final offensive against ISIS. Intense fighting and the widespread use of explosive weapons in populated areas, including those with wide area effects, caused huge damage to the urban environment, and also created vast volumes of rubble that required clearing.[5] Different actors involved in the conflict – including but not limited to ISIS – were also reported to have deliberately destroyed houses in some cities, towns and villages for various reasons, including in order to prevent the return of certain communities.[6] A World Bank Damage and Needs Assessment Survey in 2017 found that in the 16 conflict-affected cities studied, 59% of housing stock was damaged or destroyed, with this figure reaching 95% in two cities that experienced particularly heavy fighting.[7]

Despite rehabilitation programmes, many residential buildings remain damaged or destroyed due to different factors. These include issues and disputes over property ownership[9] (or hostility to the return of certain individuals or communities); linked challenges in ensuring clearance operators have permission and consent to clear ERW from residential buildings; and a lack of resourcing for the rebuilding of destroyed homes.[10]

The scale of the ERW clearance challenge in populated areas, and its complexity, has been considerable. These clearance challenges relate to how the later stages of the conflict in particular ended up being fought (with the heavy use of explosive weapons in populated areas), and the decisions different parties made about weapons and tactics (including ISIS's emplacement of improvised mines and booby-traps). The large amount of ERW contamination produced by the conflict comprises considerable unexploded ordnance from the use of explosive weapons by all parties,[11] and the large number of abandoned munitions, mines and booby traps produced and laid or left by ISIS.

As well as the sheer volume of clearance required, some general factors in the challenge have included the range of novel devices produced by ISIS that clearance operators had not encountered before, and the fact that the 'three dimensional' clearance of houses, damaged buildings, infrastructure and rubble (including the emplacement of booby traps at different levels) required different approaches to those used in clearing traditionally 'flat' minefields.[12] Deliberate destruction and crimes by ISIS contributed significantly to this picture – but the role of 'incidental damage' caused by government forces and their allies who had policies of seeking to protect civilians was also large. Alongside the direct physical danger to civilians that they pose, ERW can sometimes contribute to weapons availability and future destabilisation as well, as material left behind can be used to produce further explosive devices.[13]

The conflict also produced many traditional minefields and caused ERW contamination on people's agricultural land – as well as in their residences. Land was also damaged by agricultural fires that were set both deliberately and accidentally (some accidental fires resulted from airstrikes in dry conditions for example).[14] Farming equipment was also deliberately destroyed during the conflict, particularly by ISIS.[15] For farmers, agricultural workers and rural communities, these conflict-related degradations to agriculture add further challenges on top of the effects of climate change and desertification in Iraq that they were already dealing with, as well as degraded water supplies (partly stemming from regional access issues, as Iraq's rivers originate outside of the country[16]). The result has been further agricultural capacity degradation within wider environmental problems. Significant conflict pollution from military waste and attacks by various parties on oil and hazardous chemical facilities during the recent conflict has also contributed to this, as well as having serious impacts on people's health.[17] Further to impacts on agriculture and related rural economies, destruction and damage to shops, markets, factories and banks has contributed to a broader picture of conflict-related economic losses, damage to public and private firms, and losses of jobs and livelihoods.[18]

These impacts, linked primarily to the use of explosive weapons and their extended or persistent effects, present practical and financial barriers as well as contributing to fears of returning for some displaced families. They interact with various other social, economic and political factors in contributing to continued displacement.[19] These impacts of weapons use will also affect those who have returned to or are living in affected areas.

DISRUPTION OF ESSENTIAL SERVICES

Many families in affected areas of Iraq have also been reluctant to return to their hometowns until essential services such as schools and healthcare were restored. This dynamic (among others) continues to contribute to pressure on services in the areas where displaced people are currently living.[20] Many essential services and their infrastructure were damaged or put out of action by the conflict with ISIS, with damage from explosive weapons use, some deliberate destruction, and the displacement of key personnel.[21]

At least half of the health facilities in the majority of conflict-affected cities were damaged or destroyed by the conflict with ISIS, with the damage to these cities' hospitals alone estimated to be worth $1 billion. The additional burden on physical health services created by conflict-related injury also has implications for future service delivery[22] – with significant unmet needs in mental health too.[23] One agency providing rehabilitation to those with conflict-related injuries observed that the highest proportion of injuries they were seeing were crush injuries resulting from building collapses, which are likely to be linked to explosive weapons use.[24]

School buildings had been used during the conflict to house displaced people, as well as being occupied by armed groups (including but not limited to ISIS[25]). Over half of the educational institutions included in a World Bank survey of conflict-affected areas were damaged by the conflict, with almost a fifth completely destroyed. These barriers to a safe education were highlighted by the World Bank as disproportion-ately impacting girls.[26] The power infrastructure of Iraq was significant-ly damaged, physically, by both deliberate sabotage and incidental impacts from the weapons used during the conflict, with an estimated $7 billion of damage and 8 out of 17 surveyed power plants destroyed. This had adverse impacts for other services including health, education, water, sanitation and communications, which themselves sustained significant deliberate or incidental damage.[27] The operation of local municipal services has also faced serious challenges from destruction, resultant rubble, and widespread ERW.[28] These services are crucial to the liveability of places and to community and social cohesion as are the physical and social rebuilding of common and open spaces in cities.[29]

SOCIAL LEGACIES, TENSIONS
 AND WEAPONS AVAILABILITY

In November 2019, one major source of civilian protection challenges for some, particularly displaced people, was the issue of how the crimes of ISIS and the 'suspected ISIS affiliation' of individuals and their extended families were being handled by the authorities. At the time of research, some individuals were for example finding it difficult to leave displacement camps because they could not document their legal identity, or achieve clearance and removal from a security

Sahala

When we came back we did not have electricity at first, and only water from the well. We decided to return when the school was open again for the children to go. For the first year after the liberation there was no school or health centre. When we got back, the destruction in the village was so sad to see. Some of our house had been destroyed too. IEDs [improvised explosive devices] left by ISIS were already being cleared, but we felt scared at first – though now we feel safer. We are facing a very hard economic situation and we can't afford to rebuild the house. I don't know how I feel about the future. I hope may-be one day things will be better than they were before.

Sahala left her village, Tulaband, with her family in the middle of the night when ISIS was spotted advancing towards it. They returned some time after Kurdish Peshmerga forces retook the village
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database. This has disproportionately affected female-headed households (where for example the suspicion that a missing deceased spouse was an ISIS fighter may be high, and household resources low) and their children, who face problems of legal registration (and so access to education and other services too). For those with acknowl-edged family connections to ISIS fighters or members, the path to reintegration into society was also unclear.[30]

These issues relate conceptually to some of the political and defini-tional issues around protecting civilians in armed conflict: namely, when the recognition of being a civilian is extended to individuals by governments or conflict parties, and how guilt, innocence and the relationships of civilians to armed groups are treated under different

circumstances. Who is considered a civilian (and who is seen as 'civilised' enough to qualify) has varied over time and circumstance, and in the absence of an unambiguous definition in law.[31]

Given the huge range of horrific crimes and acts perpetrated by ISIS, and the many casualties Iraqi forces suffered under a policy of trying to protect civilians during the conflict to defeat ISIS,[32] highlighting the difficulties of civilians with any kind of perceived proximity to ISIS, or raising the harms caused to civilians by the conflict to defeat ISIS, remains extremely sensitive in Iraq. Nevertheless, these issues may have significant implications socially, politically, and for protecting civilians in the future if they are not fully and sensitively addressed.

In contrast to those who face difficulties leaving displacement camps, some displaced people have also been compelled to return to their communities, but then been violently rejected by neighbours with suspicions or resentments towards them.[33] These issues may stem from the armed conflict with ISIS, or from previous events such as the 'Arabisation' of Northern Iraq in the 1980s, which entailed efforts to reshape communities along ethnic divisions, and introduced legal inequalities in property rights between different groups.[34]

Related to and within this picture of protection challenges linked to the social legacy of the conflict is the proliferation of security actors, particularly in northern Iraq. In this region, there is a wide range of militias theoretically under state supervision that are often defined by ethnic, sectarian or local affiliation.[35] Certain communities, such as the Yazidis, have mobilised into what are effectively self-defence forces, with many civilians reportedly also arming themselves

Diswar and family

Living in these unfinished houses is not good for our children, and conditions are very difficult. Soon winter will be coming which will be even worse. There's only one school at the mountainous end of the village, so it takes a long time for the kids to walk to school. Only one family has returned to our village. We are hoping for security in our area and compensa- tion for what we have lost, but I don't know what will happen.

Diswar, second from right, with members of her family. The family are Yazidis from the Sinjar area, and all escaped onto Mount Sinjar when ISIS attacked their village, burning and destroying houses using heavy weapons. After 12 days on the mountain with no food and little water, the family heard of a safe route down, and reached a convoy of trucks taking people away from the mountain. They now live in a partially constructed house in Shazi, a Christian village in Dohuk governorate of the Kurdistan Region of Iraq.
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(including both men and women[36]). This has stemmed partly from a lack of trust that the security forces or others will protect them in the future, following the genocide perpetrated by ISIS on the Yazidi community. This militarisation and proliferation of armed actors and arms nevertheless has its own risks to stability and safety for civilians.

ACCUMULATING IMPACTS FROM PREVIOUS CONFLICTS AND WEAPONS USE

In addition to pressing legacies from the recent conflict against ISIS, Iraq was already facing a variety of social, political, health and economic challenges from previous instances of conflict and violence – which continue to interact with current challenges.

Focusing on the specific harm contributed by the use of certain weapons and tactics to this picture, the past four decades of armed violence in Iraq have left explosive and toxic legacies that continue to create immediate physical dangers. These dangers, in turn, continue to negatively affect social and economic activity. Four decades of armed violence in Iraq has also left patterns of harm and destruction that have wider impacts for individuals, communities and society.

Iraq has one of the highest levels of contamination in the world from ERW, which require clearance and disposal for the safety and functioning of communities. With the size and current pace of addressing this task, the impacts on communities are likely to persist in Iraq for some time. These range from death or life-changing injury and disability from accidents, and the knock-on social and economic effects of these, to the denial of lands used for agriculture, grazing, essential services or leisure.

Iraq is reported to have the largest total area of landmine contamination in the world, with at least 500 square kilometres still considered hazardous. In addition to improvised mines emplaced recently by ISIS, landmines from the 1980s war with Iran, the 1991 'Gulf War', and the 2003 invasion of Iraq led by the US, still pose a threat to communities and exact injury, disability and economic disruption.[37] These mines have been a threat for so long that in some communities the location of known minefields has become a matter of knowledge to pass down through the generations.[38] Iraq also has one of the highest levels of contamination in the world from cluster munitions – 191 square kilometres – after these were used extensively in the 1991 Gulf war and 2003 invasion.[39]
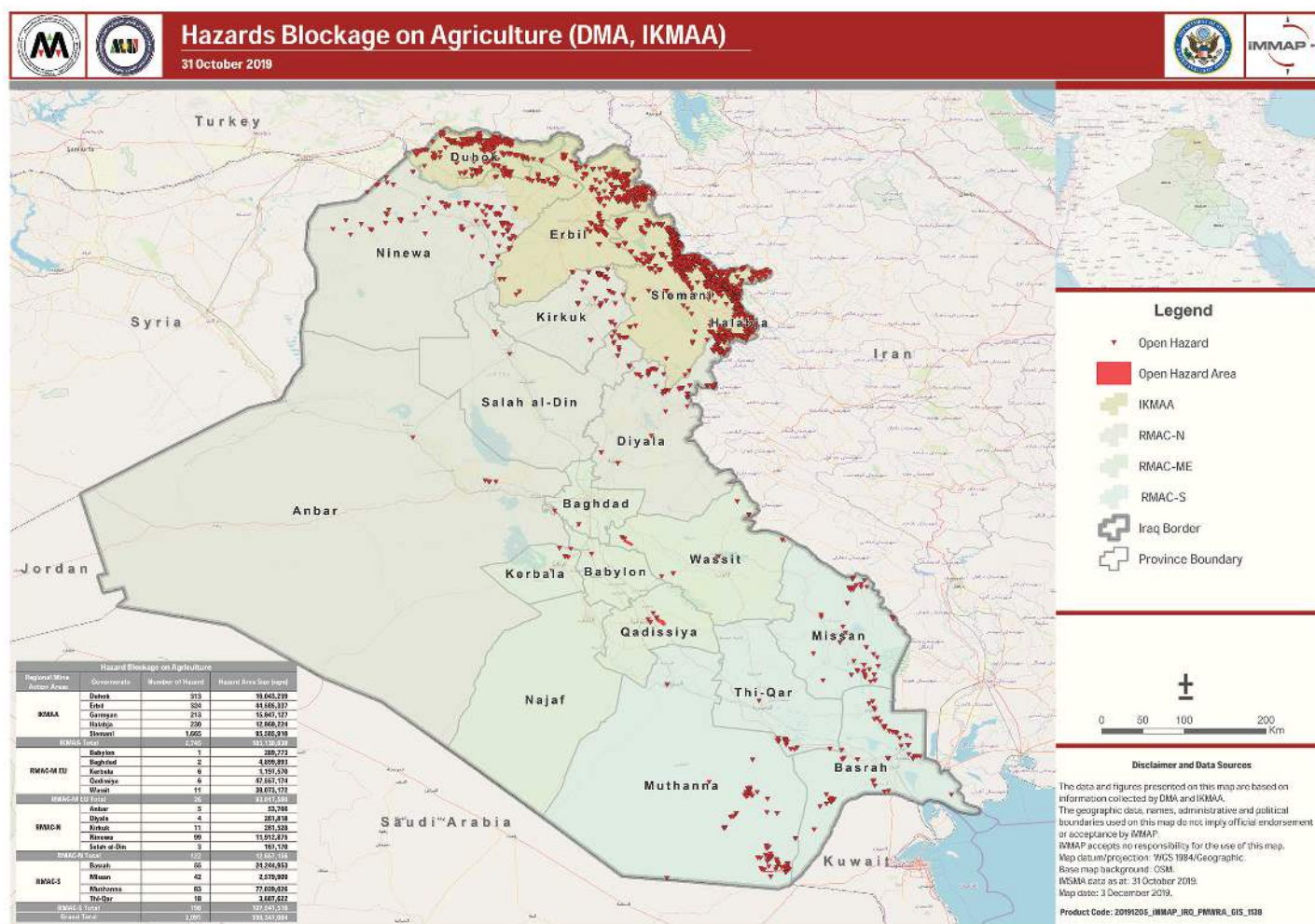
Giving just one example and indication of how the presence of ERW affects civilians in Iraq, this map shows locations recorded by the national mine action authorities (the Directorate of Mine Action (DMA) of Federal Iraq, and the Iraqi Kurdistan Mine Action Agency (IKMAA) of the Kurdistan Region of Iraq) where ERW is providing a 'blockage' to agricultural activity, as of November 2019. The pattern of ERW needing clearance overall stretches over a much wider area than shown by this map, particularly in north and central Iraq. Map image: © iMAPP

Iraq is currently very unlikely to meet the global political target set with other parties to the Anti-Personnel Mine Ban Treaty of being landmine free by 2025. It is also unlikely to meet its obligation under the Convention on Cluster Munitions to clear cluster munition remnants by 2023.[40] Challenges include the accumulation of contamination from different waves of conflict creating a large-scale task; loss of original knowledge about the location of some mines, for example with destroyed records (and minefields shifting in some areas for example during rains); the lack of legal authority and resourcing to national mine action agencies; coordination and data challenges; and resourcing challenges for mine action in general (including the shifting priorities of international donors, who are currently focused on post-ISIS clearance).

Other hazardous legacies left by previous conflicts include those of depleted uranium weapons that were used in the 2003 invasion,[41] and chemical weapons used by the Iraqi government against its Kurdish population in the 1980s – some remnants of which are still occasionally found (requiring specialist removal), and whose previous use continue to have health impacts for survivors.[42]

Different waves of conflict and destruction have also contributed to the fact that much of the infrastructure and services damaged in the recent conflict with ISIS were already degraded or of poor quality. Much urban infrastructure was already in need of upgrading and renovation, for example. In some places, plans to improve and modernise services such as healthcare reportedly had to be put on hold when the conflict started, in order to prioritise crisis response.[43] As another illustration, a sample of assessments of damage to schools in Ninewa governorate (shared informally with Article 36) shows a mixture of reconstruction needs from conflict damage (including from explosive weapons, gunfire and vandalism/arson) and disrepair from lack of maintenance. These accumulated and accumulating legacies pose serious challenges to the goal of fully protecting civilians in Iraq, broadly conceived.

CASE STUDY: THE HAZARDOUS AFTERMATHS OF DESTRUCTION AT A HOSPITAL: AL-SHIFA COMPLEX, MOSUL[44]

The case of the Al-Shifa complex in Mosul illustrates in some detail the type of damage that can be caused by the heavy use of explosive weapons against a modern hospital campus. Al-Shifa was occupied by ISIS and being used as a weapons factory at the time of its destruction. As an example, it shows the complexities of dealing with the aftermath of such destruction in terms of hazard clearance and reconstruction. It also gives some indications of wider impacts on healthcare. The scale and components of the task of dealing with the widespread destruction of this large medical facility by explosive weapons were vast: for even the initial task of dealing with removing hazards and rubble – before any reconstruction could begin – the technical challenges and range of hazards produced, the different specialists needed, as well as the sheer volume of work, were huge.

During the last phase of the conflict with ISIS, the group used the Al-Shifa hospital complex in West Mosul as its headquarters. The complex is located on the right (West) bank of the river Tigris adjacent to the Old City, where the final stages of the conflict took place. As documented elsewhere,[45] the damage sustained to West Mosul and the Old City in particular by the final offensive was immense.[46] This damage came primarily from the heavy use of explosive weapons including airstrikes, artillery and rocket barrages by forces allied with the Iraqi government, as well as the use of improvised explosive weapons by ISIS. One clearance operator working in the Old City area after the conflict informally estimated that around two fifths of the resulting unexploded ordnance and remnants to clear were from ISIS, and three fifths from liberating forces.

A view of part of the Al-Shifa complex in 2017 © Mark Warburton

As the temporary headquarters of ISIS, the Al-Shifa complex suffered a high level of destruction in the offensive, rendering it totally non-operational. Al-Shifa was a large, modern campus containing four main hospitals, a teaching hospital and specialist clinics and was one of the best facilities in Iraq before the conflict. All its buildings sustained some battle damage, with some sustaining structural damage (though it was initially assessed that 86% of the complex could be rehabilitated[47]). Large amounts of rubble and building debris were generated throughout the whole complex and its grounds. Of some of the main buildings in the complex, the teaching hospital and blood bank were assessed to have suffered 100% damage; the oncology hospital 90% damage; the Ibn Sina general hospital 80% damage; and the Al Batool maternity and gynaecology hospital 65% damage.[48] This damage was sustained from direct and indirect fire explosive weapons. This included a large number of airstrikes by forces allied with the Iraqi government, and the use of IEDs by ISIS. ISIS was also using the complex as a site for manufacturing and storing a wide variety of weapons and ammunition. Following the end of the battle for Mosul, some further damage was caused to the oncology hospital by the destruction of two large IEDs that had been emplaced in the car park below the building. Additionally, some victim operated IEDs left by ISIS caused further civilian casualties and destruction on the site.

Clearing the Al-Shifa hospital campus of hazards and debris to allow the safe reconstruction of medical facilities to proceed represented a large and complex task. It required many specialist personnel and different types of equipment to undertake. Clearance activities took place between August 2017 and May 2018, with the first reconstruction activities beginning in June 2018.[49] Private company Optima undertook the first phase in 2017 on behalf of the UN Mine Action Service. This involved a visual survey of the site and surface clearance of ERW from the campus and its buildings, where it was possible to do so safely. One of the main initial priorities for survey and clearance was to allow the Iraqi Ministry of Health safe entry to particular buildings in order to salvage and redistribute equipment to other, functioning hospitals. The UNDP Funding Facility for Stabilisation (FFS) identified priority buildings for rehabilitation as the blood bank, general hospital, oncology hospital, and maternity/gynaecology hospitals.[50]

With the high level of damage at the campus, this first phase of surface clearance was by its nature very limited. The clearance teams did not enter some buildings or locations where these may have been structurally unsafe. Reports from structural engineers were needed in order to move survey and clearance work forward. Some locations – such as basements and confined spaces like the campus's water and storage tanks – also needed to be assessed by teams using specialist equipment such as breathing apparatus (for their safety). Additionally, the use of mechanical assets (such as armoured excavation vehicles and other specialist machines) was needed in order to find and remove all ERW effectively. General rubble clearance from the campus grounds and buildings was also required (much of which was subsequently undertaken by Iraqis working under a UNDP FFS 'cash for work' scheme[51]), which would likely in turn reveal further ERW clearance tasks.

In the limited first phase of clearance work, the disposal of almost 1,800 items of ERW from the surface level of the campus was recorded. These items came from five buildings and the open areas of the campus (with less than a quarter of items from the latter). With ISIS using the hospital complex to manufacture and store weapons, many of these were various improvised explosive weapons and their components, among other ordnance and remnants from the offensive. As others have documented in detail,[52] ISIS made a wide variety of weapons to a high degree of sophistication (often improving on the designs of the manufactured weapons being mimicked), and in large quantities. As well as IEDs, the ISIS-produced items found at the Al-Shifa campus included mortars, different types of rockets, grenades, and improvised air dropped munitions that ISIS released from small hobby drones. Their production techniques often involved taking material from manufactured weapons or ammunition to enhance the functioning of different improvised weapons: in the Al-Shifa complex for example, thousands of rounds of small arms ammunition, which had been dismantled for likely use as rocket propellant, were found in the basement of at least two buildings. Chemical hazards in the complex arising from ISIS's weapons production also required attention from the Iraqi army's specialist chemical weapons disposal team.

Some of the challenges and hazards faced in this initial phase of survey and clearance arose from physical barriers generated by the destruction that had resulted from the heavy use of explosive weapons on the campus. These included the large amount of rubble and building debris at the complex, which meant that many areas could not be cleared, and the damage to the buildings being surveyed. Destroyed roofs, walls and stairwells meant for example that certain buildings or floors of buildings could not be accessed or appeared too unstable to enter. In some locations it was known that large air dropped bombs were buried, presenting another hazard and barrier to survey, and which required removal with larger equipment.

However, the hazards and challenges to clearance and reconstruction at the Al-Shifa campus caused by its widespread damage were not only due to physical barriers caused by destruction, or from the hazards left by different explosive weapons. The comprehensive damage caused to all parts of the hospital campus also created a range of other risks to those working to clear the complex, because of the hazardous materials that were already present at the hospital site. For example, there was a water treatment facility in the complex that was damaged, creating a potential chemical hazard from chlorine gas. Damage to the x-ray and nuclear medicine departments raised the possibilities of radiological hazards.[53] Damage to fuel stations posed risks from fumes – and along with the medical oxygen supply, the risk of further explosions. Destruction also generated electrical hazards from the damaged electricity supply. Finally, there were also potential biological hazards to health at the campus. The hospital's on-site health waste incinerator was damaged, the sewage system suffered damage, and there were also many dead bodies at the site. These included ISIS fighters killed in the battle or who died in the hospital where they were being treated. It also included people that ISIS had killed at the site.[54] Many bodies had been collected and moved into basements by ISIS, where they were decomposing.

The Al-Shifa complex was the largest hospital campus in Mosul before the conflict, with over 1,000 beds in its four main hospitals.[55] Its destruction represented a major loss of healthcare capacity to the city and region. During 2018, the health ministry and Ninewa department of health deliberated in discussion with the UNDP FFS on whether the

different hospitals and units should be rebuilt on the existing complex, or relocated to other hospitals or a new site – given that the complete destruction to the campus presented a complex task for rehabilitation. In the end, work did commence on rebuilding the surgical unit at the complex that year, with designs drawn up for the oncology hospital, Al Batool maternity/genealogical hospital and adjacent fertility clinic, the radiological unit and blood bank. Assessments were also carried out by UNDP on the Ibn Sina general hospital, oncology hospital, Al Batool hospital and fertility clinic, burns and surgery unit, and blood bank during 2018.[56] Work was expected to start in 2019, requiring significant funding. The reconstruction of Ibn Sina general hospital alone, to be built back with an increased capacity, was predicted to take four years, and cost $320m.[57]

The knock on effects from the destruction of the complex in the battle for Mosul, following ISIS's headquartering itself there, will stretch far into the future, at great financial cost – and at great cost to the quality healthcare of hundreds of thousands of Iraqis. The purpose of highlighting this is not to make suggestions with hindsight on military decision-making during the conflict with ISIS in Iraq – but rather to note some of the complexities and long-term effects for protecting civilians that can result from the destruction of healthcare facilities, for consideration in future policymaking. Working towards the full protection of civilians entails considering these issues, the complexities of the clearance needs created, and the impact on individual and public health of such destruction. Protecting civilians must involve addressing the aftermath of such destruction and resourcing this, and considering how similar impacts might be avoided in the future in different contexts.

CONCLUSION

This paper has looked at some of the ways that the weapons and tactics used during the conflict are specifically implicated in challenges to civilian protection faced by people in northern Iraq now, within what is a complex overall picture.

Two years after the war with ISIS, along with the deliberate destruction and crimes committed by the group, the 'incidental damage' caused by those seeking to protect civilians also plays a significant part in the challenges facing civilians. Government forces and their allies took a deliberate decision to strive to protect civilians and uphold international law, even where this might put forces in greater danger. Nevertheless, the widespread use of explosive weapons in populated areas during the conflict with ISIS still contributed to the destruction and impairment of housing, services, infrastructure and various economic activities, as well as to deaths, life-changing injuries, psychological harm and the degradation of common spaces.

Much of this damage was incurred to infrastructure and services that were already in poor condition – conditions which previous episodes of conflict had also contributed to. The ERW left by the war pose hazards to communities and a multi-faceted range of challenges for clearance. As the case of the Al-Shifa complex shows, the destruction with explosive weapons of particular locations, such as in this case an occupied modern hospital campus, can produce particular challenges

to clearance and rehabilitation. At Al-Shifa these included the explosive, chemical, biological and radiological hazards generated by healthcare-related materials already present on site.

The ERW and clearance needs created by the recent conflict have added to those from previous conflicts that communities in Iraq already had. Furthermore, toxic legacies from attacks that damaged or targeted industrial sites like oil facilities, as well as from the previous use of weapons such as those containing depleted uranium, continue to affect health and the environment. In terms of weapons availability and risks in the present, the proliferation of armed security actors and civilians arming themselves for protection also carry further risks to civilian safety.

These accumulated and interacting legacies and dynamics relating to weapons pose a number of challenges for civilians and their protection in northern Iraq. These range from risks to civilians' physical safety, through factoring into displacement, to access to services and rights. The ongoing global public health crisis will now be layered onto these.

The snapshot account from northern Iraq presented in this paper suggests that if civilian protection is to be improved in the future in different countries and contexts – as well as in Iraq – there continue to be entry points for analysis and global policymaking that specifically addresses the patterns of harm produced by particular weapons and their use. There is also much opportunity for more fully considering how evidence of the short, medium and longer-term impacts and harms produced by conflict should be factored into the goal of protecting civilians. Given the harm created in Iraq in spite of some parties' commitment to international law, it also shows that there are opportunities for considering how further measures, building on the baseline for protection provided by international humanitarian law, could contribute to the full protection of civilians.

ENDNOTES

1   Article 36 visited the Kurdistan Region of Iraq in November 2019 for case study research for this project. As well as reviewing recent reports and literature (in English) we spoke for background information to a range of international organisations, international and Iraqi NGOs, government agencies, and academics and researchers. We also interviewed people who had been directly affected by the recent conflict. Article 36 is grateful to the hosting and logistical support provided by the Mines Advisory Group team in Iraq, without which we would have been unable to make this visit and undertake these interviews

2   The conflict with ISIS was declared complete in December 2017, when ISIS ceased to exist as an entity holding territory in Iraq. It still operates and conducts attacks in the country, and has been making efforts to regroup, possibly taking advantage of the pandemic to do so. See for example Gayle Tzemach Lemmon (2020), 'ISIS is using coronavirus to rebuild its terrorism network in Iraq and Syria,' NBC News https://www.nbcnews.com/think/opinion/isis-using-coronavirus-rebuild-its-terrorism-network-iraq-syria-ncna1215941

3   UNOCHA (2019), 'Humanitarian Needs Overview: Iraq,' https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/iraq_hno_2020-fullen.pdf

4   ibid.

5   See for example documentation of the battle for Mosul, such as: Samuel Oakford (2018), 'Death in the city: High levels of civilian harm in modern urban warfare resulting from significant explosive weapons use,' Airwars https://airwars.org/wp-content/uploads/2018/05/Airwars-Death-in-the-City-web.pdf; Center for

Civilians in Conflict (2019), 'Policies and practices to protect civilians: Lessons from ISF Operations Against ISIS in Urban Areas,' https://civiliansinconflict.org/publications/research/policies-practices-to-protect-civilians/; UN Assistance Mission in Iraq (2017) 'Report on the Protection of Civilians in the context of the Ninewa Operations and the retaking of Mosul City, 17 October 2016 – 10 July 2017,' https://reliefweb.int/report/iraq/report-protection-civilians-context-nine-wa-operations-and-retaking-mosul-city-17-october; Amnesty International (2017), 'At any cost: the civilian catastrophe in West Mosul, Iraq,' https://www.amnesty.org/en/documents/mde14/6610/2017/en/; Women's International League for Peace and Freedom (2019), 'We Are Still Here - Mosulite Women 500 Days After the Conclusion of the Coalition Military Operation,' https://www.wilpf.org/portfolio-items/we-are-still-here-mosulite-women-500-days-after-the-conclusion-of-the-coalition-military-operation/

6   A very sensitive issue, this was mentioned during several background conversations undertaken for this research

7   World Bank Group (2018), 'Iraq Reconstruction and Investment. Part 2: Damage and Needs Assessment of Affected Governorates,' http://documents.worldbank.org/curated/en/600181520000498420/pdf/123631-REVISED-Iraq-Reconstruction-and-Investment-Part-2-Damage-and-Needs-Assessment-of-Affected-Governorates.pdf

8   See Human Rights Watch (2019), 'Kurdistan Region of Iraq: Arabs Not Allowed Home,' https://backend.hrw.org/news/2019/09/06/kurdistan-region-iraq-arabs-not-allowed-home and Hiwa Shilani (2019) 'KRG denies claims it is preventing displaced Sunni Arabs from returning to areas outside Mosul,' Kurdistan 24, https://www.kurdistan24.net/en/news/cd33f92e-67ef-40fe-a2d4-591d38e6c654

9   Which may have a long history and be rooted in previous discriminatory policies that granted legal ownership over homes and land to some communities and not others. See below note 34 for one example.

10   Which is much more expensive than the rehabilitation of damaged homes that the international humanitarian community has mostly been carrying out. Iraq has a compensation law that citizens can apply under for property damaged by conflict, but decisions and funds are challenging to access

11   It is generally assumed that 5-10% of explosive weapons will fail to detonate when used.

12   See for example Pehr Lodhammar (2018), 'How Iraq Is Changing What We Do: Measuring Clearance in Urban Environments,' Journal of Conventional Weapons Destruction, Vol 22 Issue 2

13   For example, during the conflict ISIS was known to use high explosives from manufactured munitions in components of their improvised explosive weapons

14   See for example Wim Zwijnenburg (2019), 'Torching And Extortion: OSINT Analysis Of Burning Agriculture In Iraq,' Bellingcat https://www.bellingcat.com/news/mena/2019/06/03/torching-and-extortion-osint-analysis-of-burning-agriculture-in-iraq/ and Amnesty International (2018), 'Dead land: Islamic State's deliberate destruction of Iraq's farmland,' https://www.amnesty.org/en/documents/mde14/9510/2018/en/

15   Amnesty International (2018) above note 14

16   See for example Theodore Karasik and Jacopo Spezia Depretto (2019), 'Climate Change Is Exacerbating Iraq's Complicated Water Politics,' Climate Diplomacy https://www.climate-diplomacy.org/news/climate-change-exacerbating-iraq's-complicated-water-politics

17   See for example World Bank (2018) above note 7, Amnesty International (2018) above note 14, and Wim Zwijnenburg and Foeke Postma (2017), 'Living under a black sky: Conflict pollution and environmental health concerns in Iraq,' PAX https://www.paxforpeace.nl/publications/all-publications/living-under-a-black-sky

18   World Bank (2018) above note 7

19   Based on the latest 'intentions surveys': CCCM Cluster, REACH Initiative and UN High Commissioner for Refugees (2019) 'Intentions Survey: IDP Areas of Origin, October 2019' https://www.impact-repository.org/document/reach/24344aa2/REACH_IRQ_Factsheets_AoO-Intentions-Survey_January2020.pdf

20   For example, at the time of research Dohuk governorate, where many internally displaced people as well as recently arrived refugees reside, was catering for twice as many people as its healthcare infrastructure was serving before the conflict with ISIS – capacities that had previously already been earmarked as in need of expansion and modernisation

21   These services were prioritised for ERW clearance and reconstruction during the 'stabilisation' response to the conflict led the government of Iraq and international agencies. In many places this started as soon as areas were retaken from ISIS, while the conflict continued elsewhere. See UNDP, 'Funding Facility for Stabilisation,' https://open.undp.org/projects/00089459

22   World Bank Group (2018) above note 7

23   Iraq's system of provision for mental health had already degraded under war and sanctions, resulting in a shortage of psychiatrists, psychologists and specialist hospitals in the country. With new need generated by the conflict with and the crimes of ISIS, much humanitarian provision by external agencies in the aftermath of the conflict was focused on more limited psychosocial support services, rather than mental health provision. Notably, the Institute of Psychotherapy and Psychotrauma at the Institute of Duhok began a programme in the last few years to train and accredit practitioners, focused initially on addressing the traumas suffered by the Yazidi population in particular

24   Background conversation during 2019 research. See also Anna de Courcy Wheeler (2020), 'Health and Harm: Protecting Civilians and Protecting Health', Article 36 http://www.article36.org/publications/#poc for a discussion of injuries related to the use of explosive weapons in populated areas

25   Global Coalition to Protect Education from Attack GCPEA (2018), 'Education Under Attack: EUA 2018 Iraq country profile,'https://www.refworld.org/docid/5be9430d4.html

26   World Bank Group (2018) above note 7

27   World Bank Group (2018) above note 7

28   See World Bank Group (2018) above note 7

29   At the time of research for example, UN Habitat was undertaking a number of projects to rehabilitate common public spaces such as parks as part of rebuilding civic pride and social cohesion

30   See for example Norwegian Refugee Council (2019), 'Barriers from Birth: Undocumented children in Iraq sentenced to a life on the margins' https://www.nrc.no/globalassets/pdf/reports/iraq/barriers-from-birth/barriers-from-birth—report.pdf and Norwegian Refugee Council, International Rescue Committee and Danish Refugee Council (2018) 'The Long Road Home' https://www.nrc.no/resources/reports/the-long-road-home/

31   For an analysis of this, see for example Helen Kinsella (2011), The Image before the Weapon: A Critical History of the Distinction between Civilian and Combatant (Cornell University Press)

32   Center for Civilians in Conflict (2019), above note 5

33   See for example Norwegian Refugee Council et al (2018) above note 30

34   For an account giving a historical overview of the 'Arabisation' campaign, see for example UN Habitat (2015), 'Emerging land tenure issues among displaced Yazidis from Sinjar, Iraq: How chances of return may be further undermined by a discrimination policy dating back 40 years,' https://unhabitat.org/sites/default/files/documents/2019-04/emerging_land_tenure_issues_among_displaced_yazidis_from_sinjar_iraq.pdf

35   For an explanation of some of the array of militias see for example Crispin Smith (2020) 'After Soleimani Strike, Iran-Backed Militias Threaten Iraq's Stability: An Explainer' Just Security, https://www.justsecurity.org/68271/after-soleimani-strike-iran-backed-militias-threaten-iraqs-stability-an-explainer/

36   Which was reported as potentially challenging prevalent gender roles in two ways: through the arming of women in itself, and through the implication and challenge to men's masculinity that they had not on their own managed to protect the community

37   Mine Action Review Clearing the Mines 2019 (2019), 'Iraq' http://www.mineactionreview.org/assets/downloads/NPA_Clearing_the_Mines_2019_Iraq.pdf

38 Informal background conversations with mine action operators in KRI

39 Mine Action Review Clearing Cluster Munition Remnants 2019 (2019), 'Iraq' http://www.mineactionreview.org/assets/downloads/Iraq_Clearing_Cluster_Munition_Remnants_2019-55-61.pdf

40 Mine Action Review Clearing the Mines 2019 (2019), Mine Action Review Clearing Cluster Munition Remnants 2019 (2019)

41 See for example Wim Zwijnenburg and Doug Weir (2016) 'Targets of opportunity: An analysis of the use of depleted uranium by A-10s in the 2003 Iraq war,' PAX and ICBUW https://ceobs.org/wp-content/uploads/2018/03/pax_icbuw_targets_of_opportunity.pdf

42 See for example documentation by the Halabja Victims Society https://www.halabjavictimssociety.org/victims

43 For example, see above note 20

44 The account below is based on publicly available information, background discussions with some of those dealing with the aftermath, and access to selected data.

45 See references above in note 5

46 See also UN Habitat's 'Mosul mapping and data portal' for assessments and visual representations produced in the late stages and immediate aftermath of the conflict: http://unhabitatiraq.net/mosulportal/

47 According to UNDP structural engineers. In Greg Robin (2018), 'UNderstanding IEDs Al Shifa hospital Mosul Iraq,' UNMAS presentation, https://unmas.org/sites/default/files/documents/understanding_ieds_iraq.pdf

48 UN Habitat (2019) 'The initial planning framework for the reconstruction of Mosul,' https://unhabitat.org/sites/default/files/documents/2019-09/initial_planning-framework_mosul-update.pdf p27

49 See Lodhammar (2018) above note 12