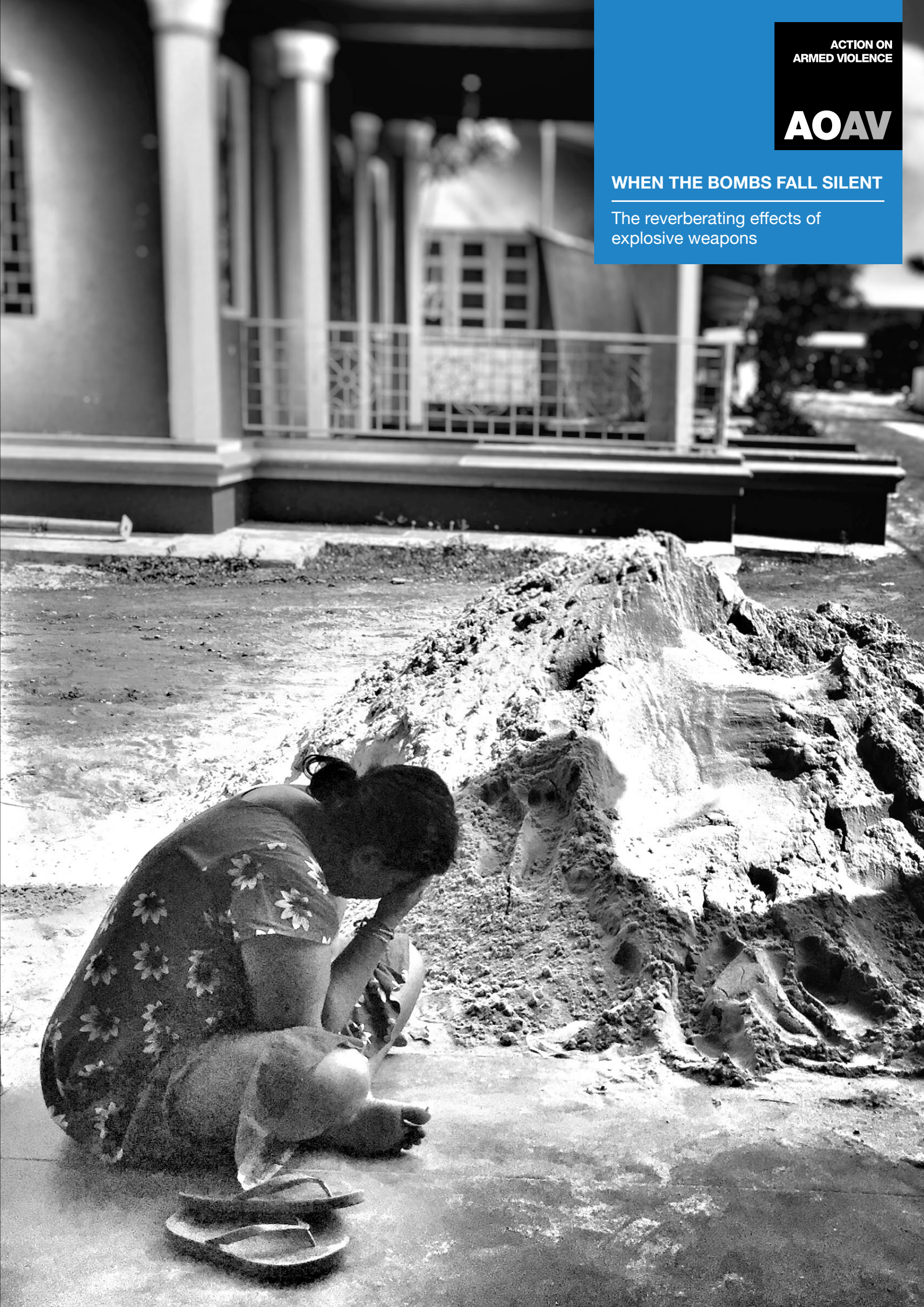


ACTION ON  
ARMED VIOLENCE

**AOAV**

## WHEN THE BOMBS FALL SILENT

The reverberating effects of  
explosive weapons



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## INTRODUCTION

Explosive weapons are notorious for their impact upon civilian populations in times of conflict. Over the last seven years, Action on Armed Violence (AOAV) has recorded 276,921 deaths and injuries from explosive weapons around the world. Of these, 76% (209,557) have been civilians. When such violence occurs in populated areas, the results are far worse. AOA V has consistently found that when explosive weapons are used in populated areas, over nine out of every ten casualties are civilians.

State use of such weapons has increasingly caused civilian harm in recent years. In 2017, civilian casualties from state use of explosive weapons accounted for at least 51% of all civilian casualties – more than non-state actor use of such weapons for the first time in AOA V's monitoring. Furthermore, civilian casualties from state use of explosive weapons increased 44% in 2017, compared to the previous year – or by almost 250% since 2011. Last year, when state actors used explosive weapons in populated areas, 93% of the casualties were civilians.

The use of explosive weapons with wide area effects in populated areas has other far-reaching and often devastating consequences that go beyond the immediate deaths and injuries. Such weapons are responsible for destroying key infrastructure; for depriving communities of water, sanitation, electricity

or medical care; many will suffer psychologically; while the interruption to education and employment can stunt communities and development. Needless to say, such reverberating effects take their toll on livelihoods, economies and a sense of security – they disrupt lives for decades to come. With devastating levels of explosive violence increasing year upon year, AOA V sought to understand better the long-term consequences of state use of manufactured weapons on civilian populations and hoped that, through such understanding, policy decisions and the use of post-conflict funding could be better informed by such long-term patterns of harm.

Focusing on two very different conflicts, Sri Lanka's 26-year long civil war, which lasted until 2009, and the Israel-Hezbollah 33-day war in Lebanon in 2006, AOA V hoped to find in this focus a deeper understanding of the long-term effects of the use of explosive weapons on civilians. Beyond the immediate toll of death and injury, this report provides insight into the lasting consequences of explosive violence on issues such as health, the environment and the economy. Additionally, it seeks to analyse explosive weapons' impact on culture and social structures. It also contemplates how such impacts are, in themselves, influenced and tempered by the nature and intensity of the violence witnessed, as well as the quality and extent of the post-war response.



Patients and family at hospitals facilities in Jaffna, Sri Lanka.



Destroyed home Mleeta, Lebanon.

The civil war in Sri Lanka, a conflict that lasted from July 1983 through to May 2009, between the Sri Lankan government and the LTTE, or Tamil Tigers, saw explosive violence used by both sides in a conflict that left over 100,000 people killed, 650 mine fields in need of clearance, 350,000 homes damaged and destroyed, as well as significant damage to other vital civilian infrastructures such as hospitals.<sup>1</sup> The destruction sparked an exodus from the impacted areas, with those who could afford to do so, seeking refuge abroad. When AOA V went to the areas that saw the brunt of the violence in Sri Lanka, the scars of the war still marked the land.

In Lebanon, on the other hand, the 2006 war between Israel and Hezbollah was much shorter. It lasted just over a month and was characterised by high levels of explosive violence in a short space of time. There, whilst there were fewer visible scars left remaining from that conflict – largely in part due to focused efforts on reconstruction and development – beneath the surface it was clear that even such a short war has had long-lasting impact on its citizens.

Today, with Syria and Yemen in ruins from the overwhelming use of explosive violence, we hope that this report will provide insight into what expected and unexpected outcomes of such current violence may present in years to come.

## METHODOLOGY

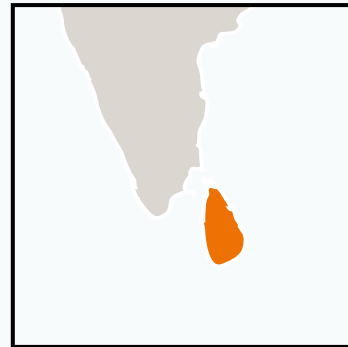
AOA V researchers visited Sri Lanka in December 2017 and Lebanon in February 2018, travelling to the capitals and the areas most impacted by manufactured explosive weapons, focusing on the North in Sri Lanka and the South in Lebanon. Interviews with academics, experts, politicians, local organisations and media were conducted, as well as interviews conducted with civilians, business owners and community leaders.

In total, 35 separate and in-depth interviews were conducted in Sri Lanka, 28 in Lebanon.

For the Explosive Weapons Monitor Project methodology please see our latest report, *The Burden of Harm: Monitoring Explosive Violence in 2017*.

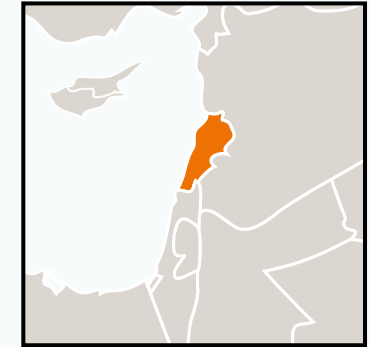
## SRI LANKAN CIVIL WAR

- Sri Lanka was engaged in civil war for over 25 years, from July 23rd 1983, until May 18th 2009. The warring sides were the Sri Lankan government and the Liberation Tigers of Tamil Eelam (the LTTE, or Tamil Tigers). The LTTE fought for a independent Tamil state covering areas in the north and east of the island, where the population was mostly Tamils, rather than Sinhalese. Ethnic tensions had existed for decades over the last century in the country, exacerbated by British rule and the subsequent transition to independence.
- Over the course of the war both sides engaged ground forces and utilised a variety of explosive weapons. The weapons predominantly used by the LTTE were landmines, Improvised Explosive Devices (IEDs) and suicide bombers. On the other hand, the Sri Lankan government used landmines, shelling and airstrikes. It is also worth noting that both sides were accused of intentionally targeting civilians and of human rights abuses.<sup>6</sup>
- The provinces in the north and east were most impacted by explosive violence. **In total over 100,000 people were killed, as well as 300,000 internally displaced, 650 minefields were in need of clearance, and 350,000 homes were damaged and destroyed.**<sup>7</sup> The final period of the war, from 2006 to 2009, saw the heaviest violence, with the last four months alone responsible for the **death of between 20,000-75,000 people.**<sup>8</sup>
- The length of the war, as well as the scale of human and infra-structural destruction, saw long-term consequences and suffering for the communities from the north and east, as well as a resurgence in militarism and nationalism from the government and the main ethnic group, the Sinhalese. The impacts from this explosive violence are widespread and deep.



## THE 33-DAY WAR, LEBANON

- Lebanon borders Israel to the south, the Mediterranean to the west and Syria to the north and east. Lebanon's past is littered with conflict, with the recent civil war lasting from 1975-1990. The country has also seen occupation from both Syria and Lebanon during the civil war and following years.
- On July 12th 2006, a conflict began between Israel and Hezbollah – a Shia Islamist political party and militant group based in Lebanon. Lasting for 33 days, it ended when a United Nations negotiated ceasefire came into effect on August 14th 2006. Whilst cross border attacks had been taking place for decades, Hezbollah and Israel had been teetering on the point of another conflict for many weeks but when Hezbollah fighters abducted two Israeli soldiers, Israel responded with airstrikes and artillery fire – the first major target saw Lebanon's main airport in Beirut bombed and put out of action. Hezbollah launched rockets and engaged in guerrilla warfare.
- The war predominantly impacted the south of Lebanon, however losses were felt by each side. **165 Israeli were killed – 121 IDF soldiers and 44 civilians.** A further **1,384 Israeli civilians were injured.**<sup>2</sup> Whilst, **in Lebanon, over 1,000 civilians were killed and over 4,000 wounded.**<sup>3</sup> About **500 Hezbollah fighters are estimated to have been killed.**<sup>4</sup> Hezbollah rockets damaged homes along Israeli border areas and displaced Israelis from their homes. IDF air strikes and artillery fire **displaced one million Lebanese from the south.**
- **Israeli planes launched 7,000 bomb and missile strikes in Lebanon,** supplemented by artillery and naval bombardment.<sup>5</sup> **Thousands of homes were destroyed, and one million un-detonated cluster munitions contaminated huge swathes of land.** The effects of the explosive violence have left lasting scars.





## HEALTH

The destruction of health infrastructure during conflict is one of the most significant threats to a civilian population. Such destruction is particularly true following conflicts that witness explosive violence; harm that not only brings with it an increased demand for medical services, but also threatens the very systems that offer such help. In addition to deaths caused directly by explosive weapons, harm is indirectly caused by the lack of access to medical care.

Both prohibiting or blocking access to healthcare, and bombing hospitals constitute violations of the Geneva Convention.<sup>9</sup> Despite such protection, conflicts marked by explosive violence in particular witness damage and destruction to vital health infrastructure and personnel, harm that has a long-lasting impact even when the conflict subsides.

The five countries worst impacted by state use of explosive weapons between 2011 and 2016, according to AOA's Explosive Violence Monitor, all saw their Health Development Index (HDI) ranking fall over this period.<sup>10</sup> Between, 2011 and 2015, Syria dropped 29 places, whilst Yemen dropped 12. Though such drops are linked to the other impacts of conflict, and cause and effect is hard to prove, the correlation between explosive violence and the toll exerted on healthcare systems and staff seems self-evident.

### INFRASTRUCTURE

In recent years, the targeting of hospitals has tragically become 'the new normal'<sup>11</sup>, according to Michiel Hofman, a senior humanitarian specialist at Médecins Sans Frontières (MSF). The destruction of just one hospital can deny care to hundreds of thousands of people.<sup>12</sup> When the MSF hospital in Saada, Yemen, was hit in an airstrike in October 2015, it was reported that up to 200,000 people lost access to medical care.<sup>13</sup>

In Syria, explosive violence has rendered health facilities almost completely non-functional,<sup>14</sup> with 60% of health-care facilities in Syria damaged or destroyed.<sup>15</sup>

Such losses to health infrastructure take decades to remedy and, in the meantime, civilian demand for healthcare remains undiminished, if not exacerbated, as AOA found to be the case in Sri Lanka and Lebanon.

### SRI LANKA

In February 2009, just a few months before the civil war in Sri Lanka ended, it was reported that shelling between the government forces and the Tamil Tigers had destroyed 'the last functioning hospital in the North'.<sup>16</sup> In the years following the war, while the long process of rebuilding health care facilities in the impacted areas was underway, local populations were left with almost no access to quality healthcare. And, although the health infrastructure has now largely been rebuilt, many medical centres in the impacted areas reported that they were unable to afford treatment not deemed "essential". For instance, many victims with shrapnel still embedded in their bodies cannot get this removed; a constant reminder of the trauma they suffered.<sup>17</sup>

Other absences are also felt. Prior to the war, it was traditional for children to care for their elderly relatives; this meant Northern Sri Lanka had few care homes for the elderly. When the war caused many to flee, however, many families were split up. Today, doctors told AOA that this has meant that there is an increasingly elderly population living without the care of their children, and unable to secure visas to join their children abroad.<sup>18</sup> A fragile, elderly population, with ailments such as dementia, are – year on year – having to fend for themselves.

The exodus of the North's youth, with 145,000 people having fled Sri Lanka by 2009 and the diaspora today standing between 700,000 and 900,000,<sup>19</sup> was to have other impacts. When the bombs began falling, AOA were told that, as is often the case, it was the wealthier segments of the population that fled. As this segment was also comprised of the most educated this led to a significant 'brain drain', which has had a visible and lasting impact, most notably in the shortage of trained medical personnel. In Jaffna, almost a decade after the end of hostilities, there are just two psychiatrists in a population of about 600,000 – people deeply impacted by the war. Beyond these two psychiatrists, there are reportedly few approved personnel qualified to provide treatment such as counselling and non-pharmacological mental-health treatments. This, in turn, means that those patients the doctors do see are usually prescribed pharmacological treatment, as opposed to talking therapies. Such reliance on pharmaceutical intervention has had a concomitant

high-level of readmission.<sup>20</sup> The psychiatrists that have remained are overworked and underpaid (and they can often find better paid work in better conditions overseas).

Such a situation is unlikely to end soon. Even now, doctors in the North and East struggle to recruit good medical staff. Many possible recruits seek to join family or travel abroad after studying, where they can receive a better wage and a more manageable workload without the risk of future conflict.

### LEBANON

In Lebanon, in contrast, the relative brevity of the war means that such concerns are not as widespread. Despite this, though the majority of the displaced quickly returned, the persistent threat that violence may re-emerge has also meant a new life in less impacted areas or abroad is highly sought after. This post-conflict 'quiet' exodus has also created long-lasting difficulties since the end of 2006, particularly

in recruiting and retaining medical personnel. Ms Badran at Al Najda Chaabya Hospital, in south Lebanon, told AOA: 'Many nurses and other staff leave – there is little stability so many, if they can, leave to somewhere safer – 2006 had a major impact of this.'<sup>21</sup> In this sense then, not only does the after-effects of explosive violence impact recruitment and retention of health personnel – the threat of a resurgence of violence does too.

*We still receive patients due to cluster bomb explosions, even though demining has been continuing since the end of the war. We often see shepherds hurt by the cluster bombs.*

**Dr Ahmad Marmar**, Al Najda Chaabya Hospital, south Lebanon.



Patients and family at hospital facilities in Jaffna, Sri Lanka.





Patient at a hospital in Jaffna, Sri Lanka.

## PHYSICAL

The use of explosive weapons with wide areas effects in populated areas has predictable long-term impacts of varying kinds on physical health.

In the short and mid term, bombardments see medical and food supplies disrupted due to damage to roads and other transport infrastructure, with lasting impacts of nutrition and healthcare. The Food and Agriculture Organization (FAO) found that 60% of the 815 million chronically food-insecure and malnourished people in the world and 75% of stunted children age under five, live in conflict affected countries.<sup>22</sup>

Shelling also brings with it not only a high level of fatalities but also a high level of complex injuries – and many harmed in such attacks are faced with life-long disabilities and poor physical health. Those who survive with injuries from explosive weapons are impacted in a variety of ways – often their injuries are highly dependent on the type of explosive weapon used and the location where they were harmed – but a person can be scarred for the rest of their lives if they survive an attack.

Laceration is arguably the most common harm witnessed, while injuries to hands, lung contusions, inhalation injuries, fractured ribs, objects piercing the eye, deep thermal burns and piercings by metal shrapnel are often recorded. The nature of the blast radiating upwards and outwards often means explosive violence victims are scalped, causing life long trauma.<sup>23</sup> Many people are also deafened; even people standing metres away suffer ‘tympanic membrane rupture.’ Others suffer ‘degloving’ – where a swathe of skin is ripped off, severing the blood supply – a trauma powerfully summed up in its naming. Spleens are ruptured, eyes are eviscerated, mandibles are fractured and people are even wounded by ‘penetrating human foreign body.’ This is where the bomb causes people to be harmed by the body parts of others ripped off in the blast.<sup>24</sup>

The visceral nature of explosive violence can impact the medical care offered. Research has shown, for instance, that victims of similar violence may be ‘over-triaged’ by medics as much as 59% of the time – the unintentional overestimation of the urgency of a patient’s condition, prioritising their management

unnecessarily.<sup>25</sup> Such triaging might mean that other patients, not wounded by the blast, might not have their issues treated.

The long-term impact of explosive trauma is profound and highly individual. In amputations, for instance, there might be seen to be heterotopic ossification, the presence of bone in soft tissue where bone normally does not exist, forming. Such formation, apparently caused by the blast wave itself, leads to pain, swelling and limited movement. The blast literally transforms cells – turning cells that are not bone forming into ones that are.<sup>26</sup> Such growth often requires later surgery.<sup>27</sup> In some cases, between 60% and 80% of amputees injured in such events have developed this issue.<sup>28</sup>

Traumatic brain injuries, growth hormone deficiencies, persistent post-concussive symptoms such as headaches can linger for years after an attack, even in individuals who may not have realised they were that impacted by the blast.<sup>29</sup> In some, the blast can trigger a form of brain atrophy that can lead to behavioral changes, memory loss, and intellectual impairment. In short, a bomb can trigger something akin to Alzheimer’s.<sup>30</sup> The trauma of explosive weapons causes such things as ‘oxidative stress’, ‘microglial activation’, ‘blood-brain barrier dysfunction’ and the ‘activation of neuroendocrine-immune systems’; changes in the body that are also seen in devastating auto-immune disorders. In the long-term, victims’ inflammatory responses, activated in the blast, can cause a host of complex health problems and even an early death.

Many of these health issues have lasting consequences and the potential harm does not end with the cessation of hostilities, either. Unexploded Ordnance (UXO) following explosive violence continues to cause severe injuries long after the guns have been said to have fallen silent.

## SRI LANKA

Unfortunately, in Sri Lanka, health statistics appear to be one of the first casualties of the war. Credible estimates range from 20,000-75,000 killed in the final assault, alongside an additional 70,000 killed since the beginning of the war.<sup>31</sup> There are even fewer estimates for the numbers injured, although the number disabled by the war in the Northern Province ranges from

20,000 to 40,000. And this is just the tip of an iceberg: the number suffering long-term physical health impacts is likely to be far higher.<sup>32</sup> According to data from the government-run Mine Action Center, since 2010, there have been 285 casualties from mines and other ERW – though many casualties may go unrecorded in rural areas.

Despite such pervasive and complex trauma – one which in the developed world would see a host of medical specialists employed such as plastic surgeons, nephrologists, cardiologists, orthodontists, psychiatrists, vascular surgeons, urologists and ophthalmologists – AOA found that those injured almost without exception lacked suitable care. Follow-up treatment was almost non-existent, particularly with additional difficulties due to associated costs and prevailing poverty.

Funding to fit prosthetics from international governments often waned too. Today, amputee victims must purchase their own; basic ones cost at least \$100 (USD), which for most is “a life-time’s worth of savings”.<sup>33</sup> An estimated 90% of Sri Lanka’s 160,000 amputees lack access to appropriate surgical procedures and prosthetic limbs.<sup>34</sup> AOA interviewed one victim of a shelling who had lost most of his foot. Only now, eight years after the end of the war, was he getting fitted with his first prosthetic.<sup>35</sup>

Injuries bring other woes too. Many of those injured said that they struggled to find suitable work, forced to rely on irregular work or support from the Tamil diaspora. There seems to have been little attempt to accommodate for disabilities in the workplace, and few schemes exist to aid the war wounded. Lives are also dramatically reduced in scope. Uneven roads and a lack of pavements means that wheelchair users face daily challenges.

## LEBANON

In Lebanon, whilst over 1,000 civilians were reported killed, as many as 4,400 were left wounded – many with complex health conditions such as burns. The injuries from 2006 were also said to be different from injuries witnessed in previous conflict within the country, in large part due to the intensity and scale of the explosive violence.<sup>36</sup> These injuries due to the greater impact of explosives being used, were said

by one doctor interviewed, to be ‘more complicated and difficult to attend to’, with ‘many more civilians injured’.<sup>37</sup> Furthermore, in the last few days of the war, Israel launched about four million cluster bombs at Lebanon – leaving at least one million unexploded bomblets, mostly in the south. These continue to maim and injure.

In Lebanon, of the 333 casualties from cluster munitions between 2006 and 2016, children were found to account for 30% of such casualties. Of these, 34% were under 12 and 66% were aged between 13 and 18. As the majority were from poor and rural communities, access to health care and other support was in this cohort less readily available.<sup>38</sup>



*The injuries in 2006 were a lot more complicated and difficult to attend to. I saw many more civilians injured than previously. The impact from the explosives were much bigger. I have seen people charred or burnt to death – 2006 was much more complicated. There were frequently burns and burns have a greater long-term impact than the injuries other weapons might cause and will impact throughout the victim's life.*

**Ms Sana Badran and Dr Ahmad Marmar**, Al Najda Chaabya Hospital, south Lebanon.

## ILLNESS AND DISEASE

Alongside the destruction of healthcare and direct injury, there are other indirect impacts of explosive violence. Vaccination programmes, for instance, may become disrupted by bombing.<sup>39</sup> Destruction of water treatment plants, distribution networks, or sewer systems, may have deleterious effects. Diseases can spread rapidly in conflict and post-conflict conditions, exacerbated both by such destruction and by the lack of treatment accessibility.<sup>40</sup> Recent serious outbreaks in areas beset by explosive violence, for instance, include cholera in Yemen and polio in Syria.<sup>41</sup> In Yemen, according to WHO, about 5,000 people fall sick every day from cholera and more than 500,000 more are suspected of having the disease.<sup>42</sup> Such health impacts can continue for years after conflicts end, despite healthcare and reconstruction efforts.

It is also worth noting that experiencing bombardment and its consequences has also been linked to a prevalence of other diseases not often directly associated with such violence – though few studies have been conducted. One study found that those who experienced the impacts of World War II were 3% more likely to have diabetes as an adult.<sup>43</sup> Clearly explosive violence can cause both expected and unexpected health consequences.

## SRI LANKA

A decade on in Sri Lanka, the Northern Province still bears the burden from high-levels of water contamination, and accompanying diseases such as dysentery and typhoid. Such burden is, in part, explained away by the harm wrought by explosive weaponry.<sup>44</sup> The number of people suffering from dysentery in Jaffna, for instance – a city heavily impacted in the war – is more than double that of the next highest district.<sup>45</sup>

Water contamination from explosive violence was, at the end of the war, quickly identified as being a key issue, but whilst projects to address this have been proposed, funding constraints have caused significant delays.<sup>46</sup>

Of course, there are other factors at play as well that have nothing to do with explosive violence. However, it is reasonable to assume that poor sanitation has been perpetuated in large part because of high regional levels of poverty and lack of development – both of

which are, in themselves, linked to communities still reeling from a huge degree of explosive violence.

## LEBANON

In Lebanon, bombardments also caused severe damage to the water supply and wastewater network. The Lebanese Government reported that 45 main and 285 secondary water distribution networks, as well as 38 main and 120 secondary sewage disposal systems, had been destroyed or damaged. The cost of the damage was estimated to stand at about \$80 million (USD).<sup>47</sup> Today it remains the case that nearly one in three Lebanese buys alternative sources of drinking water, whilst those who cannot afford to rely on poor-quality water.<sup>48</sup> Whilst wastewater continues to cause substantial pollution in and around Lebanon, with much draining into the sea.<sup>49</sup>

Lebanon's coasts see dangerous levels of harmful bacteria. At the popular beach Ramlet al-Baida, levels of both E.coli and streptococcus exceeded 400 units in 100ml sample – the acceptable limit for both is one per 100ml.<sup>50</sup> Again, it is hard to be absolute that the devastation of the war has contributed to sea pollution today, but returning systems back to functionality consumes resources, finances and expertise that could have been focused on improving the original systems. In short, explosive violence retards development in such areas.

## PSYCHOLOGICAL

One of the most often-observed impacts of explosive weapons in populated areas is that it not only endangers civilian lives but also means that many – both those physically harmed and those not – must also have to deal with fear, distress and anxiety for years after.

The impact of explosive violence on mental health is well documented, from civilians and soldiers in World War II,<sup>51</sup> to those living in today's war zones. For every person physically harmed in a terrorist attack, between four and fifty times the number of people will display signs of psychological trauma.<sup>52</sup> Muteness, rage attacks, bed-wetting, insomnia, persistent nightmares – these were the findings of social workers in 2017 at the Iraqi refugee camp of Hasansham, one that housed those fleeing, among other things, explosive violence in western Mosul. Over half of the 1,500 children registered there were severely traumatised, needing urgent

psychological support – a generation of children may be permanently damaged.<sup>53</sup>

One study found that, among Syrian refugees interviewed, almost all children and 84% of adults reported that bombing and shelling was the number one cause of psychological stress for children.<sup>54</sup> 71% of interviewees said children were increasingly suffering from symptoms of toxic stress and PTSD.

These psychological conditions are likely to have lasting consequences on the children impacted. Save the Children, who carried out the aforementioned study, added that: “Daily exposure to the kind of traumatic events that Syria's children endure... will likely lead to a rise in long-term mental health disorders.”<sup>55</sup>

Sri Lanka and Lebanon both show just how long-lasting and profound such impacts can be, particularly on children, and serves as a call to action to address the psychological harm of a generation of children in the Middle East reeling from war.

## SRI LANKA

Today, depression and related illnesses, such as PTSD and bipolar disorders, are said to be more common in the North and East of Sri Lanka than in other parts of the country; such a shift was, according to one senior psychiatrist interviewed by AOAV, related to conflict trauma and grief.

In the past, it is estimated that about 30% of those coming to outpatients' departments in the Northern Province were displaying symptoms of depression. After the war this rose to about 48%.<sup>56</sup> And, whilst it is difficult to establish concrete links between a psychological condition and the cause, a health specialist explained to AOAV that, ‘whenever you talk to a patient about their history, invariably the war comes in. They have all borne loss and seen the horrors of war.’<sup>57</sup>

Explosive violence is thought to lead to experiences that produce greater trauma, often due to its indiscriminate and harmful nature.<sup>58</sup> Unfortunately, it remains the case that little mental health support is available.

The way a war is seen to end also appears to have an influence. In Sri Lanka, there was an abiding sense that the civil war had resulted in the ‘victorious’



Sinhalese benefiting, whilst the ‘losers’, the Tamils, were caught in a permanent situation of remorse, defeat and oppression. Undeniably, this had its own impacts.

### LEBANON

Lebanon however, was different. Whilst there was a lack of psychological specialists in Lebanon’s most impacted areas too, this was said to be due to low demand.<sup>59</sup> In Lebanon, the end of the 2006 war was accompanied by what can only be described as a sense of ‘victory’ – certainly a sense of defiance that was to reinvigorate a profound sense of nationalism and unity that is still very evident today.

Psychiatrists in Lebanon suggest that the lower levels of post-conflict mental trauma is partly down to a sense of resilience that such nationalism has engendered.<sup>60</sup> In addition, the lower levels of psychological harm might also be tied to the relatively short duration of the conflict. Nevertheless, it is important to realise the distance between what might be said to visiting researchers – and what might be felt in the private lives of many.

A recent study on the psychological impact of cluster bomb injuries on Lebanon’s civilians found that of the 244 victims interviewed in 2006, 43% were still suffering from PTSD ten years later.<sup>61</sup> Another 2016 study showed PTSD present in 23.4% of the general population of southern Lebanon.<sup>62</sup>

Those who did seek psychological assistance in the years after the war were generally children who had developed phobias, as well as those suffering from stress, anxiety and other symptoms of PTSD.<sup>63</sup>

Whilst the sense of resistance may have contributed to better coping mechanisms, the impact of 33 days’ bombardment still left unavoidable psychological scars.

In both Sri Lanka and Lebanon such scars are of concern – for a generation born into violence may well, in turn, become violent or suffer inadvertent and unexpected societal consequence years later, as will be discussed in later sections of this report.

### HEALTH CONCLUSION

Despite the differences between the wars mentioned, there are still consistent patterns that emerge – particularly in regard to long-term harm to health and health infrastructure. And years, even decades, after the cessation of hostilities, civilians still bear the burden – both physically and psychologically.

Today, as global conflicts continue to see huge numbers of civilians targeted, with medical staff fleeing and hospitals increasingly damaged, it is important to remember the long-term impact of such violence, particularly for mental health and the provision of services for those disabled by explosive weapons.

***During August 2006, there was fighting between the LTTE and the army. A shell fell into my house, killing and injuring members of my family. A fragment of the shell cut into my foot and in the end I was left with most my foot gone.***

***I was left unable to be how I was before. I couldn’t continue with my job in masonry. I now do odd jobs to try and make ends meet.***

***Since the incident, I had to cope with the loss of family but also the pressure of providing for my remaining family and unable to continue in the profession I trained in. My wife and three children and myself do not get enough income because of this change. I constantly live with worries since the incident.***

***I thought for a while after the accident that I should have died along with the other family members who passed. However, since receiving help from some NGOs I feel more confident.***

**Dinenthiran, 42, resident in the Northern Province, Sri Lanka.**

## ECONOMY

Explosive violence has always been associated with economic insecurity.<sup>64</sup> It is clear there are particular economic harms associated with explosive weapons – such as the costs incurred following the widespread damage to infrastructure, and economic reverberations caused by the mass displacement of local populations.

### GDP

GDP is an area where it is difficult to claim that the impact of explosive violence has had a discrete and direct consequence. Nevertheless, AOAV’s findings suggest that high levels of explosive violence almost always accompany a decline in GDP levels. For example, as explosive violence has increased in Syria, real GDP growth has gone down. Between 2011 and 2016, the cumulative loss in GDP there is estimated to be \$226 billion (USD) – four times Syria’s GDP in 2010.<sup>65</sup> It would also be fair to say that those areas that see the most harm from explosive weapons take longer to recuperate economically.

### SRI LANKA

The war in Sri Lanka had such an impact on the country’s economy, that there was a relatively robust ‘rebound effect’ in the years following the end of the war. In that time, Sri Lanka saw a substantial increase in GDP, with annual GDP growth at 8-12% between 2010 and 2012, and growth remaining steady at 3-5% in recent years.<sup>66</sup> And yet those areas most impacted by violence continue to have the lowest GDP per capita in the country. Furthermore, the North’s share of GDP as a proportion of the nation has decreased.<sup>67</sup> Those most impacted by the bombs are, today, not seeing the development enjoyed by the rest of the country.

Areas most impacted also see the lowest income levels in the whole of Sri Lanka; in part this might be because of the political and geographical nature of the regions, and in part because of other, direct consequences of violence.<sup>68</sup> For example, the North and East suffer from the lowest level of electrical-supplied energy in the country, relying instead on kerosene, something that curtails economic output.<sup>69</sup> Furthermore, fishing communities and agricultural producers were hard hit during the war, suffering a double blow of mass displacement, along with damage to their equipment, such as boats and farm machinery.

The Northern Province provided 40% of the country’s fish pre-war.<sup>70</sup> By the end of the war, this stood at 7% and fishermen have struggled to rebuild their industry. In 2016, the province’s contribution stood at 12%.<sup>71</sup> Furthermore, while the rest of the nation has experienced a significant rise in tourism since the end of the war, the North and East are not major recipients of tourist dollars, which is discussed in more detail later in this chapter.

### LEBANON

In Lebanon, the government estimated the war damage to have been \$2.8 billion, while lost output and income was said to have been \$2.2 billion (USD).<sup>72</sup> While the economy was predicted to grow 5-6% in 2006, it instead shrank by 5%.<sup>73</sup> Despite such setbacks, however, the long-term effect on the economy was not as profound as it was in Sri Lanka’s affected areas. This seems in large part due to the short duration of the conflict and the substantial and swift efforts to rebuild. GDP growth, after dropping to 1.7% in 2006, increased quickly. By 2009 it stood at 10.1%.<sup>74</sup> Such growth was, however, not to last – it was not long before the country was hit again by the impacts of explosive violence – this time from the Syrian war.<sup>75</sup>

Despite this, the 2006 bombardment left substantial impacts for local populations and investment. It is estimated to have taken about four years for the economy to recover from a war that lasted one month.<sup>76</sup>

### POVERTY

Explosive violence often destroys roads and other supply routes, making access to food and medicines increasingly difficult. Those who manage to flee explosive violence are usually plunged into poverty, faced with lost jobs, cramped conditions and limited supplies at refugee camps.<sup>77</sup>

In Syria, poverty levels have escalated dramatically; today two out of every three civilians live in extreme poverty.<sup>78</sup> Such conditions are likely to persist once the conflict ends, with lasting damage to essential infrastructure; employment opportunities non-existent; and external and internal investment unlikely any time soon. The hard lessons of war, particularly its ability to drag people into poverty, can be easily seen in countries coming to terms with peace, even years later.



## SRI LANKA

In Sri Lanka, whilst many pro-government areas have seen poverty levels decrease since the end of the conflict,<sup>79</sup> where explosive weapons were widely used, poverty levels remain very high. In Mullaitivu, the numbers of people subsisting on less than \$1.50 (USD) per day (the national poverty line) was 28.8% in 2017, in Mannar at 20%, and in Kilinochchi district it stood at 12.7%. When an international poverty measure of \$2.5 per day is applied to the northern districts, the figures rise to 74.4% in Mullaitivu, 60.9% in Mannar and 57.2% in Kilinochchi.<sup>80</sup>

There is also the issue of perception of economic hardship too. Many people whom AOA spoke to in the North claimed they had seen more economic prosperity under the LTTE. The agricultural minister for the Northern Provincial Council (NPC) argued that, under self-rule, the North had a ‘self-sufficient economy’.<sup>81</sup> Data supporting such a claim is hard to come by, but the persistence of poverty in the region fuels a simmering sentiment of grievance. Those that are seen to benefit in the most impacted areas are also said to be Sinhalese from Colombo who have used their wealth to invest in new projects ‘on the cheap.’ Traders are acutely sensitive to this idea that profiteering from southerners is rife in the region.

Faced with high levels of poverty, loan sharks have descended in droves. The proliferation of such post-war loans, though, has been widely condemned – and some people have been undeniably driven further into poverty. A common complaint was that these loans were given too easily. This has led to those unable to repay today being exploited or forced to repay at very high rates of interest. This, in turn, has had severe psychological impacts – leading in some instances to suicide.<sup>82</sup> It is estimated that 60% of families in small villages in the Northern Province were in debt owing to these loans – a figure that appears to be higher than in other parts of the country.<sup>83</sup>

## LEBANON

Post-war impoverishment in Lebanon has followed a different path. It was Lebanon’s rural areas that experienced some of the worst bombardment – particularly those in the south. Living conditions here prior to war were already low and had seen little development.<sup>84</sup> Populations in this area generally rely on agriculture

and few households have savings. Those working in agriculture – most of the population in south Lebanon – were, and still remain, amongst the poorest.

Today, though, it is hard to make absolute conclusions about the impact of the war on these economies. The current poverty rates do not necessarily reflect the impact of the explosive violence that took place in 2006, as the influx of refugees from Syria has left those regions along the borders witnessing the highest levels of poverty. Although, of course, this too is an impact of explosive violence, the emergent Syrian conflict ‘muddies the water’ in looking at post-conflict economic development retardation rates in Lebanon.

## INFRASTRUCTURE

Destruction to civilian infrastructure is one of the main impacts following the use of explosive weapons. Buildings and roads are destroyed and essential services are disrupted. Reconstruction and rebuilding are, accordingly, a substantial issue for any nation seeking to recover.

As conflicts become more urbanised, vital infrastructure is more frequently damaged, intentionally and unintentionally. According to one World Bank study, in Syria an estimated 27% of homes across the cities studied have been destroyed or damaged, and over half of all medical and education facilities damaged.<sup>85</sup> Such damage requires vast sums to repair, and that is frequently an expense not only borne by the impacted country, but the international community as well. It also is a process that takes years – a delay that can, in itself, prevent civilians from returning, forcing many shell-shocked communities into a form of economic and social limbo for years afterwards.

## SRI LANKA

During the war, whole towns and villages were levelled in the war. In the end over 350,000 homes were damaged or destroyed.<sup>86</sup> Partly because of the nature of the civil war, it has been largely left to other states, as well as international agencies and organisations, to step into the breach with reconstruction efforts. The World Bank and the EU, for instance, are said to have reconstructed 97% of the 50,091 homes deemed heavily damaged.<sup>87</sup>



Buildings uninhabited and scarred by war, Sri Lanka.

Whilst most towns and vital infrastructure have been rebuilt, many rural areas remain highly damaged. In some areas, where the buildings have gone for so long without any work or construction, trees and other vegetation have grown up through them, a marked feature of the region that adds to the sense that the war lingers still. Pockmarked and bombed-out buildings litter the landscape, the families that once filled them now either gone or dead.

Some reconstruction has been undertaken by the state. One area, for instance, that has been prioritised is that of road building, though locals believe that this is to allow quick military access in the event of future violence.<sup>88</sup> Rural roads remain neglected; unmarked, pitted with deep potholes, liable to flooding.

## LEBANON

In Lebanon, the collective damages incurred across the country consisted of the destruction of 445,000 m<sup>2</sup> of road network, 92 bridges and overpasses, 130,000 dwelling units, 300 factories and thousands of businesses, as well as significant damage to the electricity network and water supply and wastewater infrastructure.<sup>89</sup> This careful recording of the harm wrought

during the violence is of note: in Sri Lanka the victorious government saw no political capital to survey, assess and quantify the damage. For this reason, some of these statistics, in both countries, need to be viewed with some caution – they are undeniably politicised figures. Still, the very fact that the harm was charted and reported means that the reconstruction effort could be, to a degree, orchestrated and costed.

Such cost was not insubstantial. It was estimated that structural damage amounted to \$3.6 billion (USD).<sup>90</sup> But, perhaps driven by a national fervour to show that they would not be cowed, reconstruction was rapid and widespread. The fact that many areas were controlled by Hezbollah also meant that funding was quickly found by their Iranian and Qatari sponsors, a fact that appears to have strengthened local Hezbollah support in many areas.<sup>91</sup> The dominant sentiment expressed, certainly, was defiance against Israel (as opposed to in Sri Lanka where the dominant emotion seemed one of defeated resignation).

Having said this, whilst homes have been rebuilt, the damage to some infrastructure is still evident in some areas. Reconstruction may have, in this way, hampered



development that could have otherwise happened, and today many still rely on diesel-run power generators and purchasing bottled drinking water.<sup>92</sup> There is also a notable oversupply of, frequently unfinished, housing in post-war Lebanon, in part owing to the diaspora community leaving because of the conflict (as well as the previous civil war) and the construction of holiday, retirement or investment homes.

Of course, the long-reach of the civil war on Lebanon cannot be separated in this analysis as that clearly casts a long shadow.

## BUSINESS AND EMPLOYMENT

Explosive violence seems to closely mirror patterns of job loss in those affected areas. In Syria, since the beginning of conflict, jobs have been destroyed at an approximate rate of 538,000 per year, whilst the overall unemployment rate increased from 8.6% in 2010 to 52.9% by 2015, and youth unemployment reached 78%.<sup>93</sup> With many displaced and businesses and factories destroyed or damaged in bombardments, the immediate and short-term impact of such violence on employment is relatively clear – low employment and low trade.

In the long-term, AOA found that high levels of explosive violence seems, in particular, to impact agricultural communities, especially those areas suffering from high levels of UXO contamination.

### SRI LANKA

Needless to say, the areas where conflict was most intense have suffered the most in terms of employment opportunities. Youth unemployment in some main northern towns, such as Mullaitivu, Jaffna and Kilinochchi, stands at about 60%.<sup>94</sup> Such unemployment is widespread – children growing up during the war, with less access to education or skills-based training, are suffering from this absence of skills today.<sup>95</sup> Irregular, unsalaried work seems now to be very much the norm – in 2015, only about 6% in the northern areas were reported to be in regular, salaried employment.<sup>96</sup>

Small businesses have also been impacted. In North Sri Lanka, AOA visited Chavakachcheri market, which saw 70% of its stalls and shops destroyed by bombs. The destruction of stock still stunts businesses – one garment shop owner saw damage

amounting to 3.7 million rupees (approximately \$24,000). Another businessperson, a shoe shop owner, had suffered losses of 15 million rupees (\$95,000), through the destruction of stock, equipment and his store. They both said that they were paying off that loss, still. Those with the heavier or bulkier stock were hit hardest as they could not move or transport the stock easily to avoid damage: jewellers interviewed may have seen significant damage to their shop, but as their stock was light they were able to save it from destruction.

Nonetheless, all traders reported a significant decline in profit. According to N. Sivapalan, the President of the Chavakachcheri Chamber of Commerce, their members' losses amounted to some 400 million rupees (\$2.6 million) and though a complaint was filed ten years ago they have still not received compensation. This has had a deep and long-lasting impact on himself and the other business owners: 'I am still unable to do business on my own capital and with people shopping less there is also a lower profit margin. Many have had to shut their business.' Three male members of the Chavachcheri Chamber of Commerce were also reported by Sivapalan to have hanged themselves.

### LEBANON

In Lebanon, a 2007 World Bank study found a 50% decline in enterprises and 26% increase in the duration of unemployment following the conflict.<sup>97</sup> Whilst agriculture was particularly affected, other businesses were impacted too: 900 factories, markets, farms and medium-sized enterprises, as well as 2,800 small-size enterprises, were to be damaged or destroyed in the violence, mostly by shelling.<sup>98</sup> Many of these tragedies go unreported and yet can have profound impacts on the course of a person's life.

AOAV met with business owners and managers in Nabatiyé, southern Lebanon, in February 2018. One store owner interviewed had their entire shop destroyed in a bombardment, along with all his stock. Whilst he didn't want to provide his name out of fear of repercussions,<sup>99</sup> he claimed that, even today, he is still paying off the debt of that impact to his supplier, totalling some \$400,000. He commented that he would be unable to buy a home or get married until the debt was paid off.



Pictures of the destruction shared with AOA by a business owner in Nabatiyé, southern Lebanon.

A few doors down AOA met the owner of a fast-food outlet – he too preferred we did not use his real name. His business was destroyed in Israeli bombing. It took him six years to pay off the loan he had taken out to build this business just prior to the war, and he had to take on multiple jobs to do so. No one that AOA spoke to had received compensation for their loss.

## INVESTMENT

Investment is sorely needed after explosive violence, particularly given the damage to infrastructure. The rebuilding process has the potential to reinvigorate the economy and employment and redevelop much needed services for the local population. However, explosive violence deters investors, especially if the consequences are still felt in terms of political or regional instability, or the threat of further outbreaks of violence remains – insecurity is not a friend to investment.



### SRI LANKA

Both during and after the war China has been Sri Lanka's biggest donor, having supplied arms to the government throughout the war and then assisting with redevelopment. Though much of this has come at substantial cost to the Sri Lankan people since Sri Lanka is indebted to China and remains reliant on this relationship. Today, it is reported that Sri Lanka owes more than \$8 billion to state-controlled Chinese firms.<sup>100</sup> China benefits from this, often to the detriment of local Sri Lankans and Sri Lanka in general. For example, in 2017, Sri Lanka agreed to provide China a 99-year lease for a port called Hambantota, in south Sri Lanka, in exchange for lessening the amount owed by \$1.1 billion.<sup>101</sup> This can provide China with a crucial port, as part of their Belt and Road trade initiative. In this way, the cost of waging war can also have deep consequences – as China seeks to establish itself as a major trading force in the Indian Ocean, it has done so off





Picture of the destruction shared with AOAV by a business owner in Nabatiyé, southern Lebanon.

debt and political leverage that it garnered during and after the war. China was unabashed in supplying weapons to the government despite the Sri Lankan government's reported human rights abuses.

Investment in the most impacted areas from the war remains limited. The Chief Minister of the Northern Provincial Council told AOAV that this is partly due to the war's direct impacts, such as inadequate infrastructure, a shortage of skilled workers, problems obtaining land, and excessive red tape in obtaining approvals for development.<sup>102</sup> China's reach, it appears, does not extend to the East and North of the country.

### LEBANON

In Lebanon, AOAV was told that investors are put-off from investing in many areas, largely owing to the potential for the conflict to re-emerge.<sup>103</sup> Investment in tourism infrastructure has been hampered by the destruction brought by the bombardment, and the threat of future violence deters foreign investment into the areas most impacted.<sup>104</sup> Furthermore, the existence of armed militant groups, such as Hezbollah, acts as a powerful disincentive to invest, with the requirements to pay bribes or to negotiate with proscribed terror groups an issue that could dissuade many multi-nationals.

When AOAV spoke to a representative from the ministry of tourism, they discussed oil and gas exploration in the Israeli/Lebanese waters – an opportunity that could show peaceful negotiation is possible between the two countries and that, in turn, it is hoped could stimulate investment.<sup>105</sup>

### TOURISM

Like investment in general, tourism investors are put-off by explosive violence and tourists avoid areas perceived as dangerous. The widespread destruction caused by explosive weapons to infrastructure and the natural environment must also be rectified before tourists are likely to return. Additionally, the international perception of stability within the country is as important as the reality. Though, as AOAV found, such violence may inspire a new form of tourism, as people – particularly those linked to the “winning” side – tour the affected areas to take in the sites of war – providing needed income to hotels, B&Bs and restaurants in these areas.<sup>106</sup>

### SRI LANKA

Whilst tourism numbers in Sri Lanka have surged by over 240% since 2009,<sup>107</sup> this is not reflected in the most bombed areas. There has been insufficient development and the scars of war remain, making it a less attractive destination than the more established sites of the south. This means that the benefit from the 390% rise in dollars from tourism receipts is not being felt in these areas.<sup>108</sup> The tourism that does exist centres on war tourism by Sinhalese from other provinces travelling north to visit government monuments and memorials to the war – LTTE memorials have been removed.<sup>109</sup>

Whilst there does appear to be discussions on stimulating tourism in the North, the Northern Provincial Council have been left absent from that discussion, which seems to pose a concern. Tourism infrastructure that has been developed in these areas only adds to this,

with previous efforts seeing resorts developed and managed by Sinhalese businessmen and built in High Security Zones (HSZs). This damages local businesses and, when in HSZs, can deepen further existing grievances, particularly from locals displaced from their land.

### LEBANON

In Lebanon, the war was said to have contributed to a loss of \$3 million in the tourism sector alone. That continued impact of explosive violence has caused a strain for many years. For example, the bombardment on the Jiyeh power station saw 15,000 tons of oil leak into the Mediterranean, and with approximately 60% of the tourism industry dependent on sea-related activities,<sup>110</sup> those whose livelihoods were based on this form of tourism were thought to lose about 90% of their income in 2006.<sup>111</sup> In addition, as with Sri Lanka, the association with conflict had an undeniable impact.

As with Sri Lanka, such a perception was very harming. A decade ago, Lebanon relied very heavily on tourism as part of its services sector, one that made up 70% of the economy.<sup>112</sup> At that time, about 20% of overall GDP was estimated to be from tourism; today it is thought to be about 8%.<sup>113</sup> It would be too much to say that this decline is solely down to Israeli bombing, though – tourism numbers had generally recovered to pre-war levels by 2010 but are now being profoundly impacted by the aftermath of explosive violence in Syria.

Similarly to Sri Lanka, Lebanon has witnessed a resurgence in internal tourism. Many of the areas most bombed hold a special place in the collective

memory due to their link to the idea of resistance against Israel.<sup>114</sup> Most notably, AOAV visited an extensive war memorial run by Hezbollah, complete with trenches, stirring nationalistic films that could be viewed, and Hezbollah-themed souvenirs available to purchase.

### ECONOMIC CONCLUSION

While it is true that the economic consequences of explosive violence per se are hard to separate from the general economic burden that all conflict brings (though in the case of Lebanon the war was almost entirely one waged with explosive weaponry), it is clear that the destructive nature of explosive weapons both causes specific economic consequences, as well as lengthening and exacerbating other drivers of economic retardation.

The damage that bombs cause on infrastructure, roads, water and power distribution networks, as well as the contamination that follows such damage, all serve to destabilise the most impacted areas for years afterwards, preventing a more rapid recovery frequently witnessed in conflicts involving, for example, small arms.

The differences witnessed between Sri Lanka and Lebanon also make clear two salient points: the longer such violence is perpetrated, the more difficult and longer the post-war economic recovery will be. Civil conflict versus international conflict also impacts post-conflict rebuilding, with civil conflict often leaving the ‘losing’ population more demoralised and more sensitive to post-war inequities within their country.

**All members filed a complaint about the losses and this was handed to a government agent. 10 years later there was still no compensation. From all the claims the loss amounted to about 400 million rupees.**

**Today, people are shopping less. There are also less traders – there used to be 400, now there are 280. I am still unable to do business on my own capital and with people shopping less there is also a lower profit margin. Many have had to shut their business.**

**The main complaint I hear is in regard to the loss of financial capacity. Three male members hanged themselves, whilst six members shut shop and are missing.**

**N. Sivapalan, President of Chavacheri Chamber of Commerce, Sri Lanka.**



## ENVIRONMENT

*At moment of bombing- you have the impacts but then over time you have impacts from the rubble and the destruction which ends up in landfills – contributing to our landfill and waste problem in Lebanon. This has impacts on marine and aquatic life. It also opened the door for further degradation of the environment – as people continued to add to the waste.*

*The reconstruction phase generated dust and air-pollutants which lasted for three or four years. The bombing of electricity stations deepened the electricity crisis and saw more reliance on power generators which causes significant pollution.*

**Dr Nadim Farajalla**, Director at the Climate Change and the Environment Program, Issam Fares Institute for Public Policy and International Affairs, American University of Beirut, Lebanon.

The use of explosive weapons can have substantial impact on the surrounding environment. Not only can bombs damage vital infrastructure that, in turn, causes wide-spread environmental harm, there is also the high likelihood that copious amounts of unexploded ordnance (UXO) will be left behind contaminating large areas of land. The weapons themselves may contain materials that are harmful to humans, animals and the wider ecosystem.<sup>115</sup> The immediate bombardment can also cause immense destruction to vegetation and habitats – destroying mature trees and causing harm that is not easy to recover from.<sup>116</sup>

With the urbanisation of warfare, and the intentional targeting of infrastructure such as factories and oil refineries, environmental harm is often long-term; yet associated civilian suffering is often disregarded. The long-term harm caused by the bombing during the first Gulf War, particularly of chemical factories, weapon stockpiles and oil refineries for example, may have been reported upon, but never became a major campaigning issue in the media.<sup>117</sup>

One observation is worth noting here, however. There are cases where the widespread laying down of landmines can, as with the extensive Demilitarised Zone between North and South Korea, cause a curious flourishing of local wildlife and fauna. Where explosive weapons deliberately exclude humans from a zone, nature will often flourish in its natural form. However, such explicit no-go zones are relatively rare and the

laying down of anti-personnel mines is prohibited under the landmine ban treaty.

### UXO

Explosive remnants of war (ERW) present a variety of risks to the environment: they make it unsafe for the land to be used owing to the risk of devices exploding long after they have struck,<sup>118</sup> the shell casing can breach, leaching out harmful chemicals into the soil.<sup>119</sup> Whilst some cite additional benefits for flora and fauna in overused areas of land,<sup>120</sup> such benefits are generally short-lived and increase the impact on less-contaminated areas, as farmers and developers use or develop nearby land more intensively.<sup>121</sup>

UXO is present in nearly every country across the globe. In Laos, the US dropped more than 270 million cluster munitions between 1964 to 1973. Since then over 25,000 people have been killed,<sup>122</sup> and today, decades later, it is estimated that barely 1% of those bomb remnants have been cleared, leaving these largely agricultural communities in extreme poverty.<sup>123</sup>

Many countries, despite clearance, continue to discover UXO decades after conflict. In the UK, between 2010-2016, an average of 61 WWII air-dropped bombs per year were safely detonated.<sup>124</sup> Totals numbers of UXO in the UK could be even higher, with 15,000 items of UXO removed from UK construction sites between 2006 and 2008 at substantial cost.<sup>125</sup> What is clear is that UXO presents one of the most injurious reverber-

ating impacts of explosive weapon use to a country, stunting its economic, social and cultural development in varying ways for decades.

### SRI LANKA

According to HALO representatives in the North, there were approximately 650 mine fields in need of clearance following the war. Today, despite huge amounts of investment, at least 70 remain.<sup>126</sup> It is estimated that around 2,500 people are still waiting to resettle on land that remains contaminated, while still more are prevented from using huge swathes of land for agriculture and other use.<sup>127</sup> According to data from the government-run Mine Action Center, between 2002 and 2016, the impacted areas saw at least 875 mine and ERW-related casualties. At least 285 of these occurred in the years since the end of the war.

Even so-called ‘cleared’ areas may still harbour UXO. When AOAV spoke to local resident in Kilinochchi, Kodeeswanan Vijithkanith, he testified that his father-in-law had recently been killed by UXO on the land that

bordered their own. Since the incident, Vijithkanith feared visiting his brother-in-law who had learning disabilities and lived on the father’s land. He had also restricted his children’s time outdoors. Others that AOAV met also reported finding explosives despite the land being given the ‘all clear’ – in short, it was not a rare incident.

### LEBANON

In Lebanon too, the one million undetonated cluster bombs and other UXO left in Lebanon by Israeli bombing over 10 years ago continues to cause difficulties. Between 2006 and 2016, the Lebanon Mine Action Center (LMAC) reported that there were 481 casualties (58 killed and 423 injured) from such deadly debris.<sup>128</sup>

As is typically the case, most victims of UXO in Lebanon are from poor and rural communities; being poor, many continue to farm the land and go about their lives despite the danger – some even having attempted to remove bombs themselves.<sup>129</sup> Other consequences are felt; where land is not contamin-



Demining operators in the northern province, Sri Lanka.



ated by UXO it has often become overused, such as for intensive grazing. When such land is overused for grazing, it can cause the soil to become compacted, causing it to lose vegetation. AOA V was told this not only impacted future grazing potential, but also increased risks of the land flooding.<sup>130</sup>

AGRICULTURE

The agricultural consequences of bombing are extensive: the immediate destruction of trees, crops, livestock, infrastructure and machinery, as well as destruction to soil, and contamination from UXO are some of the primary challenges faced by communities. Despite AOA V’s findings that when explosive weapons are used in populated areas, nine out of ten people killed or injured will be civilians, the use of such weapons in lesser-populated areas also creates substantial difficulties. Damaged trees have often to be removed at considerable cost and new ones replanted – and it can take at least five years to see a profit from a tree.<sup>131</sup> Additionally, bombing can expose and harden the soil, making re-planting challenging.<sup>132</sup> In communities where trees are nurtured and well-tended, such as many of the olive groves of southern Lebanon, including the Hojeir Valley in particular, damage and contamination to such groves can be felt deeply – both on a fiscal and a cultural level.<sup>133</sup>

Crops such as tobacco, soybean, corn and wheat are said to be particularly prone to harm from chemicals leaked from UXO.<sup>134</sup> Having said this, little research has been conducted on the long-term impact of such pollution, particularly in relation to specific species of crop or plant. In any case, bombing campaigns can render the land unsuitable for agricultural purposes. Bombing in Laos and Vietnam created 25 million craters, destroyed one million hectares of forest and rendered two million hectares of agricultural land unproductive.<sup>135</sup> Similar harm was seen across the fields of Verdun in France following World War One, due to deep craters caused by extensive artillery strikes.<sup>136</sup>

SRI LANKA

As you drive through the North, those trees that have not been broken by the bombs are covered in the scars left from shrapnel and bullets. According to the Coconut Conservation Society, at least 50,000 coconut trees were impacted by the war there. Such

palms take 10 to 30 years to reach peak production, meaning that it will likely take a generation for the area to recover fully from a destroyed plantation.<sup>137</sup>

Large areas of land in the North remain unusable to this day, in large part down to both UXO and securitisation – areas being appropriated by the military. For some, so dire is their situation that economic necessity causes farmers to use contaminated areas despite the risks. HALO representatives in Kilinochchi explained cattle still roam through contaminated land and in November 2017, the month before AOA V met with HALO, a cow in calf was killed in the Muhamalai minefield. Such a loss can present a substantial blow to a farmer and their future earnings – a pregnant cow alone is valued at 467,000 Sri Lankan rupees (about £2,185).<sup>138</sup>

*During the war there was so much shelling and air bombardment and bullets, and my father-in-law didn't die and to then to have him taken away when they thought it was safe left us all very afraid. We are not sure what to do, as we need to assist my brother-in-law but we are afraid to go on to the land.*

*The fragments hit my father-in-law in the in the stomach but it was clear he also damaged his lung. He was a large, broad man, so it came as quite a surprise that it killed him. The poor road access did delay him in reaching treatment though.*

*We used to be a tight-knit family, now we are scattered. We used to help each other now I feel alone and entirely responsible for my family's well-being.*

**Kodeeswanan Vijithkanith**, 30, former LTTE cadre and son-in-law of recent landmine victim, 03 Dec 2017, Sri Lanka.

LEBANON

In Lebanon too, up to 35% of the population was dependent on farming, most operating on a small scale with little ability to absorb the losses incurred by the war.<sup>139</sup> It is estimated that 85% of the country’s 195,000 farmers lost all or some of their harvest due to the conflict – at a cost of between \$135 to \$185 million.<sup>140</sup> Desperate, some attempted to harvest even during the bombardment – 33 laborers were reported killed in an Israeli airstrike in the northern Bekaa valley whilst harvesting peaches.<sup>141</sup>

The 2006 bombardment damaged at least 545 agricultural fields in the south: 342 in Tyre District; 131 in Bent Jbail District; and 72 in Marjayoun District.<sup>142</sup> 42% of southern Lebanon (12% of the country as a whole), was deemed to be contaminated by cluster munitions; 92% of this land was described as ‘green area’ – consisting of plantations or crop fields.

After the war many of Lebanon’s southern farmers faced debt or bankruptcy. The impact on dairy producers was particularly devastating. Cows must be milked daily or production diminishes; stress also hugely affects productivity. After the war, many cows were reported to be unable to return to maximum productivity. At most, AOA V was told, cows only ever returned to 50% of their production capacity;<sup>143</sup> forcing many farmers into debt.

LAND

When conflict ends, restoring and rebuilding homes, land or livelihoods can cause significant tensions in communities, exacerbated by other consequences of explosive violence such as the death of family members, the growth of families during displacement, and UXO contamination. Land rights can become contested and family inheritance denied or challenged.<sup>144</sup>

The length of displacement contributes significantly to struggles to reclaim land. For example, countries may see local customary land rights weakened<sup>145</sup> or, households may find themselves headed by bereaved females, whose rights may not be recognised.<sup>146</sup>

SRI LANKA

The ongoing stationing of the Sri Lankan national army throughout the impacted areas – an action frequently justified and deemed necessary as a bulwark against future instability – continues to cause local tension. Land protesters in Keppapilavu, who remain displaced from their land, told AOA V that many had turned desperately to loans after their livelihoods had been disrupted. Such loans, which many said they had no way of repaying, had stimulated a number of suicide attempts.

Even when land is returned, challenges remain. With no compensation and houses destroyed, it would take



Land protestors in Keppapilavu, Sri Lanka.



many years until some could rebuild. The length of displacement also led to difficulties in reclaiming land: many had lost documents of proof. In some cases, the owner had passed away so there were difficulties, particularly for women, trying to establish ownership.<sup>147</sup>

### LEBANON

In Lebanon, given the 2006 conflict lasted a little over a month, many of the above issues did not impact the Lebanese population. However, the land became

polluted in many ways, causing the severe disruption of civilian life. For example, beyond the severe UXO contamination, Israeli bombing also saw the destruction of Jiyeh power station, spilling 15,000 metric tons of heavy fuel oil on to the land and into the sea.<sup>148</sup> 150 km of coastline was affected, with the value of the damage amounting to \$856.4 million.<sup>149</sup> The impact on the marine biodiversity from the oil spill was predicted to have an impact for between 10 to 50 years.<sup>150</sup>

*Just thinking about it brings tears to my eyes. This is our traditional home [gestures to the building ruins and jungle around us] and I am only just returning now after over 20 years. We were displaced multiple times and now we have returned there are still bombs that have been found and it looks like a thick jungle.*

*When shells fell on the area we all left our homes and had to abandon everything. Anton [a neighbour, who has also just returned] was forced was forced to leave behind his cows and goats – his livelihood.*

*The residents of at least six villages in the area were displaced and they were all like us – they had to leave everything and were left with nothing. We all lost our resources. Many of the elderly stayed behind and were killed.*

*My father died from the shock of the displacement and now, due to the displacement, my siblings have all been scattered.*



*I have begun clearing my father's home on their behalf. The land was said to be cleared but we have already found two bombs, one in the remains of what used to be the school and another in a home, and we had to call in a demining organisation to clear them.*

**J. Jeyakumar**, 33, Vasavilan East, Northern Province, Sri Lanka.



The bombing also left millions of tonnes of rubble and the subsequent clean up caused municipal dumps to overflow. The debris from Beirut's southern suburbs alone produced an estimated volume of 42 million cubic feet (approximately 1.2 million cubic meters).<sup>151</sup> Much of this waste ended up polluting the coast, and whilst management of waste has been a chronic problem in Lebanon,<sup>152</sup> many saw the war being a turning point. Today Lebanon is known for its 'garbage mountains', and poor waste management.<sup>153</sup>

### FLORA AND FAUNA

The use of explosive weapons also threatens biodiversity; destroying vegetation cover and killing wildlife. Habitats impacted by explosive violence often see severe changes in ecosystems in the area. Around the world, explosive weapons, particularly landmines and other ERW, have pushed some species to the brink of extinction, with many of these biodiversity hotspots severely affected by landmines.<sup>154</sup> In other cases, environmental concerns and local animal and plant populations are ignored in the redevelopment process.

Human population displacement caused by the use of explosive weapons can also harm habitats – with refugee camps set up where there is space and near available resources – often near forests. These camps frequently see severe land overuse.

### SRI LANKA

In Sri Lanka, one consequence of the intense bombing was a change in the behaviour of elephants in the area. Today, the elephant population of the northwest are said only to venture into open areas after dark.<sup>155</sup> The impact on such a species aside, PTSD in such herds could also have a potential impact on future tourism, as tourists are more likely to visit areas where elephants can be seen in daytime. The harm does not end there – UXO contamination has caused these elephant populations, along with other animal species, deadly harm. With civilian areas prioritised for clearance first, wildlife generally suffers longer. A poignant example of this occurred on April 4<sup>th</sup> 2011, International Mine Awareness Day, when two elephants were

killed by landmines in Sri Lanka, after the government decided to relocate the Sri Lankan Nature Conservatory to a former war zone containing as many as 1.5 million landmines.<sup>156</sup>

Another major impact on wildlife stems from post-war development. As Sri Lanka has sought to increase development, this has seen the relocation of people into areas populated by elephants, leopards and other vulnerable species.<sup>157</sup> Such a drive towards post-conflict reconstruction, often done in a rush, has created deep strains between human and animal populations.<sup>158</sup> 2016 saw a tragically high number of deaths from human-elephant conflict, resulting in the deaths of 279 elephants and 88 humans.<sup>159</sup>

### LEBANON

In Lebanon, the Ministry of Agriculture estimated that 5% of the total forest and woodland of the country was affected by the war – an impact driven by fierce bombardments, along with subsequent forest fires and other military activity. In total, an estimated 1,800 hectares was harmed.<sup>160</sup> Soil erosion, loss of flora and fauna, and degradation to ecosystems due to the forest fires has had a long-term impact, estimated to last between 10 and 50 years.<sup>161</sup>

Paradoxically, in some cases, the loss of economic activity caused by UXO also left positive environmental impacts. In the Hojeir Valley, in the mid-southern part of Lebanon, known for its natural beauty, the UXO contamination has protected the natural landscape from being exploited.<sup>162</sup> This has allowed the area to maintain much of its 'rare and varied botanical and biological life'.<sup>163</sup>

### ENVIRONMENT CONCLUSION

Whilst there has been relatively little research on the environmental impact of explosive weapons, it is clear such violence undoubtedly causes severe long-term environmental damage. Explosive violence also sees reneging on environmental commitments, particularly post-war, for, with the main focus on the economy and speedy development, environmental concerns are generally overlooked.



## SOCIAL

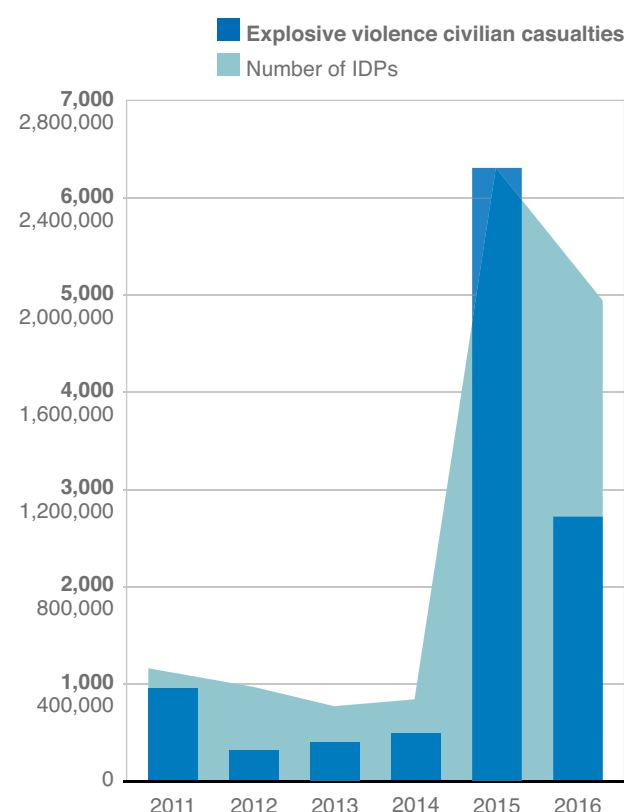
Whilst it is always difficult to separate the consequences of explosive violence from conflict in general, explosive violence devastates societies and tears up the social fabric in a specific, profound manner. Bombardments can cause millions to become refugees. An average of 5.3 million people a year are newly displaced due to conflict – with roughly 15,000 forced to flee their homes every day.<sup>164</sup> Many are fleeing the devastation of explosive violence.

Cultures, families and individuals are all impacted by this displacement, with the psychological toll of the loss and trauma of war impacting in profound and difficult to quantify ways.

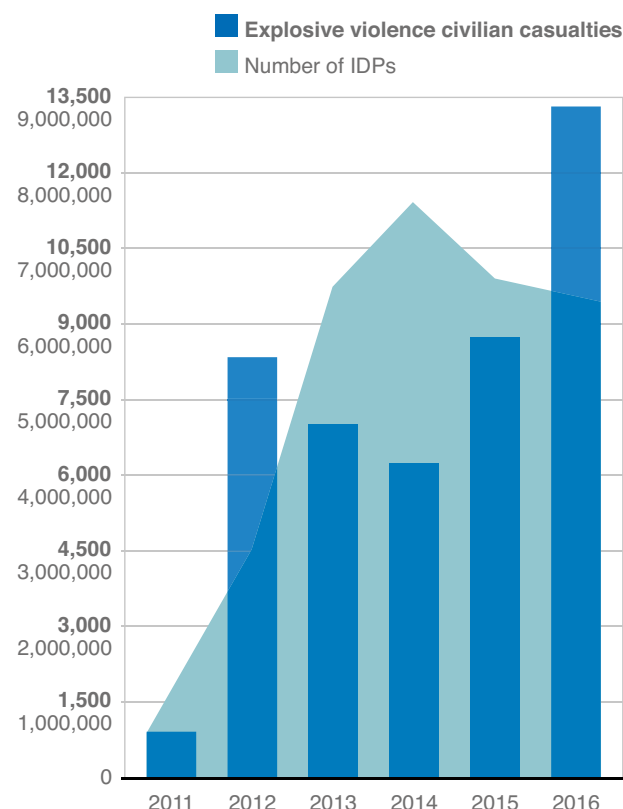
### DISPLACEMENT

Conflict is one of the main causes of displacement, and when explosive weapons are used, the need to flee is even greater and the length of displacement even longer. *Areas of Harm*, a report by PAX and Article 36, found that, when explosive weapons were used in populated areas, civilians were not only killed or injured, but entire populations were repeatedly displaced.<sup>165</sup>

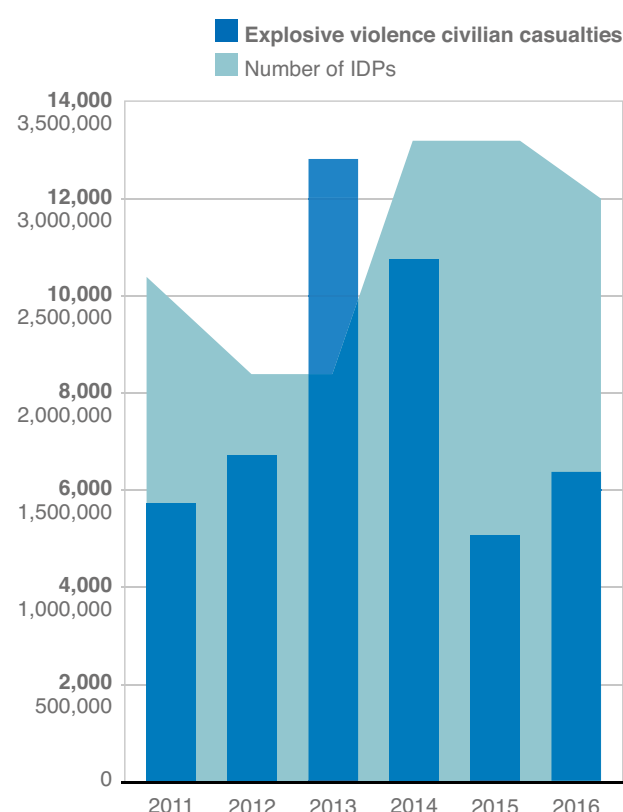
**Yemen explosive violence casualties v IDPs 2011-2016**



**Syrian explosive violence casualties v IDPs 2011-2016**



**Iraqi explosive violence casualties v IDPs 2011-2016**



Whilst AOA acknowledges the multiple factors that influence levels of displacement, there is a strong correlation between the levels of explosive violence in a country and the number of displaced persons. The graphs displayed opposite, show the levels of explosive violence casualties recorded compared to the levels of internally displaced – civilian harm mirrors displacement.<sup>166</sup>

### SRI LANKA

In Sri Lanka, 300,000 people were internally displaced by the end of the conflict.<sup>169</sup> Even today, a sizeable minority of people remain in camps, unable to return to their homes.<sup>170</sup> As of May 2015, 73,600 remained displaced in the country's Northern and Eastern districts, living in welfare camps or with relatives.<sup>171</sup> Those who remain displaced do so owing to the continued reverberations of explosive violence – including UXO, the destruction of homes and infrastructure, and the continued military occupation, all factors that prevent a safe homecoming.

With 350,000 homes damaged or destroyed, many native Tamils were unable to return until such areas were rebuilt. Even now, redevelopment and demining continue.

This continued impact should prove a stark warning to Iraq and Syria. Given the extent of the contaminated land and, given that the extent of the destroyed infrastructure in these countries is greater than in Sri Lanka, it is likely that Iraqis and Syrians will be displaced for longer. Some estimates suggest that demining in Syria alone could take 50 years.<sup>172</sup> One home in Syria was cited in a conference attended by AOA where it was described how a young girl was found living alone in a house – it was later discovered the home had almost a dozen booby-traps designed to kill and maim throughout.

### LEBANON

In Lebanon, many people were displaced by the violence. Given the short duration of the conflict, many were able to quickly return, but for many others it still took years for their homes to be rebuilt and life to return to a semblance of normality. Post-conflict support came from many quarters, including from Hezbollah, Iran and Qatar.<sup>167</sup> Hezbollah also provided money for renting alternative accommodation whilst homes were rebuilt, easing the burden on civilians.<sup>168</sup> The political consequences of this aid cannot be ignored – today many

people feel that Hezbollah and its sponsors are their protectors, an awkward truth for those who see that group, proscribed as they are in the U.S. and elsewhere as a terrorist organisation – a politically destabilising force in the region. Many people with whom AOA spoke to said that the war emboldened and deepened support for Hezbollah throughout the country, support that might lead to a further destabilisation of the region in future years.

### EMIGRATION AND DIASPORA

Similar to displacement, explosive violence may force civilians to seek refuge outside their country. In *Escaping the Bombing*, Humanity and Inclusion found that among the Syrian refugees interviewed in Jordan the threat of explosive weapons was the primary, overriding factor influencing their decision to flee their country.<sup>173</sup>

AOA's report *The Refugee Explosion* also found a high correlation between the rise in casualties from explosive violence and the numbers seeking refuge abroad.<sup>174</sup> Syria alone has seen approximately 5.6 million refugees flee across borders as many try to escape the bombing.<sup>175</sup>

Depending on the length of displacement and the post-war situation, many might choose to remain abroad, and impacted countries may come to rely on the diaspora for economic stimulation and assistance. In addition, the numbers of skilled and educated nationals fleeing their country may harm post-conflict development. AOA found this to be the reality in Sri Lanka.

### SRI LANKA

By the end of the conflict, 145,000 people had fled Sri Lanka. Many of these were the wealthiest and best educated, particularly in the impacted areas. The Sri Lankan diaspora today stands between 700,000 and 900,000.<sup>176</sup>

So great has this exodus been that today some professions have been left without suitable candidates, a consequence of a significant post-conflict absence of educated formal workers. Even today, the professional elites may find Australasia, Europe or North America a better place to settle, and many do leave, joining family members within the diaspora. This, of course, has a substantial effect on the population most impacted by the bombardment in particular, especially in areas such as healthcare and education.

## LEBANON

Given the explosive violence targeted mostly southern areas and its short duration, few sought refuge abroad.<sup>177</sup> Further, those who did only did so temporarily; most were said to have returned quickly to their homes, despite the destruction that awaited them.<sup>178</sup> Locals described to AOAV an eagerness to return, bolstered by a desire not to be ‘defeated’ by Israel: “At the end of the war, you could smell the death in the air. Houses were flattened but because of the love we have for our land, the thousands who had fled returned. They came back straight away to rebuild and reclaim their life”.<sup>179</sup> This was in stark contrast to Sri Lanka, in part owing to the fact it was an international conflict with a clearly defined enemy, a relatively short bombing campaign, and one where national pride and identity could offer a bulwark against community despair.

## EDUCATION

Explosive violence can profoundly impact education. Around the world, 27 million children find themselves unable to attend school owing to conflict.<sup>180</sup> This presents a concerning Catch-22 situation. When countries and communities are ravaged by explosive violence, the need for quality education is even more pressing, as school equips children with the knowledge to rebuild, while also providing them with stability to cope with trauma.<sup>181</sup> In Syria, for instance, the on-going violence

has left a quarter of schools unusable,<sup>182</sup> while repairing Syria’s broken education sector is estimated to cost £2 billion.<sup>183</sup> Furthermore, the lost years of schooling at all educational levels by the end of 2015 was estimated by the Syrian Center for Policy Research to represent in Syria “a human capital debit of 24.5 million lost years, which represents a deficit of \$16.5 billion in human capital investment”.<sup>184</sup>

## SRI LANKA

In Sri Lanka, teachers described to AOAV how the slow rebuilding of schools destroyed in the violence, had been in part hampered by the militarisation of the area, with army barracks taking over some schools. And while other schools have been rebuilt, children’s education is still affected in a variety of ways. Poor mental health arising because of the violence has been linked to a rise in behaviours that affect students’ ability to learn.<sup>185</sup> Truancy, lack of focus in class, depression and drug-taking were all cited as concerns by teachers AOAV interviewed. The school principal at Kilinochchi Maha Vidyakym, Jayanthi Thanabalasingham, described how “because of the impact [of the explosive violence] on other family members, such as mothers and fathers, children were influenced. Parents might turn to drugs and then students bring these to school. Two students were suspended last week for drug taking. One boy was also attacked and ended up in



School children play at Kilinochchi Maha Vidyakym, in Kilinochchi, northern Sri Lanka.

*The children that are impacted now is often due to losing parents or loved ones in such violence. This had led to unstable family backgrounds as family try to cope with the trauma. It has led to some very severe health and social consequences, such as drug and alcohol addiction, and sexual abuse... The psychological trauma caused by the loss of parents has led to mental health impacts such as depression and anxiety. The parents have often been severely impacted and the children are living with them, so the parents trauma means the children’s upbringing is less stable and abnormal. We are often seeing weight gain too and a general failure to thrive. I think much of this has been impacted by the loss of bonding between parents and children. Even the amount of breastfeeding has decreased.*



Dr Sathiadas, paediatrician in Jaffna, north Sri Lanka.

hospital because of this incident.” Two out of every five children in the war-torn North and East are today thought to have mental health disorders.<sup>186</sup>

A loss of parental contact was also said to be an issue impacting the development and behaviour of children there.<sup>187</sup> One teacher, for instance, cited the employment of women as demining operatives, amongst other occupations, as potentially harmful to a child’s development. She claimed that, in some cases, children were left alone for long periods of time and came to her school without breakfast as their mothers were at work.<sup>188</sup> Demining staff in the region countered this claim, saying that the work hours of the deminers they hire are formulated to allow parents to return home to be with their children and additionally many households had other relatives who could be relied upon to assist with childcare. Nevertheless, it is worth recognising that post-war employment amongst women may challenge ‘traditional’ values. Whilst the employment of women in post-war zones is a positive reality, local sensitivities must also be considered.

## LEBANON

In Lebanon, between 40 and 50 schools were destroyed and around 300 were damaged in the brief war – accounting for about 10% of all schools in the country.<sup>189</sup> Substantial efforts were made by UNICEF and NGOs to provide essential learning materials to lessen disruption

to education.<sup>190</sup> However, few long-term studies on the impact on education have been conducted, and whilst it is likely that the psychological toll of the bombardments on children did affect education, it is difficult to isolate the educational impacts of the violence given the general conditions of the public education system in Lebanon.<sup>191</sup>

## CRIME

Like other forms of conflict, explosive violence has been linked to spikes in transnational crimes such as trafficking, in all its forms, as well as other local crimes such as looting, murder and sexual violence. The increased and lengthy displacement linked with explosive violence may also contribute to increased likelihood of such activities. There may also be a rise in drug taking in conflict-impacted countries, people seeking oblivion to salve the traumas of war. Syria and Yemen seem both to have witnessed a rise in such issues in recent years.<sup>192</sup> Though the link to explosive violence is not always clear-cut, crime is often a direct consequence of explosive weapons’ impacts upon economies, employment levels and infrastructure in general.<sup>193</sup>

Explosive violence can also exacerbate ethnic, religious and cultural differences, leading to further violence or hate crimes. Many of these long-term impacts were seen in AOAV’s research.



### SRI LANKA

Explosive violence acutely aggravated ethnic and religious tensions in Sri Lanka, inspiring violence even today. The end of the war accompanied a rise in Sinhala-Buddhist nationalism – and even now those seen as a threat to this often see punishment in the form of local violence. In March 2018, Sinhala anti-Muslim violence left three dead, 20 injured, 11 mosques destroyed, and more than 200 Muslim-owned homes and businesses destroyed in four days of violence in Kandy district.<sup>194</sup>

Human trafficking also flourished;<sup>195</sup> a criminal reality fuelled by poverty, the existence of large numbers of often vulnerable war widows and orphans and a poorly functioning police force (one that, owing to its connection to the State, also is viewed with distrust by many Tamils).<sup>196</sup> In the North, there has also been a reported rise in armed gangs, drug dealers and disaffected youth. Journalists explained these were linked to high levels of poverty and unemployment levels in the areas most impacted by explosive violence.<sup>197</sup>

### LEBANON

In Lebanon too, sectarian divides between older generations in particular, were hardened post-war, with some resentment from various non-Shia communities for Hezbollah, who they blamed for initiating the violence.<sup>198</sup> However, such divisions pre-dated the war and with changing social attitudes amongst younger generations it is difficult to attribute any hate crimes to the violence of the war in particular – though a reported rise in post-war drug taking might fuel or bring others to join drug trafficking gangs.

*Even now I am paranoid, I don't want to leave my room in case it gets destroyed and when I am at home I get caught up in trying to work out what would happen if a bomb hit – I start imagining what would happen and see the glass breaking.*

**Sally Mansour**, 22, resident of Dahieh, in southern Beirut, Lebanon.

### GENDER

Whilst explosive weapons are indiscriminate, they can have very different impacts depending on gender and associated gender norms in the communities suffering such violence. Women and children make up a majority of refugees and IDPs in camps, which frequently have poor conditions and supplies, and where many of them suffer abuse.<sup>199</sup> Post-war, gender norms can also impact recovery, with women often seeing decreased access to psychological assistance and education for instance.<sup>200</sup>

For women, the post-war period is particularly troubling for those widowed by the bombs,<sup>201</sup> with economic strain and a lack of NGO support seeing many women suffering poor mental health.<sup>202</sup> This situation was echoed in AOAV's research in Sri Lanka and Lebanon.

*Even now, if a gas tank explodes or a tyre pops, any loud bang, everyone will put on the news, check with neighbours, they think every bang could be a bomb or the start of another war. Everyone starts freaking out.*

**Ali Termos**, 22, resident of Dahieh, in southern Beirut, Lebanon.

### SRI LANKA

In Sri Lanka, there are approximately 40,000 'war widows' in the Northern Province and 50,000 in the east – though this does not account for all female-headed households.<sup>203</sup> Gender divisions in employment have left many struggling to provide for their families. Desperate, many turned to brewing alcohol illegally, sex work, or secure loans to make ends meet.

In female-headed households, depression was one of the most-cited mental health impacts. According to one study, 70% of the women had elevated scores of depression.<sup>204</sup> Many people whom AOAV interviewed across the North, professionals and civilians alike, cited the high-rates of suicide among women; according to HALO representative in Kilinochchi this was reported to amount to about 30 women a month.<sup>205</sup> It is difficult to exclusively attribute this to the war –

Sri Lanka has always had a high number of suicides – but it is likely the levels of explosive violence certainly exacerbate existing suicidal norms.<sup>206</sup>

Widespread sexual violence was also documented in military-run IDP camps,<sup>207</sup> though many women remain silent on the issue, largely because of cultural stigma. Post-war too, gender-based violence is thought to have increased, linked to greater levels of poverty, women's economic vulnerability and an increased military presence (in multiple cases soldiers have married war widows and then abuse them in their new marriages – often to women they consider 'beneath' them, as they are not Sinhalese).<sup>208</sup>

### LEBANON

In Lebanon, the instance of domestic abuse was reported to have increased both during the war and in the post-war years. This was, in large part, linked to the stress caused by the violence.<sup>209</sup> One study found that over a quarter of Lebanese married women were to experience some form of domestic abuse during the conflict, with 13% reported to have experienced at least one incident of domestic abuse after the conflict.<sup>210</sup>

This likelihood of abuse, the stress of post-war life, and poor access to community and psychological support, all appear to have contributed to higher rates of depression and PTSD in Lebanese women in the post-war period.<sup>211</sup>

### FAMILY AND CHILDREN

Predictably, children are often the most impacted by explosive violence. In 2016, 357 million children were living in conflict zones, with 165 million of them witness to high intensity conflict.<sup>212</sup> The traumatic and acutely unfamiliar nature of such violence, where houses are destroyed, homes are evacuated and families ripped apart, inevitably triggers profound emotional distress in children and young people.<sup>213</sup> Such exposure can have a lasting psychological impact, one that has the potential to repeat cycles of violence into the next generation and beyond.<sup>214</sup>

The ending of explosive violence sees many reduced to living in poverty, which can contribute to malnutrition, a lack of education and an increase in social ills such as child labour or underage marriage.<sup>215</sup> Children may be relied upon to contribute to a family's income

and forced to leave their studies prematurely.<sup>216</sup>

In addition to all of this, children also are at very high risk from the weapons left behind, particularly in rural areas. Children accounted for 41% of casualties from cluster bombs in 2016 and 42% of all landmine/ERW casualties – children are more likely to be unable to read warnings, be curious of such items, or mistake them for toys.<sup>217</sup>

### SRI LANKA

A 2007 report on psychological health in the north established that: 'the chronic war situation caused... fundamental social transformations. At the family level, the dynamics of single parent families, lack of trust among members, and changes in significant relationships, and child rearing practices, were seen'.<sup>218</sup> In short, the war has had a profound impact upon young people.

It is estimated that 92% of children in northeast Sri Lanka experienced severely traumatising events during the war, and 25% presented with symptoms of PTSD.<sup>219</sup> A local paediatrician pointed to a loss of familial bonding as a consequence of explosive violence, as parents try to deal with their own trauma and turn inwards or to alcohol or drug abuse – frequently exacerbating mental health issues in children. Even now, many children present with mental health issues linked to impacts of explosive weapons.<sup>220</sup>

### LEBANON

In Lebanon, children were found to suffer particularly from the impacts of war. With a reliance on children in rural areas for assistance with farming, children often account for many of casualties from ERW in Lebanon. In the first ten years following the war, children were found to account for 30% of cluster bomb munitions casualties.<sup>221</sup>

Given the rural nature of these areas and the poverty of many of these families, where stigma is often still attached to such health conditions, many families are also unsure how to care for a traumatised or disabled child.<sup>222</sup> Due to the additional pressure this can place on families, the impacted children often express feelings of guilt, which adds to their conflict-related suffering. Of Lebanese children injured by cluster munitions, 88% were diagnosed with PTSD.<sup>223</sup>



SOCIAL CONCLUSION

It is clear that the explosive weapons leave their own lasting legacy on societies. A community’s exposure to explosive weapons and their effects can change the dynamics of society, and this can impact women and

children in particular. This can have deep consequences for future generations, and, if not addressed, can perpetuate a culture of violence and the rhetoric of revenge, as well as leaving women and children susceptible to greater exploitation and abuse.



The damage and the reconstructed St. James Catholic Church, bombed by a Sri Lankan Air Force plane in Jaffna in 1993.

CULTURAL

Explosive weapons evidently play a vital role in harming communities and their identity. Bombs can destroy sites of culture importance and embed themselves in the memory and identity of the communities that live alongside them. The words ‘The Blitz’ or ‘Dresden bombing’ still resonate decades after the harm wrought by such airstrikes during World War II.

Whilst it is true that guns and politics can fuel deep changes too, it is clear that the destructive nature and wide area impacts of explosive weapons leave greater marks on a community, tangibly and emotionally. In Sri Lanka and Lebanon, AOA V bore witness to such cultural harm that persisted years after the bombs had fallen silent.

HISTORICAL SITES AND MONUMENTS

The effects of explosive violence on historical buildings and other cultural heritage sites has received wide attention in recent years, with all six Syrian World Heritage Sites having sustained damage since the conflict began.<sup>224</sup> Many more historical buildings there have been destroyed by explosive weaponry.<sup>225</sup> In Yemen too, over 95% of those destroyed cultural sites have been by the Saudi-led coalition, with the rest being demolished by Houthi shelling.<sup>226</sup> As of February 2017, over 80 historical sites and monuments

have been destroyed in airstrikes and other attacks in that country, including the destruction of the Old City of Sana’a, a major target of Saudi airstrikes.<sup>227</sup>

The destruction of such cultural and historical sites has long-term consequences both for the collective memory, as well as for tourism. The presence of shelled buildings serves as a constant reminder of harm among local populations, so much so that some buildings (such as the Victoria and Albert Museum in London) are deliberately left with their war damage as a form of memorial.

SRI LANKA

The impact of the war is very evident in the North and East of Sri Lanka, with destroyed houses still lining roads in many locations. Many of the most impacted stretches in the north, such as the A9, still heavily contaminated and marked by destruction, remain all but deserted. AOA V were told that these sites are seen by Tamils as ‘symbols of occupation’, preventing local Tamils from healing.

The end of the war also saw many LTTE monuments pulled down and government monuments erected glorifying their victory. 30 statues of a seated Buddha were constructed along the A9, ‘The Highway of Death’, the main arterial road, in the first three years following



This Tamil Tiger cemetery in Kilinochchi was bulldozed, the headstones left broken in a pile of rubble, Sri Lanka.



the war. There is deep anger around these monuments; AOA researchers were told they were built before the destruction to civilian infrastructure was completed, leaving many without homes whilst efforts focused on monuments to those who had caused much of the destruction.

Other slights also occurred: a main Tamil Tiger cemetery in Kilinochchi was bulldozed, the headstones left broken in a pile of rubble. As was the home of the LTTE leader, Prabhakaran – now a wasteland.

### LEBANON

In Lebanon, at least a dozen cultural sites were damaged by the conflict. Some sites were completely destroyed in the bombardment, while others sustained limited damage.<sup>228</sup> Direct impacts include total or partial destruction of structures that were directly hit by the bombs and unearthing of archaeological structures after upper levels were destroyed. Indirect impacts include archaeological structures affected by oil spillage, and the weakening or deterioration of buildings or structures due to the force of bombardments in the vicinity.<sup>229</sup>

The rebuilding process in many areas has also changed the identity in the area. Traditional building practices were replaced by quicker, cheaper methods, while there was also a bid to modernise (perhaps to draw a line under the conflict – a source of great discontent in post-war British architectural builds, for instance). This was seen in Bint Jbeil, where the Old Town and other important sites saw high levels of destruction and reconstruction that focused more on the speed and cost of reconstruction, than on cultural integrity and restoration.<sup>230</sup> This rebuild was said to have caused significant distress among the local population.<sup>231</sup>

What is different between Sri Lanka and Lebanon is that many in the latter context see the short war as being a time of resilience and, even, victory. In Mleeta, a museum exists that acts as a prevailing symbol of resistance – where destroyed Israeli tanks are offered up as totemic icons of the suffering of nation as virtue. In Sri Lanka, the Tamils feel their defeat profoundly – they have no control over the post-war discourse and continue to live with the sense of humiliation, unmemorialised and unremembered in stone or concrete.



Entrance to the Hezbollah war museum, Mleeta, Lebanon.

### RADICALISATION

The use of explosive violence in populated areas can fuel radicalisation and terrorism. For example, in Pakistan it was found that drone attacks led to a rise in both al-Qaeda and Taliban terrorist attacks across the country.<sup>232</sup> A study undertaken by Stanford Law School, *Living Under Drones*, also showed a consensus amongst journalists, NGO representatives and humanitarian workers, that the strikes did not counter terrorism, but rather increased it.<sup>233</sup>

While it is true that other forms of intervention and violence can fuel radicalism, the impact of explosive weapons and the destruction they cause in a very visible and explicit way, is likely to stimulate anger and calls for vengeance. A widely cited *New York Times* article highlighted that in Pakistan 'drones have replaced Guantanamo as the recruiting tool of choice for militants'.<sup>234</sup> While the Taliban highlight the bloody consequences of the strikes on Pakistan's civilians as a motivation for revenge attacks.<sup>235</sup> Explosive violence has had this effect elsewhere too, including Yemen, Iraq and, as AOA found, in Lebanon and Sri Lanka.

### SRI LANKA

In Sri Lanka, there was significant verbal evidence to suggest the explosive nature of the violence and the lethal impact on civilians contributed to surges in LTTE recruitment. AOA interviewed a former LTTE member in the Northern Province, who explained that the bombing on St Peter's Church, where people had sought refuge from the bombs, led to a surge in recruitment, as well as for the Black Tigers – the LTTE's suicide bombing squads. There was also, AOA was told, a notion that a greater number of LTTE were willing to carry out suicide bombings because death through explosive violence had become almost normalised in the region.

Today, many of the older generation AOA spoke to could not face further violence. Whilst they spoke of the poverty, discrimination and injustice that remained, they believed further violence could not be the answer – but neither could their current predicament continue.

Amongst the youth the story was slightly different. Though they would prefer not to return to violence, they believed that at some point, if nothing changed, it may be the only option. There is also high youth



Exhibitions and souvenirs at the Hezbollah war museum, Mleeta, Lebanon.



*The worst incident I saw was the air force bombardment on St. Peter's Church in 1994. 108 people were killed I think in total. We were in the adjacent area. When I arrived, the situation was chaotic – there was screaming, and bodies being carried out.*

*We considered this a huge humiliation. The people had sought safety and went to the church for security. They were then targeted there. This type of violence saw more people wanting to join the LTTE and also become Black Tigers and we saw many seek to join us after this attack.*

Former LTTE fighter, interviewed in Jaffna, Sri Lanka, December 2017.

unemployment which, some would argue, has driven some gangs to commit petty violence such as looting – and such impulses to violence have often been cited as red flag warnings for future radicalisation.<sup>236</sup>

### LEBANON

In Lebanon, the Hezbollah movement is as active as ever, having seen the number of fighters more than double in the decade following the war; from 20,000 to 45,000. This has in large part been a rise emboldened by resistance against Israel.<sup>237</sup> Hezbollah's weapon arsenal is also estimated to have increased from 12,000 rockets to 100,000 rockets. Many see Hezbollah as the force that drove out Israel, a perception bolstered by the rebuilding process, with Iran and Hezbollah seen as leading the process in the most impacted areas.<sup>238</sup>

The fact that Israel did not deliver a crushing defeat has also meant that Hezbollah is seen to have emerged as a regional symbol of resistance.<sup>239</sup> Many groups have since said they have been inspired by Hezbollah – groups that now fight in Iraq and Syria<sup>240</sup> (though, Hezbollah support has also been damaged by their presence in Syria).<sup>241</sup>

### NATIONALISM

In many respects it is difficult to link any subsequent effects on nationalism to the use of explosive violence in particular – it is something that generally surrounds war and conflict, both a precursor and a consequence. And whilst the two – explosive violence and nationalism – are, of course, linked, post-war nationalism is generally considered routed in the victory.

However, it is useful to examine the impact that resulting nationalism had in both countries and on those trying to deal with the impacts of explosive weapons.

### SRI LANKA

In Sri Lanka, the Sinhala-Buddhist nationalism was reinvigorated by their victory and significant efforts were made to stamp this nationalism onto the Tamil-majority impacted areas. These efforts sought to wipe away much of Tamil and LTTE culture and replace it with Sinhala-Buddhism. Archaeologists and monks even scoured the North and East to establish the antiquity of Sinhala Buddhism in the region.<sup>242</sup> In any case, this served to remind Tamils of their loss and the violence faced, as well as lengthen the recovery process. The Sinhalese nationalism is also linked to further discrimination against Tamils and Muslims in particular, with attacks on Muslim communities occurring as recently as March 2018.<sup>243</sup>

### LEBANON

In Lebanon, on the other hand, left with a sense of victory, even those most impacted were left with a greater sense of assertive nationalism. Many of the Lebanese themselves now engage in war tourism in the most-impacted areas. For example, the Hojeir valley, or 'Resistance Valley', cultural and spiritual importance was magnified due to the role it played in the resistance. Despite the huge levels of contamination now left and the destruction of historical buildings, it retains a special significance in the collective memory and is often referred to in the speeches of Lebanon's political leaders.<sup>244</sup>

### MILITARISM

Similarly to nationalism, it is difficult to link subsequent effects to militarism directly to explosive violence specifically. However, it was clear that in both Lebanon and Sri Lanka military presence since the conflicts had increased in the impacted areas,

often on the premise of preventing future violence.

### SRI LANKA

Many of the areas most impacted by the use of explosive weapons became 'securitised', with military land now accounting for 3,000 acres in the northern district of Valikamam North in Sri Lanka, exacerbating the issue of displacement.<sup>245</sup> The number of military personnel surged during the war, with current troop numbers 10 times what they were 30 years ago.<sup>246</sup> In the North, AOAV was told that 150,000 army soldiers occupy at least 65,000 acres of land, and that the military presence was growing.<sup>247</sup>

### LEBANON

In Lebanon too, the militarism that followed the war left a deep suspicion of foreigners, which AOAV experienced first-hand in the south – there was a deep-rooted concern that foreigners could be Israeli spies. The security situation, checkpoints and security checks, are understandably off-putting for tourists and hinder development in the impacted areas. Others, including those in the Lebanese diaspora, reported similar experiences and concerns.

### CULTURAL CONCLUSION

Explosive violence has a long impact on culture, particularly when historical buildings and monuments are destroyed. Locals see their culture fractured, and their sense of belonging undermined – this has profound psychological consequences. Much of this damage, particularly to ancient structures, can never be remedied and has the potential to leave lasting impact both within communities and to a nation's sense of its own history.

This, alongside other infrastructural, economical and health impacts can fuel radicalisation, in both the form of violent nationalism, as well as recruitment to terror organisations. Both perpetuate cycles of violence.

In many ways this is the most damaging long-term impact of explosive violence – it leads to resurgent calls for revenge, it marks a nation not just for decades but for centuries and it acts as a fundamental counter-narrative to calls for peace and non-violence. Just as the memory of the Sarejevo market bombings still linger with Bosnian Muslims, the memories of the human and physical damage will linger long in the social memory of many Sri Lankan and Lebanese also.<sup>248</sup>



Sinhalese war tourists at Elephant Pass, northern Sri Lanka.



# CONCLUSION

The impacts of explosive violence are long lasting. Decades after such violence ends, the impact can still be seen and felt.

Explosive remnants of war can devastate communities, not only causing direct casualties, but also exacerbating psychological harm and poverty levels – local populations cannot move on from the violence if they cannot even return home.

Explosive weapons scar the landscape – destroying not only infrastructure but also land and trees, leaving pockmarked scenes of desolations, despoiling sites of natural beauty and harming the collective memory of an area.

The long-term impact of explosive violence is dictated by the nature (civil war or international war), the duration and the outcome of the war. Nation states may be buoyed up by a sense of victory against a foreign enemy that can mask the deep scars of the conflict.

Civil wars leave deeper, lingering animosities that may never be truly expunged.

On individual levels, the physical harm of explosive violence can cause lasting harm – amputations, burns and embedded shrapnel are just some of the harms delivered by a bomb or a shell.

There are also severe psychological consequences – a constant reminder of the trauma – particularly for children.

From social to economic, political and cultural harm, explosive violence has a cross-gender, cross-generational and international impact.

When explosive weapons are used in populated areas – as is increasingly the case – civilian harm is sadly predictable. It is not only those directly killed and injured, but whole populations that suffer; and, they continue to.

The only way to prevent this harm is to stop bombing populated areas. As a member of the International Network on Explosive Weapons (INEW), AOA and its colleagues urge states and all users of explosive weapons to:

- Acknowledge that the use of explosive weapons in populated areas causes severe harm to individuals and communities and furthers suffering by damaging vital infrastructure;
- Strive to avoid such harm and suffering in any situation, review and strengthen national policies and practices on use of explosive weapons and gather and make available relevant data;
- Work for the full realisation of the rights of victims and survivors;
- Develop stronger international standards, including certain prohibitions and restrictions on the use of explosive weapons in populated areas.

In developing these standards, states, and other actors should make a commitment that explosive weapons with wide areas effects will not be used in populated areas.

# RECOMMENDATIONS



Home damaged by explosive violence in Mleeta, Lebanon.

- AOA calls on States and other actors to politically commit to stop using explosive weapons with wide area effects in populated areas.
- States should be cognisant of the fact the even when civilians are not killed destruction to civilian infrastructure and land can have wide-spread and long-term harm for communities.
- States and users of explosive weapons should work towards the full realisation of the rights of victims, including those killed and injured, their families, and affected communities. They should strive to ensure the timely and adequate provision of needed services for the recovery, rehabilitation, and inclusion of victims of explosive violence, without discrimination.
- More research is needed to better understand the long-term harm from the use of explosive violence; particularly in Syria, Iraq and Yemen.
- Efforts should be made to reduce the stigma associated with psychological support. Such efforts should be constructed in dialogue with the impacted communities and victims therein.
- Greater efforts should be made to recognise and address the psychological distress that such violence can cause.



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