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Explosive ordnance in Syria: impact and required action



Mine Action

Syria Response

This report is dedicated to everyone in Syria who has suffered physical injuries and/or psychological trauma, lost their life or family members due to explosive ordnance, and the incredible Humanitarian Mine Action staff who risk their lives to clear explosive ordnance, educate people about its dangers, and provide vital services to survivors of accidents and their families.

These findings have been endorsed by **The Mine Action Syria Response**
– over 60 organisations providing humanitarian mine action activities in Syria.



Front cover: Explosive ordnances collected in Raqqa. Courtesy of an International Humanitarian Mine Action actor operating in Syria.
Back cover: Girls receiving EORE. © The Halo Trust.

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Introduction

Explosive ordnance (EO) puts one in two people in Syria at risk of death and injury and impedes the delivery of crucial humanitarian assistance.⁽¹⁾ However, the extent of EO in Syria and its devastating impact is not sufficiently known or discussed among donors and humanitarian actors. For example, in 2022, an estimated 10.2 million people live in areas contaminated by EO, but as of March 2022, only 7% of the required USD 83.4 million needed for humanitarian mine action activities has been funded.⁽²⁾ This report aims to change that. It highlights the extent of EO in Syria; its devastating impact on people, vital infrastructure and provision of humanitarian assistance; the crucial activities performed by humanitarian mine action (HMA) actors; and the action required to address this issue.

Given the gravity of the problem, international HMA actors operating in Syria have come together, sharing data and insight from their work on the ground. These organisations have been working in Syria for over ten years, operating across the country and responding to the needs of people, through land release, explosive ordnance risk education (EORE) and victim assistance (VA).

Given the challenges of operating in different parts of Syria, data and insight from international humanitarian organisations contributing to this report have been anonymized. One of the recommendations of the report is related to the lack of coherent data on the impact of EO, so the report relies on available data from a range of sources, including, casualty reports, community impact surveys, UN-coordinated multi-sectoral needs assessments, NGO surveys, and insight from humanitarian field staff and affected persons.⁽³⁾ The report typically only uses one data source per point of interest or section to avoid duplication. Findings based on smaller datasets have only been included where other international humanitarian organisations recognized the same trend.

1. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', March 2021, https://reliefweb.int/sites/reliefweb.int/files/resources/syria_2021_humanitarian_needs_overview.pdf

2. 83.4 million USD is required to implement humanitarian mine action activities in line with the Humanitarian Response Plan in 2022.

3. This includes engagement with over 20 international humanitarian organisations in Syria, 9 of which focus on humanitarian mine action, between August 2021 and March 2022.

Executive summary

The use of explosive ordnance (EO) in Syria – including through air and artillery strikes with rockets and mortars, and improvised explosive devices (IEDs) and landmines – has killed, injured, traumatised, and displaced the civilian population. Further, it has destroyed civilian infrastructure and impeded access to humanitarian assistance.

It is estimated that between **100,000 and 300,000 EO have failed to detonate in Syria**, therefore posing an active threat of explosion in contaminated areas.⁽⁴⁾ This contamination is in addition to the widespread use of IEDs and landmines, including those of an improvised nature, designed and placed to impede military advances and harass, frighten and deny access to the civilian population. Further, there is also new contamination as a result of ongoing hostilities and use of EO by armed groups involved in criminal activities.

It is therefore no surprise that in 2020 there were an average of **76 recorded EO accidents per day, equivalent to one every 20 minutes**,⁽⁵⁾ and that one in two people in Syria are estimated to be at risk from EO contamination. This amounts to over **10 million people**⁽⁶⁾ – about the size of the population of Jordan, Portugal or Sweden.

EO causes injury, death and psychological trauma every day throughout Syria. Moreover, it leads to socio-economic deprivation and an increased need for health, rehabilitation services, and mental health and psycho-social support services (MHPSS). It also impedes early recovery programming, and is the main access constraint for the safe and effective delivery of humanitarian assistance.⁽⁷⁾ EO contamination is also a barrier to the return of internally displaced persons (IDPs) and refugees. For example, a quarter of EO casualties⁽⁸⁾ in the last five years are IDPs and 16% of returnees are apprehensive over risks posed by EO in their return locations across Syria.⁽⁹⁾

4. The Carter Center Data and Analysis Team, 'A Call for Action – Data On Unexploded Ordnance in Syria & Its Implications. December 2012 – May 2021', March 2022, <https://storymaps.arcgis.com/stories/41d3dcd5c2b3451795d6c4bdf0ca46f6>

5. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', March 2021, https://reliefweb.int/sites/reliefweb.int/files/resources/syria_2021_humanitarian_needs_overview.pdf

6. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', February 2022, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_2022_final_version_210222.pdf

7. Ibid.

8. 'Casualties' refers to those people who suffered an accident with EO. The term 'direct victim' can also be used. This report uses casualties.

9. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', March 2021, https://reliefweb.int/sites/reliefweb.int/files/resources/syria_2021_humanitarian_needs_overview.pdf

Such extreme levels of EO ultimately result in high levels of casualties. United Nations Mine Action Service (UNMAS)-coordinated casualty reports⁽¹⁰⁾ recorded **12,345 EO casualties in Syria between 2013 and 2020, resulting in 4,389 deaths and 7,956 injuries.**⁽¹¹⁾ While in 2020, the Landmine Monitor recorded the highest number of annual casualties (2,729) for Syria since its reporting began in 1999.⁽¹²⁾ In both instances the actual number of casualties is much higher given limitations in data collection.⁽¹³⁾ For example, a global armed violence and monitoring NGO recorded **77,535 EO casualties** in Syria between 2011 and 2020.⁽¹⁴⁾

The majority of recorded accidents happened in Idleb and Aleppo governorates in northwest Syria. Across Syria, men and boys are most impacted. Over a third of EO casualties died, with one in three survivors⁽¹⁵⁾ suffering an amputation of a limb, and two in three sustaining a lifelong impairment.⁽¹⁶⁾ Children are more likely to die from an EO accident than adults, with 40% of child casualties dying.⁽¹⁷⁾ On average, **nine children per month have been verified as killed or injured by EO between 2011 and 2019** – the majority in Idleb and Aleppo governorates.⁽¹⁸⁾

Nearly three quarters of recorded accidents happened in residential (39%) or agricultural areas (34%), with 10% on the road or roadside. Travelling or moving from one place to another, agricultural and household work, and playing with EO were the main activities at the time of accidents.⁽¹⁹⁾

10. Since 2013, UNMAS in collaboration with other HMA actors has deployed casualty report forms under the Information Management System for Mine Action (IMSMA) standards in Syria. HMA organisations active in the country use the casualty report form when they meet with a survivor or with close relatives of a casualty. A face-to-face interview is conducted by organisations' staff. Compared to other sources of data, data collected through this methodology have a high level of accuracy and reliability.

11. RDSWG EHRE Workstream, Guidelines On Explosive Risk Education (EHRE) For Safer Return, October 2020, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/guidelines_on_ehre_for_safer_return_-_rdswg_ehre_ws_nov2020.pdf

12. The Landmine Monitor, November 2021, <http://www.the-monitor.org/media/3318354/Landmine-Monitor-2021-Web.pdf>

13. This data is based on a casualty report requiring a face-to-face interview, so research coverage is limited to areas where HMA reporting actors have direct access to the casualties and their relatives.

14. Action on Armed Violence, 'Syria – Explosive Violence in Syria in 2021', <https://aoav.org.uk/explosiveviolence/syria/>

15. 'Survivor' refers to a woman, girl, boy or man who has suffered injury as a result of an accident caused by EO and survived.

16. UNMAS Victim Data Analysis May 2020.

17. Mine Action Syria Response & Child Protection Whole of Syria, 'Impact of explosive ordnance on children in Syria', December 2020', https://reliefweb.int/sites/reliefweb.int/files/resources/impact_of_explosive_ornance_on_children_in_syria_compressed.pdf

18. Ibid.

19. UNMAS Victim Data Analysis May 2020.

2021 community surveys found that EO survivors **mainly need economic support; medical care; assistive devices and prosthetic and orthotics; physical rehabilitation; and mental health and psychosocial support.** ⁽²⁰⁾ However, there are major barriers to access these services. Survey respondents mainly cited cost, unavailability of services in the local area or within travelling distance, and a lack of jobs for persons with disabilities.⁽²¹⁾ EO survivors also suffer a number of social consequences. This includes withdrawal from family and community life, and reduced options in terms of marriage, children, and economic self-sufficiency. People who sustained an amputation are also especially vulnerable to discrimination, facing social stigmatization, and unemployment.

EO has caused the **destruction of vital infrastructure**, which will have a reverberating⁽²²⁾ effect for years, if not decades. Only approximately half of hospitals and healthcare centres in Syria are fully functional,⁽²³⁾ thousands of schools have been damaged or destroyed;⁽²⁴⁾ millions of homes have been destroyed, damaged or are too dangerous to live in;⁽²⁵⁾ and agricultural land is unusable due to EO contamination or damaged irrigation systems.⁽²⁶⁾

There are **ongoing hostilities across the country**, which means more use of EO and subsequent contamination of land. In 2022, extensive bombing and shelling continues in northwest and northeast Syria, in addition to widespread violence across the country through missile and

20. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

21. Ibid. Note - 'jobs' are not generally included under services, but were included as a possible response in the community survey question: 'In case the above services are not accessible to civilians who have been injured and have a resulting disability, do you know what are the main barriers for accessing them (choose all that apply)?'

22. "Reverberating effects extend beyond the weapon's impact area and last days, months, or even years after the initial attack. These effects, which are often large scale and systems level, are exemplified by the disruption of essential services as a result of damage to critical infrastructure and displacement of the local population.": Human Rights Watch, 'Analysis of the Draft Elements of a Political Declaration on the Use of Explosive Weapons in Populated Areas', February 2021, <https://www.hrw.org/news/2021/02/22/analysis-draft-elements-political-declaration-use-explosive-weapons-populated-areas>

23. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', March 2021, https://reliefweb.int/sites/reliefweb.int/files/resources/syria_2021_humanitarian_needs_overview.pdf

24. Action on Armed Violence, 'The impact of explosive weapons on children in Syria', October 2020, <https://aoav.org.uk/2020/the-impact-of-explosive-weapons-on-children-in-syria/>; Islamic Relief Worldwide, 'Afraid to go to class', March 2021, <https://www.islamic-relief.org/afraid-to-go-to-class-ten-years-since-the-start-of-the-syria-crisis-children-and-teachers-describe-the-lasting-horror-of-attacks-on-schools/>

25. Humanity & Inclusion, 'Demining and rebuilding will take generations', March 2021, https://hi-canada.org/sn_uploads/pdf/O22021_PR_10_years_Syria_EN.pdf

26. Action on Armed Violence, 'The reverberating effects of explosive violence on agriculture in Syria', July 2020, <https://aoav.org.uk/2020/the-reverberating-effects-of-explosive-violence-on-agriculture-in-syria/>

drone strikes, use of vehicle-based improvised explosive devices, and small fire arms and light weapons.

Hostilities and resulting EO contamination also **prevent safe and effective delivery of humanitarian assistance**. The danger of EO contamination in both urban and rural areas limits the ability of humanitarian actors to conduct needs assessments or implement much needed activities supporting the early recovery of communities, such as the rehabilitation of homes, schools, health centres, water and irrigation networks; and creation of livelihood opportunities.

According to a 2022 survey of 14 international humanitarian NGOs operating in Syria, **six have had to move, postpone or cancel programmes in the past two years because the programme location was contaminated with EO**. A further three automatically excluded project locations from need assessments due to a known presence of EO. In addition to inhibiting the required type and scale of assistance, EO also poses a threat to the safety of humanitarian staff, contractors and service users.

Amid this context, addressing the dangers of EO is hampered by **challenges in data gathering and coordination among actors**. There is no centralized database on the extent and type of EO contamination in Syria; and the number of casualties (disaggregated by gender, age, disability a person may have had prior to the EO accident, and displacement status). The underreporting of accidents in Syria is a significant issue. It is due to the limited number of HMA actors working in Syria, restrictions imposed by some authorities to obtain necessary data, physical access constraints to travel to affected communities, and a lack of resources and coordination to ensure more data sharing between organisations.

Syria is undergoing a **severe economic crisis** as a result of the depreciation of the Syrian Pound and Turkish Lira (used in parts of northwest Syria controlled by non-state armed groups), a fuel and wheat shortage, drought, economic mismanagement, in addition to the impact of ongoing fighting, international sanctions, and the spill over of the economic crisis in Lebanon. This has increased the need for humanitarian programming supporting essential public services including healthcare, water and education; and sustainable livelihoods. It also further reinforces the need for increased clearance of EO from residential areas, agricultural land and key infrastructure, e.g. schools, health centres, and roads.

EO contamination, injury and death in Syria can only be prevented through a **permanent cessation of hostilities and a comprehensive humanitarian mine action plan**. In the meantime, the existing

landscape necessitates scaling up of land release⁽²⁷⁾ through survey⁽²⁸⁾ and clearance⁽²⁹⁾ of EO, EORE to mitigate the dangers, and VA to ensure EO survivors receive the support they need to access health (including rehabilitation, prosthetic and orthotic services, mental health and psychosocial support); education; social inclusion; and livelihood opportunities.

Recommendations

The recommendations in this report focus on: ensuring safe access and increased funding for HMA activities; integrating HMA into early recovery programming; support for a political declaration to avoid the use of explosive weapons with wide-area effect in populated areas; improving data collection processes and analysis; and strengthening coordination.

- **Observation:** Due to insecurity caused by hostilities and criminal activity, as well as bureaucratic restrictions, HMA actors can struggle to start operations and ensure a continuous presence in affected communities. Effective HMA can only take place when HMA actors can reach those most in need.

Recommendation: Parties to the conflict, donors and the United Nations humanitarian leadership must support full and unfettered access for all HMA actors, regardless of the communities they serve, modalities and areas of operation.

- **Observation:** The Mine Action appeal in the 2022 Humanitarian Response Plan indicates that USD 83.4 million will be needed to respond to mine action needs in Syria. As of March 2022, the Mine Action sector had only secured 7% of funding required.⁽³⁰⁾ Further, several donors supporting HMA in Syria have recently either withdrawn or reduced support, leaving HMA actors with significant funding shortfalls.

27. 'Land Release' describes the process of applying all reasonable effort to identify, define, and remove all presence and suspicion of EO through non-technical survey, technical survey and/or clearance.

28. 'Survey' encompasses non-technical and technical surveys. Non-technical surveys are generally conducted without the use of mine action assets (tools) or other technical interventions, while technical surveys do use mine action assets or other technical interventions.

29. 'Clearance' in the context of mine action, refers to tasks or actions to ensure the removal and/or the destruction of all EO hazards from a specified area to a specified depth or other agreed parameters as stipulated by the NMAA/Tasking Authority.

30. Out of the USD 77 million requested to implement mine action activities in line with the 2021 Humanitarian Response Plan, only approximately 30% has been funded.

Recommendation: Donors should prioritise funding for technical and non-technical surveys and clearance to facilitate maintaining and scaling-up of operations. Clearance is the only way forward to permanently reduce the threat from EO. Donors should provide dedicated funding for VA to cover long-term needs. Meanwhile, EORE must continue to receive the necessary funding to continuously work towards preventing accidents, in particular where EO clearance is unavailable. Donors should also insist that implementing partners conducting surveys and clearance and/or EORE comply with the recently endorsed International Mine Action Standard (IMAS) 13.10 on Victim Assistance in Mine Action.

- **Observation:** HMA – in particular clearance – cannot be a standalone activity and programming should happen in partnership with other humanitarian and early recovery actors. HMA actors have cleared rural areas and villages, but access to health, education, water, electricity, and livelihood opportunities also determines whether the community can recover and whether displaced people can return. Similarly, humanitarian actors are unable to deliver humanitarian assistance – including crucially important early recovery programming – due to the presence of EO.

Recommendation: Donors and humanitarian actors must recognise that humanitarian mine action is a key enabler to many aspects of the humanitarian response and a prerequisite to an immediate and long-term recovery in Syria. They must ensure that HMA activities are more strongly integrated into other sectors through comprehensive programming. Further, donors and HMA actors should prioritise mainstreaming conflict sensitivity into activities to ensure that interventions have no negative effects on local conflict dynamics, but that where possible this impact is transformative.

- **Observation:** The destruction in Syria is another appalling illustration of the disproportionate and indiscriminate consequences on civilians and civilian infrastructure caused by the use of explosive weapons in populated areas.

Recommendation: States must develop, finalise and adopt a strong political declaration to avoid the use of explosive weapons with wide-area effect in populated areas, which includes clear language and firm commitments on land release, risk education and victim assistance.⁽³¹⁾

31. For more information on the political declaration please see the following website: <https://www.dfa.ie/our-role-policies/international-priorities/peace-and-security/ewipa-consultations/>

- **Observation:** There are major gaps in data on the extent and type of EO contamination in Syria, EO casualties and impact of EO, and mine action activities implemented. Not all parties to the conflict allow the necessary data collection.

Recommendation: Donors should support and fund the establishment of a centralized database which includes information on casualties disaggregated by gender, age, disability a person may have had prior to the EO accident, and displacement status. This information should be recorded and safeguarded in a digital format in accordance with IMAS standards. Parties to the conflict must ensure HMA actors can independently conduct all necessary data collection.

- **Observation:** In the last two years, ongoing hostilities and COVID-19 related travel restrictions have significantly disrupted HMA activities and coordination.

Recommendation: HMA actors have worked hard to overcome these challenges. Alongside donors and other humanitarian actors, they should continue to strengthen individual hub and Syria-wide coordination mechanisms.

1. Explosive ordnance contamination in Syria

Defining Explosive Ordnance, EWIPA and Prohibited Weapons

According to International Mine Action Standards (IMAS),⁽³²⁾ the term Explosive Ordnance (EO) includes: all munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads; guided and ballistic missiles; artillery, mortars, rockets and small arms ammunition; all mines, torpedoes and depth charges; pyrotechnics; cluster bombs and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine and improvised explosive devices; and all similar or related items or components explosive in nature.

'Explosive Weapons in Populated Areas' (EWIPA) is used to describe the impact of explosive weapons (ordnance) – especially those with wide area effects⁽³³⁾ – when used in populated areas. They create an unacceptably high risk of indiscriminate harm to civilians. Further, if these weapons do not explode on impact they become known as unexploded ordnance (UXO), which can cause harm to civilians for generations by causing accidents and leaking toxic residue into drinking water, soil and air.⁽³⁴⁾ For instance, France, Belgium and Germany are still affected by contamination from World War II and have labeled certain areas as 'red zones', i.e. they cannot be used for agriculture, as a result of contamination.⁽³⁵⁾

32. IMAS 09.30, First Edition, 'Explosive Ordnance Disposal', October 2014, https://www.mineactionstandards.org/fileadmin/MAS/documents/standards/IMAS_09.30_Explosive_Ordnance_Disposal_Ed_2_Amend_5_October_14.pdf

33. The risk to civilians is most severe when explosive weapons that have wide-area effects are used in populated areas. Wide-area effects may result from one of three factors, either alone or in combination. The International Commission of the Red Cross and Red Crescent (ICRC) has broken down this concept into three broad categories of explosive weapons: 1.) Those that have a wide impact area because of the large destructive radius of the individual munition used, i.e. its large blast and fragmentation range or effect (such as large bombs or missiles); 2.) Those that have a wide impact area because of the inherent lack of accuracy of the delivery system (such as unguided indirect fire weapons, including artillery and mortars); 3.) Those that have a wide impact area because the weapon system is designed to deliver multiple munitions over a wide area (such as multi-launch rocket systems). ICRC Group of Experts meeting, February 2015, <https://www.icrc.org/en/document/explosive-weaponspopulated-areas-consequences-civilians>

34. Humanity & Inclusion, Mines Advisory Group, Norwegian People's Aid, 'A Persistent Danger: Unexploded Ordnance in Populated Areas', 2020, https://d3n8a8pro7vhmx.cloudfront.net/handicapinternational/pages/4864/attachments/original/1581344286/Explosive-Weapons-and-UXO-in-Populated-Areas_Feb_2020.pdf?1581344286

35. Action on Armed Violence, 'The Broken Land': a review of the environmental impact of explosive weapons', 3 July 2020, <https://aoav.org.uk/2020/the-broken-land-overview-and-introduction/>

Prohibited weapons used in the Syria conflict include: Cluster Munitions,⁽³⁶⁾ Anti-Personnel Mines,⁽³⁷⁾ Incendiary Munitions,⁽³⁸⁾ and Chemical Weapons;⁽³⁹⁾ while certain IEDs can constitute Anti-Personnel Mines because they are casualty-activated, thus also considered a prohibited weapon.⁽⁴⁰⁾ Syria and some other parties to the conflict have not acceded to the Mine Ban Treaty and are not state parties to the Convention on Cluster Munitions and Convention on Certain Conventional Weapons.⁽⁴¹⁾

“Contamination in Syria is massive. And when we say it is massive, I think it is the worst country in the world in terms of people injured by explosive weapons. It’s huge.”

Mine action expert in Syria.

The use of EO, including prohibited weapons,⁽⁴²⁾ and subsequent contamination is widespread in Syria. Communities reporting EO contamination in 2021 generally correspond to areas having experienced high levels of hostilities, in particular in the governorates of Aleppo and Idleb in northwest Syria, in Raqqa and Deir Ez Zor in the northeast, and Quneitra, Rural Damascus and Daraa in central and southern Syria.⁽⁴³⁾ EO contamination is most frequently reported in agricultural land, roads, private property such as homes, followed by schools, other public infrastructure and hospitals.⁽⁴⁴⁾

36. The Convention on Cluster Munitions, <http://www.clusterconvention.org/files/2011/01/Convention-ENG.pdf>

37. Anti-Personnel Landmines Convention, <https://geneva-s3.unoda.org/static-unoda-site/pages/templates/anti-personnel-landmines-convention/APLC%2BEnglish.pdf>

38. Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III). Geneva, 10 October 1980, <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/52d68d14de-6160e0c12563da005fdb1b/3a507447d94ad829c125641f002d2729?OpenDocument>.

39. Chemical Weapons Convention, https://www.opcw.org/sites/default/files/documents/CWC/CWC_en.pdf

40. Mines Advisory Group, 'Humanitarian Response, Improvised Landmines and IEDs - Policy issues for principled mine action' November 2016, <https://front.un-arm.org/wp-content/uploads/2017/02/Policy-Brief-Improvised-Landmines-IEDs.pdf>

41. There are non-state armed groups participating in the conflict in Syria. Since they are not states, they cannot be parties to these treaties. However, they can adhere to the principles outlined by these treaties.

42. Human Rights Watch, *Russia/Syria: Flurry of Prohibited Weapons Attacks - International Norms Ignored as Civilians Suffer, June 2019*, <https://www.hrw.org/news/2019/06/03/russia/syria-flurry-prohibited-weapons-attacks>

43. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', March 2021, https://reliefweb.int/sites/reliefweb.int/files/resources/syria_2021_humanitarian_needs_overview.pdf

44. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', February 2022, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_2022_final_version_210222.pdf

Type of contaminated land

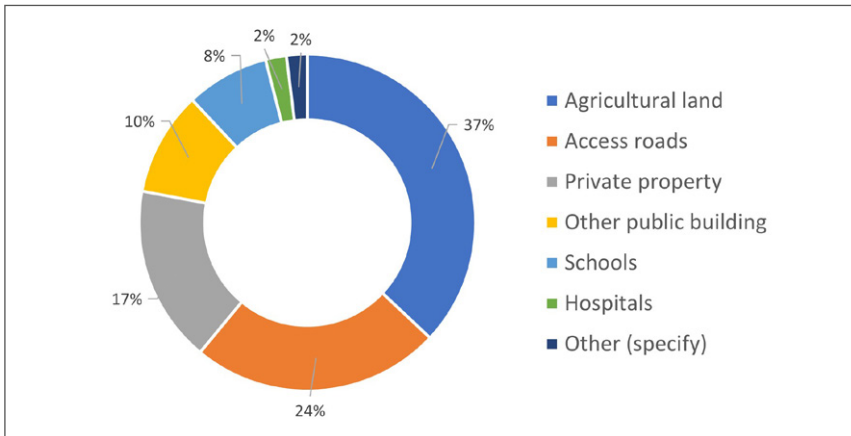


Figure 1 – Pie chart showing a breakdown of land contaminated by EO in Syria.
© Mine Action AoR.

Exposure to explosive ordnance

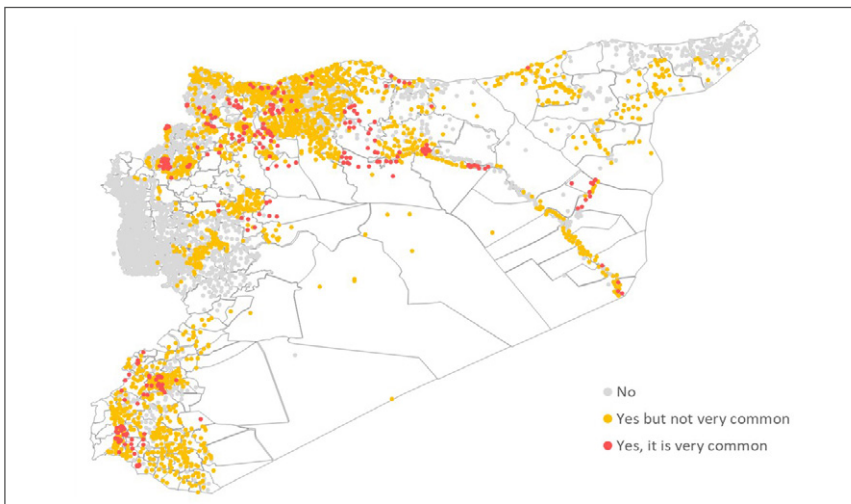


Figure 2 – Map of Syria showing communities reporting exposure to EO. Red spots = EO is very common; orange spots = EO is not very common; grey spots = no reported EO.
© Mine Action AoR.

Intensity of incidents

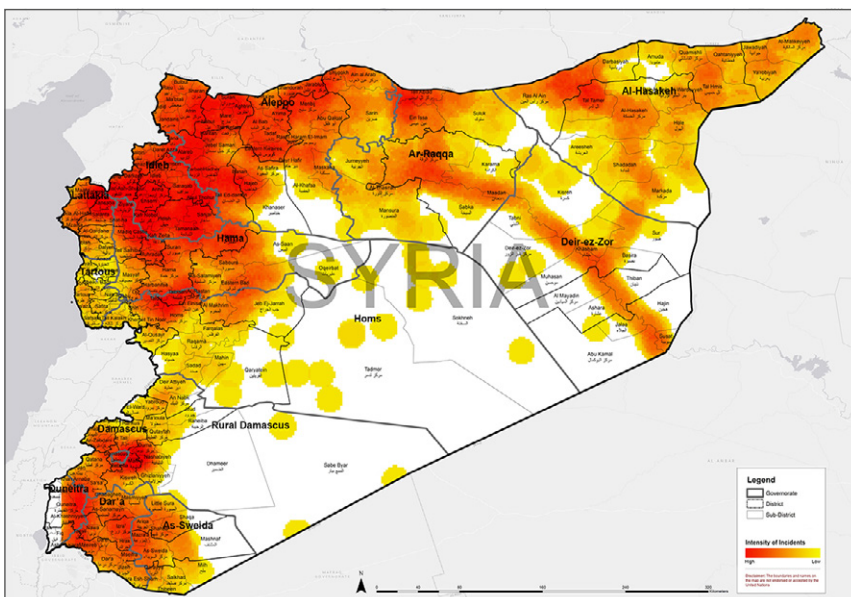


Figure 3 – Map of Syria showing conflict intensity. Areas in red = increase accidents of conflict.
© UNMAS.

The Carter Center recorded at least 972,051 uses of EO in Syria between December 2012 and May 2021.⁽⁴⁵⁾ Just under two-thirds of uses were ground-launched and over a third were air-launched.⁽⁴⁶⁾ The failure rate of modern weapons is estimated to be between 10% and 30%, which means that between 100,000 and 300,000 EO will have failed to detonate. This contamination comes on top of the widespread use of IEDs and landmines, including those of improvised nature, and contamination from other EO as a result of ongoing hostilities.⁽⁴⁷⁾

The next section will provide examples of areas that have experienced high levels of armed violence to demonstrate the impact of EO.

1.1 Eastern Ghouta and Daraa

Between February and April 2018, Eastern Ghouta, a region on the edge of Damascus city that extends into rural Damascus, suffered its worst bombing campaign. This had a devastating impact on the population which had already been under siege since 2013. A combination of intense shelling and airstrikes killed over 1000 people and injured 4800 in just two weeks.⁽⁴⁸⁾ In four days of February 2018 alone, 147 barrel bombs - improvised aerial explosive devices typically used in an indiscriminate manner - were reportedly dropped on communities across Eastern Ghouta.⁽⁴⁹⁾

Further, internationally banned weapons, including cluster munitions, incendiary weapons, and chemical weapons, were also used.⁽⁵⁰⁾ Reports suggest that there were 58 separate attacks on medical facilities during

45. The Carter Center Data and Analysis Team, 'A Call for Action – Data On Unexploded Ordnance in Syria & Its Implications. December 2012 – May 2021', March 2022, <https://storymaps.arcgis.com/stories/41d3dcd5c2b3451795d6c4bdf0ca46f6>

46. Ibid.

47. UN OCHA, '2020 Humanitarian Response Plan Syrian Arab Republic', <https://reliefweb.int/sites/reliefweb.int/files/resources/Syrian%20Arab%20Republic%20-%20Humanitarian%20Response%20Plan%20%28December%202020%29.pdf>

48. Medecins Sans Frontieres, 'Syria: Siege on East Ghouta Leaves Medical Care in Complete Collapse', March 2018, <https://www.doctorswithoutborders.org/what-we-do/news-stories/news/syria-siege-east-ghouta-leaves-medical-care-complete-collapse>

49. BBC, 'Syria war: Families struggle to survive in Eastern Ghouta, under siege', February 2018, <https://www.bbc.com/news/world-middle-east-43148010>

50. Human Rights Watch, 'Russia Backs Syria in Unlawful Attacks on Eastern Ghouta', March 2018, <https://www.hrw.org/news/2018/03/18/russia-backs-syria-unlawful-attacks-eastern-ghouta>

the bombing campaign,⁽⁵¹⁾ and 23,014 buildings were either destroyed or severely damaged.⁽⁵²⁾ The threat of EO is still pervasive, for instance nearly 60% of surveyed land has been confirmed as contaminated with EO.⁽⁵³⁾

Between June 2018 and July 2018, not long after the bombing in Eastern Ghouta, Daraa experienced a severe escalation in hostilities. Intensive aerial bombardments caused extensive damage to civilian infrastructure, including hospitals.⁽⁵⁴⁾ More recently, in the summer of 2021, approximately 38,000 people were displaced in Daraa governorate following hostilities. An estimated 3,700 people have not returned due to severely damaged homes and presence of EO.⁽⁵⁵⁾

The extensive use of EO has also led to the contamination of vital agricultural land in Daraa governorate, which is one of the food baskets of Syria due to its favourable climate, fertile soil and water supplies. Large areas of agricultural land are completely off-limits to landowners due to the extensive use of EO.⁽⁵⁶⁾

51. Physicians for Human Rights, 'The Destruction of Hospitals – A Strategic Component in Regime Military Offensives', <https://phr.org/issues/health-under-attack/attacks-in-syria/the-destruction-of-hospitals-a-strategic-component-in-regime-military-offensives/>.

52. REACH, 'Syrian Cities Damage Atlas - Eight Year Anniversary of the Syrian Civil War', March 2019, https://reliefweb.int/sites/reliefweb.int/files/resources/reach_thematic_assessment_syrian_cities_damage_atlas_march_2019_reduced_file_size_1.pdf

53. OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', March 2021, https://reliefweb.int/sites/reliefweb.int/files/resources/syria_2021_humanitarian_needs_overview.pdf

54. OCHA, Syrian Arab Republic: Dar'a, Qunaitra, Sweida Situation Report No.5, 2 August 2018; Al Jazeera, 'Syria's war: Calls for help as Deraa hospitals are forced shut', 27 June 2018.

55. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', February 2022, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_2022_final_version_210222.pdf

56. Syria direct, 'Daraa's unexploded ordnance: death and corruption', September 2019, <https://syriadirect.org/daraas-unexploded-ordnance-death-and-corruption>

1.2 Raqqa and Deir Ez Zor

Raqqa city has been described as one of the most contaminated places on earth.⁽⁵⁷⁾ During the ‘battle of Raqqa’ in 2017, it is estimated that 80% of the city was destroyed,⁽⁵⁸⁾ with shelling and bombing destroying hospitals and clinics in the city,⁽⁵⁹⁾ in addition to 1,600 civilians losing their lives.⁽⁶⁰⁾



Figure 4 – The entrance to Raqqa National Hospital’s emergency room and walkway to the currently non-functional part of the hospital. They are impacted by blast damage and small arms fire. Windows are blown out and there is significant structural damage. Courtesy of an International Humanitarian Mine Action actor operating in Syria.

It has been reported that more artillery projectiles, which have a margin of error of more than 100 metres, were launched at Raqqa than at any other city since the Vietnam War. Overall, 12,781 buildings in Raqqa city were affected, of which 26% were fully destroyed and 31% severely damaged.⁽⁶¹⁾ Four years later, 80% of the city’s schools are still damaged.⁽⁶²⁾ In 2021, Deir Ez Zor governorate had the highest percentage (63%) of communities in northeast Syria reporting

57. Landmine & Cluster Munition Monitor, Syria impact, February 2021, <http://www.the-monitor.org/en-gb/reports/2020/syria/impact.aspx>

58. Amnesty International, ‘Syria: Thousands of digital activists to track how US-led air strikes destroyed Raqqa’, November 2018, <https://www.amnesty.org/en/latest/press-release/2018/11/syria-thousands-of-digital-activists-to-track-how-us-led-air-strikes-destroyed-raqqa/>

59. Physicians for Human Rights, ‘Heavy Bombardment by U.S. and Coalition Forces Devastate Hospitals in Raqqa’, <https://phr.org/issues/health-under-attack/attacks-in-syria/heavy-bombardment-by-u-s-and-coalition-forces-devastate-hospitals-in-raqqa/>

60. Amnesty International, ‘Syria: Unprecedented investigation reveals US-led Coalition killed more than 1,600 civilians in Raqqa ‘death trap’, April 2019, <https://www.amnesty.org/en/latest/news/2019/04/syria-unprecedented-investigation-reveals-us-led-coalition-killed-more-than-1600-civilians-in-raqqa-death-trap/>

61. REACH, ‘Syrian Cities Damage Atlas’, March 2019, https://reliefweb.int/sites/reliefweb.int/files/resources/reach_thematic_assessment_syrian_cities_damage_atlas_march_2019_reduced_file_size_1.pdf

62. Save The Children, ‘Four years after the battle for Al Raqqa, children are living among ruins’, July 2021, <https://www.savethechildren.net/news/four-years-after-battle-al-raqqa-children-are-living-among-ruins-%E2%80%93-save-children>

contamination.⁽⁶³⁾ It was also heavily impacted by ground and aerial bombardment during the summer and autumn of 2017. 6405 buildings in Deir Ez Zor city were affected, with over half of affected buildings either fully destroyed (18%) or severely damaged (37%).⁽⁶⁴⁾



Figure 5 – A building in Raqqa city partially destroyed by EO. As with many buildings in Raqqa city, the risk of collapse is ever present, in addition to the possibility of EO still being present in the building. Courtesy of an International Humanitarian Mine Action actor operating in Syria.

The use of EO has also led to the contamination of agricultural land and the destruction of its integrity. The blast waves caused by EO unbind soil causing underground vacuums that destabilize land and cause irrigation channels and walkways to collapse. According to the Agricultural Ministry of the Autonomous Administration of northeast Syria (AANES), each year two-thirds of irrigation channels and walkways in the region collapse in different places. It costs thousands of US dollars to fix just 100 meters. Considering the economic crisis in Syria these costs are insurmountable for the local authorities.⁽⁶⁵⁾



Figure 6 – IEDs which have been removed from agricultural land in northeast Syria. Courtesy of an International Humanitarian Mine Action actor operating in Syria.

63. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

64. REACH, 'Syrian Cities Damage Atlas', March 2019, https://reliefweb.int/sites/reliefweb.int/files/resources/reach_thematic_assessment_syrian_cities_damage_atlas_march_2019_reduced_file_size_1.pdf

65. Interview with AANES Agricultural Ministry, September 2021.

1.3 Aleppo and Idleb

In Aleppo city, siege warfare and bombing in the second half of 2016 resulted in 6,683 recorded deaths and injuries from EO.⁽⁶⁶⁾ Extensive destruction of housing in the city meant that all but one neighbourhood experienced building damage.⁽⁶⁷⁾ It is reported that between July and October 2016, hospitals in eastern Aleppo city were targeted at least 23 times by aerial bombardments.⁽⁶⁸⁾ Following the end of hostilities, residents continue to face the threat of EO contamination, in addition to a lack of basic services and shelter.⁽⁶⁹⁾ For example, this year children have died in EO accidents in parts of Aleppo city which have not experienced fighting since 2016.⁽⁷⁰⁾ Overall, 87% of communities in Aleppo governorate report EO contamination, in particular, in the northern part of the governorate.⁽⁷¹⁾ It is estimated that between 30% and 70% of agricultural land in Aleppo governorate is contaminated with EO.⁽⁷²⁾



Figure 7 – Old city Aleppo, Syria, following impact of EO. Courtesy of an International Humanitarian Mine Action actor operating in Syria.

66. Action on Armed Violence, 'The Reverberating Effects of Explosive Weapons in Syria', 2019, <https://aoav.org.uk/wp-content/uploads/2019/01/Reverberating-effects-of-explosive-weapons-in-Syria.V5.pdf>

67. REACH, 'Syrian Cities Damage Atlas', March 2019, https://reliefweb.int/sites/reliefweb.int/files/resources/reach_thematic_assessment_syrian_cities_damage_atlas_march_2019_reduced_file_size_1.pdf

68. Ibid.

69. Ibid.

70. International humanitarian actor operating in Syria.

71. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

72. International humanitarian actor operating in Syria.

Massive displacement from other parts of Syria has tripled Idlib's population and sharply increased the number of economically marginalised people living in proximity to EO. There are landmines, including those of an improvised nature, and IEDs in fields, villages, beside roads, and around schools and hospitals. Individual sub-munitions following use of cluster munitions (air-dropped or ground-launched EO that release or eject smaller sub-munitions of different kinds) account for around a third of all hazardous items found. Additionally, a further 53 sub-munition strike sites have been identified in the region with multiple items present. During years of siege, hundreds of landmines are reported to have been laid around the towns of Foua and Kfraya in northeast Idlib. They make agricultural land inaccessible and unusable.⁽⁷³⁾ Accident data since 2016 indicates that 41% of recorded accidents in northwest Syria occurred in Idlib.⁽⁷⁴⁾



Figure 8 – Idlib, Syria, EO contamination documented by impact survey teams.

Left photo: mortars and projectiles, most of which have had the explosive charges harvested from them.

Top right photo: mortars.

Bottom right photo: high explosive anti-tank projectiles.

© The Halo Trust.

Agricultural land and rural areas in Aleppo and Idlib are highly contaminated with EO. A 2018-2020 assessment found that 400 communities in Aleppo and Idlib were contaminated. Nearly three-quarters of agricultural land in those communities was inaccessible and unusable due to EO. The assessment found that 1.6 million people live with the risk of EO from a wide spectrum of weapons including rockets, grenades, projectiles, mortars, guided missiles, landmines, including those of an improvised nature, and IEDs.⁽⁷⁵⁾

73. Landmine & Cluster Munition Monitor, 'Syria Impact', November 2021, <http://www.the-monitor.org/en-gb/reports/2021/syria/impact.aspx#ftn3>

74. International humanitarian mine action actor operating in Syria.

75. Halo Trust, 'A Hidden Emergency Why Explosive Ordnance Contamination Must Be Addressed Now in Northwest Syria', 2020, https://www.halotrust.org/media/7380/halo-report-northwest-syria_web.pdf

2. Impact of explosive ordnance blasts on humans

There are four basic mechanisms through which EO can cause harm to the human body:

- **Primary Blast Injury:** the result of a shock wave that leads to fragmenting and shearing of tissue in air-filled organs, such as ears, lungs, stomach and intestines, and organs that are surrounded by fluid, like the brain;
- **Secondary Blast Injury:** caused by flying fragments or debris;
- **Tertiary Blast Injury:** caused by a supersonic wind which can pick up and throw anyone close enough to the explosion. It can lead to fractures and traumatic amputation;
- **Quaternary Blast injury:** injuries indirectly caused by the explosion, such as burns, crush injuries and choking caused by asphyxiating dust.⁽⁷⁶⁾

The result of an EO accident is likely therefore death, physical injury or psychological trauma, not to mention the secondary impact on the families of those killed or injured, and affected communities.

2.1 Injuries and deaths

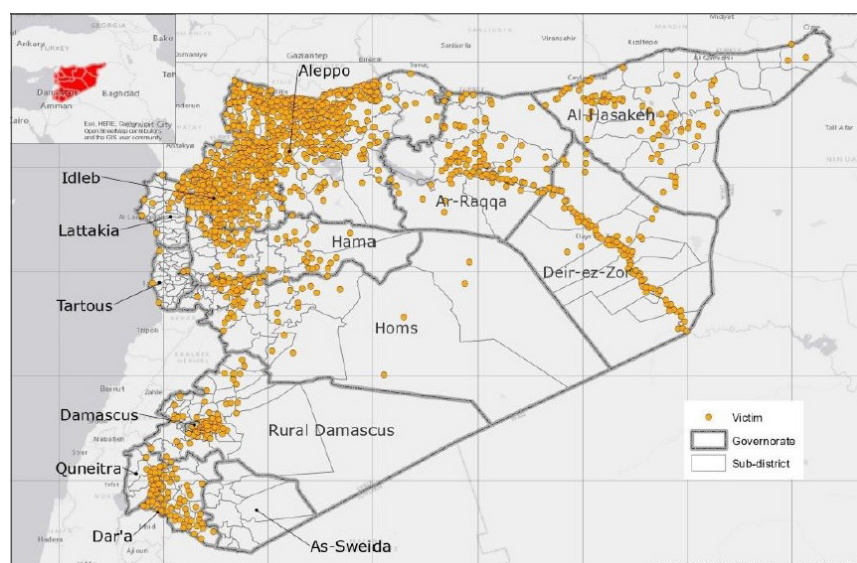


Figure 9 – Map of Syria showing locations of reports of EO casualties between November 2013 and February 2020. © UNMAS.

76. Centers for Disease Control and Prevention, 'Explosions and Blast Injuries: A primer for clinicians', 2019.

UNMAS-coordinated casualty reports from 2013-2020 show that there were 12,345 recorded casualties of EO accidents in Syria, resulting in 4,389 deaths and 7,956 injuries.⁽⁷⁷⁾ There has been an upward trend in casualties reported and in 2020, the Landmine Monitor recorded its highest number of annual casualties (2,729) in Syria since it began reporting in 1999.⁽⁷⁸⁾ However, the actual number of casualties is much higher given limitations in data collection.⁽⁷⁹⁾

Most recorded accidents happened in Idlib and Aleppo governorates in northwest Syria. Men and boys represent 86% of total reported casualties in Syria, with children representing a quarter, and IDPs just over a fifth. On average, nine children per month have been verified as killed or injured by EO between 2011 and 2019 – the majority in Idlib and Aleppo governorates.⁽⁸⁰⁾ Children are more likely to die from EO than adults, with 40% of child casualties dying.⁽⁸¹⁾ Children are particularly vulnerable to blast injuries. Due to the fact that children's vital organs tend to be closer to the blast range and the physiological makeup of their bodies – thinner skin, more flexible bones, greater heat and fluid sensitivity, proportionately larger heads – they are less likely to survive blast injuries. When they do survive blast injuries, their injuries are frequently for life.⁽⁸²⁾

Overall, between 2013 and 2020, over a third (35%) of recorded EO casualties died.⁽⁸³⁾ One in three survivors suffered an amputation of a limb,⁽⁸⁴⁾ and two in three sustained a lifelong impairment, requiring specialized services for the rest of their lives.⁽⁸⁵⁾ For example, a survey of 25,000 Syrians treated by a health NGO in Syria showed that half of patients were injured by EO. There is also a psychological impact on

“The man was helping his family to clean the land around the house. He found a wire and pulled it, which caused the explosion and cut off his hand and injured his eye.”

Community Liaison Officer,
Humanitarian mine action
actor in Syria.

77. RDSWG EHRE Workstream, Guidelines On Explosive Risk Education (EHRE) For Safer Return, October 2020, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/guidelines_on_ehre_for_safer_return_-_rdswg_ehre_ws_nov2020.pdf

78. The Landmine Monitor, November 2021, <http://www.the-monitor.org/media/3318354/Landmine-Monitor-2021-Web.pdf>

79. This data is based on a casualty report requiring a face-to-face interview, so research coverage is limited to areas where HMA reporting actors have direct access to the casualties and their relatives.

80. Mine Action Syria Response & Child Protection Whole of Syria, 'Impact of explosive ordnance on children in Syria', December 2020, https://reliefweb.int/sites/reliefweb.int/files/resources/impact_of_explosive_ornance_on_children_in_syria_compressed.pdf

81. Ibid.

82. Humanity & Inclusion, 'The Waiting List', 2019, https://hi.org/sn_uploads/document/THE-WAITING-LIST_Final-WEB-SMALLER.pdf

83. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

84. Humanitarian Needs Overview, Syrian Arab Republic, March 2021, https://reliefweb.int/sites/reliefweb.int/files/resources/syria_2021_humanitarian_needs_overview.pdf

85. UNMAS Victim Data Analysis May 2020.

survivors, families of those killed or injured, and affected communities. Four-fifths of those injured by EO in the above-mentioned survey expressed signs of significant psychological distress.⁽⁸⁶⁾

A 2021 community survey based on nearly 16,000 interviews across Syria shows that nearly two thirds of interviewees know someone who has been killed or injured by EO.⁽⁸⁷⁾ Men and boys continue to be most exposed to EO.⁽⁸⁸⁾

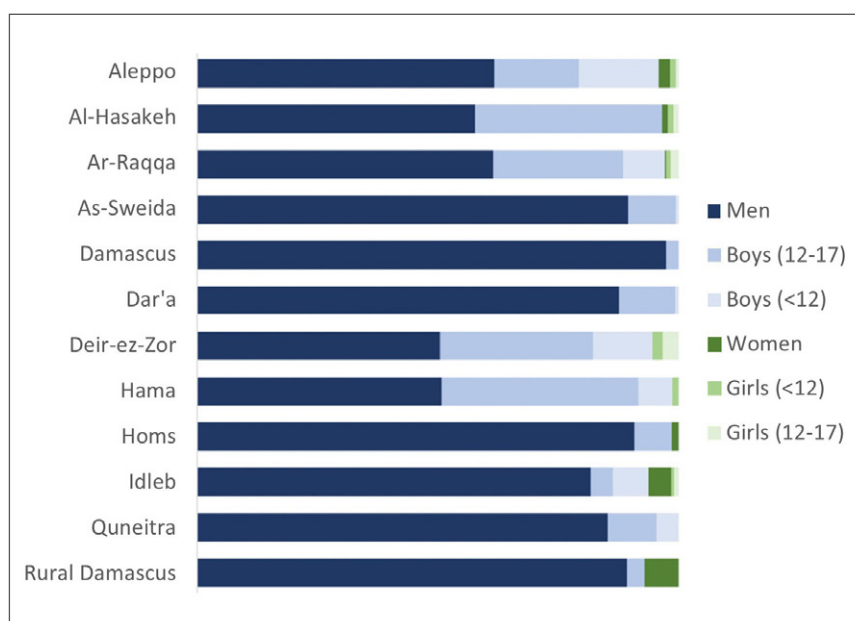


Figure 10 – Bar chart showing the proportion of EO casualties according to gender and age per governorate in Syria. © Mine Action AoR.

Casualty reports from 1513 accidents in northwest and northeast Syria between 2018 and 2021 show that over half (52%) of casualties died.⁽⁸⁹⁾ This exceeds the proportion of deaths from EO accidents in all of Syria (35% during the period 2013-2020).⁽⁹⁰⁾ This could be due to the lack of emergency medical response, including transport, medical equipment and specialized staff in the northwest and northeast Syria. Only 10% of people critically injured in the northeast were transported to hospital by ambulance, meaning that 90% had to rely on a mode of

86. Humanity & Inclusion, 'The Waiting List', 2019, https://hi.org/sn_uploads/document/THE-WAITING-LIST_Final-WEB-SMALLER.pdf

87. The multi-sector needs assessments (MSNA) is a joint assessment that leads to the identification of humanitarian needs in the country. Mine Action, as a sub-sector of Protection, is included in the Protection sector questionnaire developed for the MSNA. MSNA data is collected through face to face interviews conducted by field partners. For the 2021 MSNA, more than 15,900 interviews were conducted in some 6,423 locations.

88. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

89. International humanitarian mine action actor operating in Syria.

90. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

transportation that did not include paramedic care.⁽⁹¹⁾ An alternative explanation is linked to the type of EO encountered and severity of the blast. In parts of northwest Syria sub-munitions from cluster munitions account for 42% of accidents.⁽⁹²⁾ Cluster munitions contain shaped charges and/or shrapnel designed to penetrate armoured vehicles as well as flesh and bone. Elsewhere in northwest Syria and in northeast Syria overall, landmines, including those of an improvised nature, are the deadliest source of EO contamination. They account for 42% of deaths.⁽⁹³⁾ Many of these weapons have large quantities of home-made explosives and shrapnel to maximise effect.

“Sometimes surgeries were unfortunately unavailable... Sometimes there is a delay in providing aid to patients, which unfortunately results in permanent impairment or death.”

Surgeon operating in Syria.

2.2 Activities putting people at risk of injury and death

2021 community surveys show that agricultural land, private property such as homes, and roads are among the most commonly reported areas of contamination.⁽⁹⁴⁾ It is therefore unsurprising that between 2013 and 2020, nearly three quarters of recorded accidents have happened in residential (39%) or agricultural areas (34%), with 10% on roads or roadsides.⁽⁹⁵⁾ During this period, travelling or moving from one place to another, agricultural work, household work and playing with EO, were the main activities at the time of accidents.

More recently, 2021 community surveys found that farming or herding is the most common reported activity at the time of accidents, closely followed by travelling/moving and playing (including playing with a device).⁽⁹⁶⁾

91. International humanitarian mine action actor operating in Syria.

92. Halo Trust, 'A Hidden Emergency Why Explosive Ordnance Contamination Must Be Addressed Now in Northwest Syria', 2020, https://www.halotrust.org/media/7380/halo-report-northwest-syria_web.pdf

93. International humanitarian mine action actor operating in Syria.

94. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

95. UNMAS Victim Data Analysis May 2020.

96. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

Activity at the time of accident

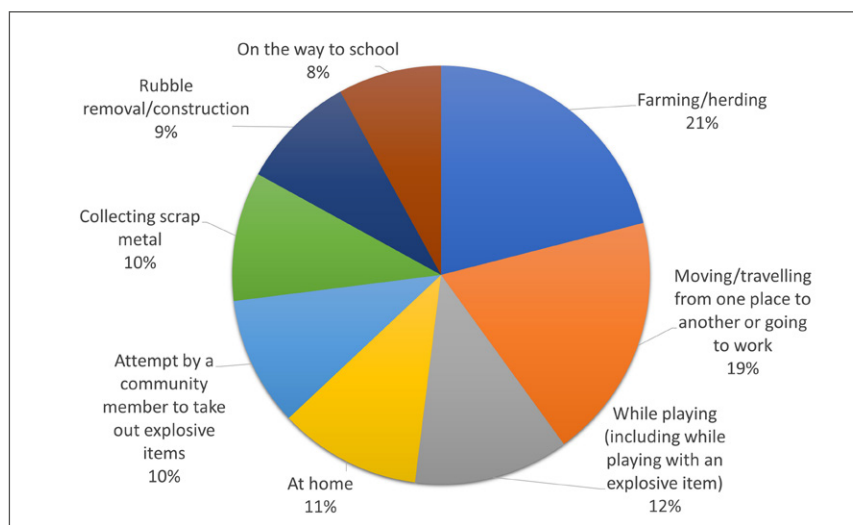


Figure 11 – Pie chart showing a breakdown of the most common reported activities at the time of accidents. © Mine Action AoR.

The slight difference in activity could be related to changing behaviours due to the evolving situation in Syria. With the current economic crisis in Syria and scant alternative livelihood opportunities, there is increased pressure on agricultural workers to return to unsafe fields to try to make a living. Agricultural workers regularly clear contaminated land themselves, sometimes using grazing animals to check for and detonate EO.⁽⁹⁷⁾ They often throw EO into rivers and canals to remove it from their land, but also in the belief that this will neutralize the explosive content.⁽⁹⁸⁾ Further, since chemical fertilizers are a component in some IEDs, agricultural workers handle IEDs to extract the fertilizer and use it on their land, given fertilizer's prohibitively high cost.⁽⁹⁹⁾

Community surveys found that trying to dispose of, or move EO, was responsible for 10% of accidents in 2021.⁽¹⁰⁰⁾ Meanwhile, accident data for northeast and northwest Syria shows that there is little difference between the number of injuries and deaths when an identified EO was deliberately touched, compared with when EO caught people by surprise.⁽¹⁰¹⁾ This suggests there is a minimal impact from any precautionary or mitigating measures an untrained and unequipped person can take when deliberately interfering with EO. Casualty reports between 2013 and 2020 show that men mostly have EO accidents when travelling, children when playing or doing

97. International humanitarian actor operating in Syria.

98. If an EO is breached and water is able to have contact and 'wash out' home-made explosive, it can have a neutralizing impact.

99. International humanitarian mine action actor operating in Syria.

100. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

101. International humanitarian mine action actor operating in Syria.

agricultural work (in particular boys), and women and children when doing household work.⁽¹⁰²⁾ Accident data for northeast Syria from 2016 to 2020 provides additional insight: girls more often suffer injury or death from an EO accident while being a bystander of an explosion, compared to boys.

Doing household work, travelling and touching EO, are other main activities reported at the time of accidents resulting in death or injuries for girls. Meanwhile, over-two thirds of women killed or injured by EO, are travelling or doing household work. Similar to girls, women are more likely to suffer injury or death from an EO as a bystander of an explosion compared to men.⁽¹⁰³⁾

While men and boys are at most direct risk of EO, female survivors tend to suffer greater stigma than males.⁽¹⁰⁴⁾ In addition to the direct immediate threat of EO, women and girls are often indirectly affected, for example, by the loss of the principal breadwinner.⁽¹⁰⁵⁾ The economic impact on wives of male survivors, or those widowed, is far greater than when the situation is reversed.⁽¹⁰⁶⁾

High levels of contamination on roads leaves displaced persons at increased risk of EO accidents. They are also often less familiar with the conflict history of specific areas, and therefore less able to recognize signs and indicators of EO contamination. Just over a quarter of recorded EO casualties in the past five years in Syria are IDPs,⁽¹⁰⁷⁾ and the actual figure is likely much higher since an individual's displacement status is often not known. To illustrate the dangers of travelling: data for northeast Syria shows that, of 89 displaced persons killed or injured by EO from 2016 to 2020, 80 were travelling when the accident happened.⁽¹⁰⁸⁾ Since people mostly travel in groups when displaced, EO accidents are more likely to result in more people being killed or

102. UNMAS Victim Data Analysis May 2020.

103. MAG Syria. Analysis of Accident and Victim data collected between November 2016 and March 2020.

104. Halo Trust, 'A Hidden Emergency Why Explosive Ordnance Contamination Must Be Addressed Now in Northwest Syria', 2020, https://www.halotrust.org/media/7380/halo-report-northwest-syria_web.pdf

105. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', February 2022, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_2022_final_version_210222.pdf

106. Halo Trust, 'A Hidden Emergency Why Explosive Ordnance Contamination Must Be Addressed Now in Northwest Syria', 2020, https://www.halotrust.org/media/7380/halo-report-northwest-syria_web.pdf

107. UNMAS Victim Data Analysis May 2020.

108. MAG Syria. Analysis of Accident and Victim data collected between November 2016 and March 2020.

injured.⁽¹⁰⁹⁾ Further, where there is a relationship between displacement and disability, the impact of EO contamination is greater. For example, households of displaced persons where the head of household has a disability are significantly more likely to express concerns about EO contamination than any other segment of the population (43%).⁽¹¹⁰⁾

“During the displacement because of the battles in the city of Raqqa, the girl was with her family and other people walking. They passed a motorbike when the motorcycle drove over a mine, causing it to explode. It killed the girl and injured three others.”

Community Liaison Officer, International Humanitarian Mine Action actor in Syria.

EO contamination is also a major barrier for the return of IDPs and refugees. Surveys show that 16% of potential returnees are apprehensive over risks posed by EO in their return locations across Syria.⁽¹¹¹⁾ Meanwhile, nearly a third (31%) of households that have returned to their areas of origin express concerns about EO contamination.⁽¹¹²⁾ Data from northeast Syria demonstrates the dangers: between 2016 and 2020 nearly three quarters of accidents killing or injuring 153 returnees occurred in their homes.⁽¹¹³⁾

In general, casualty reports show that over three-quarters of casualties were unaware that the accident location contained EO and was dangerous, and another three-quarters of them went to the location several times before the accident. Only 3% said they had received explosive ordnance risk education (EORE) prior to the accident.⁽¹¹⁴⁾

109. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

110. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', February 2022, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_2022_final_version_210222.pdf

111. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

112. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', February 2022, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_2022_final_version_210222.pdf

113. MAG Syria. Analysis of Accident and Victim data collected between November 2016 and March 2020.

114. UNMAS Victim Data Analysis May 2020.

Disability Prevalence in Syria

A recent UN study found that nearly a third (30%) of Syrians aged 12 and up have disabilities - double the global average of 15%.⁽¹¹⁵⁾ Further over a third (37%) of IDPs aged 12 and up and 40% of heads of households, have disabilities. Males demonstrate a higher likelihood of experiencing disabilities than females across all parts of Syria. This is especially true in northwest Syria, which also has the highest proportion of persons with disabilities (35%) in the country.

11 years of conflict, economic deprivation, the COVID-19 pandemic, and massive displacement have exposed an already vulnerable population to increased risk of impairments – a large number of which are likely the result of EO. Concurrently, the on-going targeting of health facilities by armed actors and limited accessibility to basic services risks compounding existing impairments.

The UN study also found that persons with disabilities in Syria are less likely than their counter-parts to be in employment, while households with members with disabilities spend approximately 1.5 times more than they received from all income sources combined on average. Hence, the need for humanitarian actors in Syria to effectively identify and respond to the needs and rights of persons with disabilities, who are most at risk of being left behind.

Persons with disabilities include persons who have long-term sensory, physical, psychosocial, intellectual or other impairments that, in interaction with various barriers, prevent them from participating in, or having access to, humanitarian programmes, services or protection. Persons with disabilities are a diverse group. They have different impairments and diverse identities (as women, indigenous persons, children, etc.). Due to the intersectionality of these factors, persons with disabilities may face multiple forms of discrimination. To avoid leaving persons with disabilities behind, an understanding of these differences must inform the approach adopted in humanitarian action from the outset.⁽¹¹⁶⁾

115. Humanitarian Needs Assessment Programme (HNAP), « Syria Disability Prevalence and Impact – Summer 2021 Report Series », and « Disability and Displacement in Syria 2021 IDP Report Series », 2021.

116. IASC Guidelines on Persons with Disabilities in Humanitarian Action, 2019, https://interagencystandingcommittee.org/system/files/2020-11/IASC%20Guidelines%20on%20the%20Inclusion%20of%20Persons%20with%20Disabilities%20in%20Humanitarian%20Action%2C%202019_0.pdf

3. Indirect impact of explosive ordnance

As seen in part one, the use of EO in Syria has caused the destruction of vital infrastructure that will have a reverberating effect for years, if not decades. The destruction and contamination of homes, schools, hospitals, businesses, agricultural land, roads, community centers and places of worship impedes people's ability to live in safety and with dignity. It limits access to basic services and economic opportunities, and hampers safe movements and rehabilitation of infrastructure. EO contamination is also a barrier to the safe and effective delivery of humanitarian assistance, including crucially important early recovery programming.

3.1 Reverberating effect on affected persons and communities

Effects for survivors

2021 community surveys found that EO survivors mainly need economic support, medical care, assistive devices and prosthetic and orthotics, physical rehabilitation, and mental health and psychosocial support.⁽¹¹⁷⁾ However, there are major barriers to accessing these services, including cost, unavailability of services in the local area or within travelling distance, and a lack of jobs for persons with disabilities.⁽¹¹⁸⁾ EO survivors also suffer a number of social consequences, including withdrawal from family and community life and reduced options in terms of marriage, children, and economic self-sufficiency. People who sustained an amputation are also especially vulnerable to discrimination, facing social stigmatization, and unemployment.

117. Mine action Area of Responsibility findings 2022 Humanitarian Needs Overview (HNO), November 2021.

118. Ibid. Note – 'jobs' are not generally included under services, but were included as a possible response in the community survey question: 'In case the above services are not accessible to civilians who have been injured and have a resulting disability, do you know what are the main barriers for accessing them (choose all that apply)?'

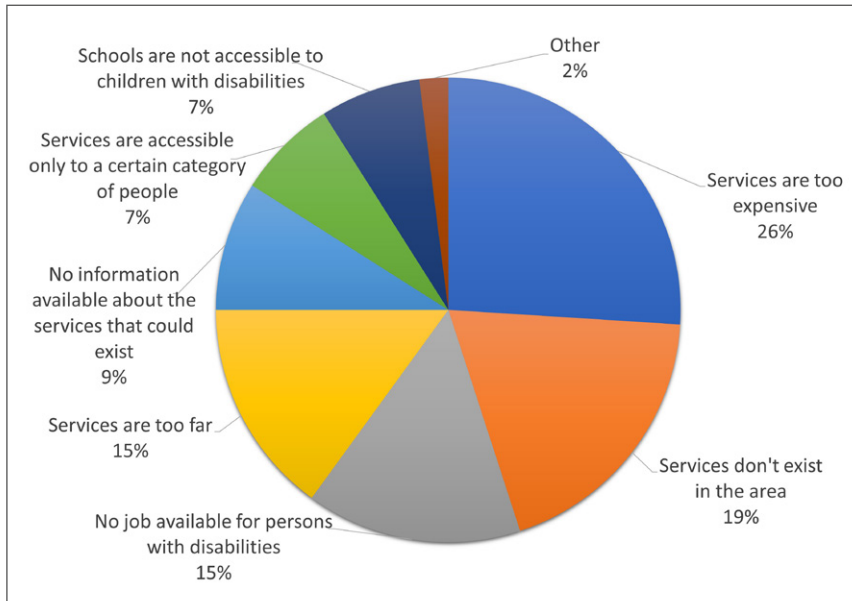


Figure 12 – Pie chart showing the breakdown of barriers preventing people injured by EO accessing required services.
© Mine Action AoR.

Effects for affected family and community members

The effects of life-altering injuries ripple across family and community, as spouses and children, particularly women and girls, are forced to take on additional caregiver and breadwinner roles. As such, deaths and injuries from EO accidents and conflict events in Syria impact gender roles within society. Taking the example of northwest Syria: the humanitarian crisis in the region is affecting the traditional role of males as breadwinners and females as having child care and domestic duties. In a context where between January 2021 and January 2022, 84% of conflict casualties were male,⁽¹¹⁹⁾ women now increasingly participate in economic activities. In many cases they are becoming the principal financial providers for the family.⁽¹²⁰⁾ This change in gender dynamics requires programs that better target women and girls, including those with disabilities, in ways which are safe, equitable, and empowering.

EO survivors also face higher health-related costs, significantly increasing their risk of poverty. A recent UN survey found that households with members with disabilities spend approximately 1.5 times more money than they receive from all income combined.⁽¹²¹⁾ Given the high rates of contamination and accidents across Syria,

119. January 2021 to January 2022 conflict led to 766 people reported casualties – mainly men (645 (84%) male; 121 (16%) female).

120. World Vision, 'Northwest Syria Gender Analysis', https://www.wvi.org/sites/default/files/2020-03/book%20world%20vision%20%20logo%20print_compressed.pdf

121. Humanitarian Needs Assessment Programme (HNAP), Summer 2021 Report Series Disability Prevalence and Impact.

and the economic vulnerability of households with members with disabilities, the lack of affordable or free available services is a major concern. This is amid a context where the integration of persons with disabilities into the labour market was already limited before the conflict.

Effects for entire affected population

The use of EO has negatively impacted the availability and quality of health care in contaminated areas. These are precisely the places where the health sector has vital role to play and where its services are crucial. Similarly, the education sector has suffered from large-scale destruction of schools and equipment. The resulting EO contamination is a critical factor slowing down the rehabilitation of buildings. As a result, parents often must send their children to schools further away. However, many parents cannot afford transport costs and longer journeys to school can mean increased risks of encountering EO.

EO has been referred to as a “global socioeconomic crisis” due to its socio-economically destabilising effects and impact on infrastructure. It prevents the resumption of urban income-generating activities, while in rural areas previously productive agricultural land cannot be safely farmed. Lost access to dignified work and agricultural land reinforces poverty, destabilises communities and hinders recovery. Increasing numbers of people view negative coping mechanisms such as selling family assets, child work or child marriage as the only viable ways to meet their basic needs and provide for their families. Amid the worsening economic situation and impact of COVID-19 on livelihoods in Syria, this trend continues with people also increasingly adopting other unsafe behaviours to earn a living, such as scrap metal collection and farming in contaminated land.⁽¹²²⁾

3.2 Impact on delivery of humanitarian assistance

EO contamination is the principal access constraint for the safe delivery of humanitarian assistance,⁽¹²³⁾ and curtails the implementation of various forms of humanitarian programming in urban and rural locations vital to support the early recovery of affected populations.

122. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', February 2022, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_2022_final_version_210222.pdf

123. UN OCHA, 'Humanitarian Needs Overview Syrian Arab Republic', February 2022, https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/hno_2022_final_version_210222.pdf

EO contamination can impact both the ability to conduct initial needs assessments and implement programme activities like water network, school, business and home rehabilitation; and food security activities. It also has a cross-sectoral impact on needs. For example, with over a third of EO accidents happening in agricultural areas, injuring and killing farmers, including children,⁽¹²⁴⁾ agriculture-reliant communities require a multi-sectoral response to address physical injuries and psychological trauma. This is in addition to addressing food insecurity due to the inability to work or lack of available safe land to cultivate. Areas with known EO contamination can simply become virtual no-go zones for humanitarian actors due to the risks to staff and service users, meaning that communities in these locations are cut off from vital assistance.

Among a 2022 survey of 14 international humanitarian NGOs operating in Syria, six organisations have had to move, postpone or cancel programmes in the past two years because the programme location was contaminated with EO. A further three NGOs automatically excluded project locations from their need assessments due to a known presence of EO. Impacted sectors include: protection; early recovery and livelihoods; education; food security and agriculture; health; shelter; water, sanitation and hygiene; and cash for work.

EO contamination has also impacted NGOs' work in other ways, for example, threatening staff safety during travel and time spent in areas of operation, and blocking roads used for aid delivery. This has resulted in delays to project activities, re-routing of travel, and more investment in due diligence measures and additional staff training to manage such situations.

Humanitarian organisations find that support from HMA actors or local authorities to dispose of EO is not always available or is delayed. The impact of the unavailability of HMA is illustrated by one NGO's experience when conducting an assessment in a village reliant on agriculture and herding. Nearly two-thirds of the agricultural land was suspected to be contaminated with EO. With limited mine action services available many villagers had no choice but to pay between 200 to 500 SYP (2-3 USD) per dunum (about the size of a football field) to armed actors to clear the land. Because of the risks posed by the EO in agricultural fields and unavailability of HMA, the NGO was limited in the support it could provide and the areas of the village it could work in.

Even when assistance is provided to humanitarian actors to remove EO contamination from project locations, it is often delayed. This has a knock on impact on project deadlines. For example, a humanitarian actor rehabilitating water irrigation infrastructure in areas emerging from

124. Ibid.

active conflict in 2021, identified EO in an irrigation channel (see image below). A local contractor involved in the rehabilitation indicated it could easily remove and dispose of the object. However, since the contractor was not a specialist mine action actor, and contractor staff and the local population would be at risk, the humanitarian organization informed the local authorities. After one week a team was sent to remove the EO. During this period the EO continued to pose a risk to the community and the project was delayed.⁽¹²⁵⁾ Delays to remove EO by local authorities can last weeks, even for significant rehabilitation projects involving large and more influential humanitarian organisations.⁽¹²⁶⁾



Figure 13 – Explosive ordnance in an irrigation channel in an area in Syria emerging from active conflict. Courtesy of an International Humanitarian Mine Action actor operating in Syria.

Further, while clearance teams of local authorities may remove an identified individual EO, they will not conduct systematic surveying or clearance in that area to check for further EO.⁽¹²⁷⁾

NGOs have noted delays in removal of EO due to clearance teams of local authorities not having the necessary specialist knowledge or transportation to reach the contaminated area. It appears that on many occasions clearance teams sent by local authorities are simply regular soldiers without special training. For example, one organization noted that the clearance team sent to a contaminated project site suggested cutting a wire on a suspected booby trap.⁽¹²⁸⁾ Local workers had to

125. International humanitarian actor operating in Syria.

126. Ibid.

127. Ibid.

128. 'A booby trap' is an explosive or non-explosive device, or other material, deliberately placed to cause casualties when an apparently harmless object is disturbed or a normally safe act is performed. https://www.mineactionstandards.org/fileadmin/MAS/documents/standards/Glossary_of_mine_action_terms_and_abbreviations_Ed.2_Am.10.pdf

convince the clearance team not to do this because it would have likely resulted in an explosion and almost certain death of team members. Further delays can occur even after EO has been removed because local contractors and staff understandably fear the presence of additional EO and work more slowly and cautiously.⁽¹²⁹⁾

Another concern is that clearance done by armed actors is not conducted according to international mine action standards (IMAS) and humanitarian principles. For example, armed actors have detonated EO without considering the legal status of land or buildings, or conducting the necessary due diligence to ensure that civilians and the surrounding environment are not harmed. There are limited technical and financial resources available to authorities in Syria, and a lack of specialist knowledge and training contributes to these risks.⁽¹³⁰⁾ There are also concerns that clearance by armed actors is used as a strategy to change land usage, for example, from residential to commercial, without obtaining consent from owners and / or providing compensation.⁽¹³¹⁾

Clearance of EO through controlled explosions by non-specialists also has a significant impact on soil quality, damaging agricultural land for both current and future generations. This is in a context where the quality of soil is often degrading already because farmers are unable to add agricultural inputs to maintain soil quality due to EO contamination or the prohibitive cost of agricultural inputs and tools.⁽¹³²⁾

The extent of EO contamination also poses dangers to humanitarian staff and can also mean that insufficient funding is available to carry out required rehabilitation. For example, a humanitarian actor conducting a needs assessment in a school in an area emerging from active conflict in 2021 noted multiple signs of EO contamination, including semi-intact projectiles (see image on next page). The school is currently not operating due to the extent of the structural damage caused by EO and its continued presence. This also made the team feel unsafe to complete the assessment. Due to the presence of EO and extent of damage, the school was not included in the rehabilitation plan because it meant the available funding was not sufficient for the foreseen rehabilitation works. In the meantime, most local children cannot go to school. Several may travel far to another school, but this has a financial impact on families due to high transport costs.⁽¹³³⁾

129. International humanitarian actor operating in Syria.

130. Ibid.

131. Ibid.

132. Ibid.

133. Ibid.



Figure 14 – Explosive ordnance in a school in an area in Syria emerging from active conflict. Courtesy of an International Humanitarian Mine Action actor operating in Syria.

EO contamination also impacts the quality of assessments conducted by humanitarian actors. For example, one organisation planned to intervene in six neighbourhoods in northwest Syria. However, due to the high level of EO in one neighbourhood and risks to humanitarian staff and the affected community, the organisation could not do household assessments. Instead, it switched from household assessments to a registration point in a safe location where the community and humanitarian staff could meet. However, this meant it was harder to fully understand people’s needs because staff could not see how they lived and fully understand the challenges they faced.⁽¹³⁴⁾

134. Ibid.

4. Challenges for Humanitarian Mine Action

Humanitarian Mine Action has five pillars: land release, explosive ordnance risk education (EORE), victim assistance (VA), stockpile destruction and advocacy. In Syria, HMA actors mainly focus on three: land release, EORE, and VA.⁽¹³⁵⁾

Facts and figures

Based on UN and NGO coordinated data for 2021:

- HMA actors cleared nearly 2.4 million m² of land, finding and/or destroying over 4820 devices.⁽¹³⁶⁾
- HMA actors provided 16,999 VA specific efforts to 8310 people.
- HMA actors provided EORE to 1,362,140 million people.

4.1 Land Release

HMA actors that conduct effective land release⁽¹³⁷⁾ activities prioritise areas where contamination poses a threat to civilians, and impedes access to services, livelihood opportunities, and humanitarian assistance. Therefore, they typically focus on housing and agricultural areas, and public infrastructure such as schools, health centres, and roads. They identify contaminated areas through non-technical and

135. Mine Action can also be done through commercial companies, some of which have operated in Syria. At the time of writing, there are no commercial mine action operators in Syria.

136. Note – this clearance data only refers to the clearance done by HMA actors in northeast Syria. Largescale clearance by HMA actors in northwest Syria and central and southern Syria has not yet commenced. Limited clearance activities in central and southern Syria started in December 2021, but data collected is not reflected in this report.

137. 'Land Release' describes the process of applying all reasonable effort to identify, define, and remove all presence and suspicion of EO through non-technical survey, technical survey and/or clearance. However, the final element of the land release process is physically releasing the land over to the relevant person or governing authority. This has not been possible in the Syrian context due to a lack of a governing authority to effectively release land to. In addition, there remains no functioning land registry that can identify legitimate land owners in many parts of Syria.

technical surveys.⁽¹³⁸⁾ These areas are then categorised as suspected hazardous areas (if indirect evidence of contamination) or confirmed hazardous areas (if direct evidence of contamination). HMA actors also conduct EO ‘spot tasks’. Spot tasks are tasks carried out when single or multiple items of EO are reportedly found. In most cases, these are items of EO that have been fired but have failed to function as designed, or EO that have been abandoned.

“Locating, identifying and clearing EO from urban and rural areas in Syria can be technically challenging. This can be compounded by environmental factors such as extreme heat, dust, toxic industrial chemicals and damaged or destroyed buildings. Even though we take every precaution, accidents can and do happen out here. The work is dangerous but also incredibly fulfilling and rewarding, especially when we remove these deadly explosive threats from homes and fields and see people returning, bringing the towns, cities and streets back to life. Knowing that families will be safer, and can begin to rebuild their lives is worth the risks we take.”

Deminer operating in Syria.



Figure 15 – Pilot clearance taking place in central and southern Syria.
© UNMAS.

138. Non-technical surveys are generally conducted without the use of mine action assets (tools) or other technical interventions, while technical surveys do use mine action assets or other technical interventions.

HMA actors that conduct land release activities face a number of challenges:

- Contamination in urban areas is complex and often referred to as “three-dimensional”. This means it can be found anywhere: buried in the ground, attached to refrigerators, doors, windows, concealed inside rubble, children’s toys, domestic appliances, in trees, on roof tops or in collapsed or damaged buildings, etc. Further, buildings at risk of collapse need to be properly assessed and clearance teams have to evacuate people from their homes and places of work before destroying any devices. This means people are regularly displaced from their homes, work or communities whilst clearance is conducted. Urban contamination is a major issue: 33% of spot tasks completed by a HMA actor in northeast Syria in 2020 and 2021 concerned clearance in houses.⁽¹³⁹⁾
- During spot tasks carried out by a HMA actor in northeast Syria in 2020 and 2021, 14% concerned objects that were hidden and 11% that were IEDs.⁽¹⁴⁰⁾ Improvised explosive devices pose a threat to clearance operators because they are not always assembled in the same way. Clearance operators rely on knowing exactly how each specific device is assembled so that they can determine how it operates and, more importantly, the hazards associated with it to ultimately determine the safest method of dealing with it. This standardized assembly is called homogeneity of weaponry. The variation in assembly of IEDs significantly increases the risks that clearance teams face to do their jobs and, tragically, HMA teams have consequently suffered fatalities.
- There is active conflict in several parts of Syria, which leads to a number of security and access complications. HMA actors follow humanitarian principles, which means they do not interfere in the conflict or do anything that could inadvertently endanger their neutrality. They also only clear areas with a priority humanitarian need. That said, shifting conflict lines or ongoing hostilities in general can make it difficult to start and ensure the continuity of operations. For instance, Kobane, close to the Turkish border in northern Syria, has suffered numerous EO accidents, but ongoing hostilities prevent access. Similarly, in northeast Syria HMA actors acknowledge the need for mine clearance in the southern part of Deir Ez Zor governorate, but security risks, both in terms of ongoing hostilities and criminal activity, means access is rarely possible.⁽¹⁴¹⁾ Meanwhile, in northwest Syria in Idlib governorate, certain areas of

139. International humanitarian mine action actor operating in Syria

140. Ibid.

141. Ibid.

the governorate which were surveyed by a HMA actor between 2018 and 2020 are no longer accessible by that actor because control has changed from a non-state armed group to the Government of Syria.⁽¹⁴²⁾

“Extensive displacement, contamination from explosive ordnance, drought and property destruction in Syria have created the perfect conditions for competition for land and related land disputes. Given this context, we invest in extensive due diligence procedures to ensure that our land release activities do not exacerbate housing, land and property (HLP) issues, and do not benefit armed groups or other influential actors. The foundation of every activity is ensuring strict adherence to International Mine Action Standards, and placing humanitarian principles at the heart of our work. Adopting a conflict sensitive approach is also crucial to safeguard against inadvertently creating a negative impact on the communities in which we work. We liaise with Community Focal Points and Community Safety Committees to ensure our understanding of the context is grounded in the reality experienced daily by affected population. This is key in understanding local power dynamics, which allows us to adapt our interventions to ensure conflict dynamics are not worsened and, where possible, bring about positive transformative change.”

Head of international humanitarian mine action organization operating in Syria.

- Other access constraints include bureaucratic and administrative requirements imposed by local authorities, such as delays or refusals to approve organisation registration, visa and work permit requests; interference in staff recruitment; constraints on import of equipment into the country; and application of special taxes and fees.
- Access constraints and funding gaps also result in operational delays and / or lack of effective supervision of clearance sites. This increases the risk of armed actors re-contaminating sites with EO or local people accessing the site for water, grazing animals, shelter needs, or even gathering wooden clearance stakes (that mark the presence of EO) for firewood. Operational delays also impact the technical abilities and mental sharpness of clearance and medical staff, given they are spending less time on the ground. If not managed correctly, this may increase the risk of accidents through skill fade

142. Ibid.

or unfamiliarity with new tactics, techniques or procedures (TTPs). This also inhibits development of local capacity, vital to enhance a population's resilience by building the quality, scale, and sustainability of the response, and accountability to affected people. For now, this development hinges on the presence of international HMA actors.⁽¹⁴³⁾

- Currently, HMA actors only conduct large-scale land release operations in northeast Syria. However, without appropriate funding, access and adequate prioritisation of tasks, the risk is that the impact of land release will not be maximised. In northwest Syria community impact surveys have confirmed the presence of contamination across a wide area, but technical and funding constraints have hindered removal efforts. There is currently no NGO capacity for sub-surface clearance, forcing communities to use high-risk land and often address EO themselves. Consequently, there is an urgent need for survey and clearance to start to quantify and tackle the underlying problem. Similarly, there is urgent need for large-scale clearance to start in southern and central Syria. Limited clearance activities in central and southern Syria started in December 2021.
- A conflict sensitive approach is key to ensuring that land release does not contribute to the conflict, for example, by exacerbating house and land property issues, and lead to a re-escalation of violence or recontamination of land. Interventions should be designed and evaluated to include age, gender and disability-inclusive indicators that measure outcomes, i.e. the impact on affected people's lives, instead of the traditionally used output-based indicators (i.e. number of devices cleared, and number of square metres cleared). Identifying and linking future rehabilitation projects, particularly critical infrastructure projects, with land release will have a significant impact, if planned correctly.
- Due to international sanctions regimes applied to Syria, HMA actors face challenges importing specialist mine clearance equipment, for example, robots and training kits for particular types of explosives. Derogations exist but determining which derogation is needed to facilitate the import of such items requires in-house expertise, financial resources, and resources that ensure all paperwork is correct. Support and flexibility is also required from donors as import challenges can delay project implementation beyond initial timelines.
- Safe and permanent disposal of recovered EO is a major challenge for HMA actors. Typically, a stockpile of EO can only be destroyed with explosives. However, given its obvious military application, obtaining and using explosives for this purpose is difficult. In addition, it is

143. Ibid.

necessary to have access to a safe site for a controlled explosion and transport EO to this area in a way that minimizes potential risks to civilians. HMA actors employ alternative options, such as thermitite for deflagrating items of EO, however, this does not work on all EO. If HMA actors cannot quickly dispose of recovered EO, they must safely store it until it is possible to destroy it. This creates risks in terms of safety and theft.⁽¹⁴⁴⁾



Figure 16 – A deminer in the process of removing EO from agricultural land in Syria. Courtesy of an International Humanitarian Mine Action actor operating in Syria.

4.2 Explosive Ordnance Risk Education (EORE)

EORE remains a critical element of the HMA response. UNMAS-coordinated data shows that between 2013 and 2020 across Syria, nearly three quarters of casualties visited the accident location several times before the accident happened, and that 97% say they had not received EORE.⁽¹⁴⁵⁾ This is supported by 2018 to 2021 data for northeast and northwest Syria which shows that 52% of casualties of EO accidents often came to the area in which the accident happened, 84% were unaware of EO contamination, and 97% say they had not received EORE. This is despite that between 2015 and 2021, 14 million people received EORE.⁽¹⁴⁶⁾ The low number of casualties who received EORE is due to several reasons. EO contamination, fighting and other access constraints prevent EORE teams physically accessing some of

144. International humanitarian mine action actor operating in Syria.

145. UNMAS Victim Data Analysis May 2020.

146. Mine Action Area of Responsibility.

the most at-risk communities, meaning that EO accidents happen before access to EORE is available. Further, many people had EO accidents before humanitarian organisations were providing EORE in Syria. EORE teams also prioritise areas where the population has not yet received EORE, therefore data from accident reports in those areas will show a lower level of EORE among EO casualties than communities already accessed. More recently, COVID-19 resulted in in-person EORE being suspended at times due to movement restrictions and limitations on the number of people able to gather safely in a location. There is also speculation that EO survivors do not say they have received EORE in case they think it will negatively impact their access to required services. However, this requires additional research.

Since 2015 children represent 55% of EORE participants.⁽¹⁴⁷⁾ It is encouraging that children represent a significant proportion of EORE participants. However, it is paramount that risk education strategies acknowledge differences in children's behaviour compared to other groups to maximize the behavioural change of young people who are most at risk. The same applies to adapting material to make it accessible for persons with disabilities. EORE strategies must also prioritise other particularly at risk groups, such as displaced persons, agricultural and construction workers.

Similarly, while women and girls are less directly exposed to EO risks due to their type of occupation in the household or community, it has been reported that they feel less confident in their ability to recognize EO and take appropriate safe actions. This is of particular importance given that they are often the primary carers of children and EO accident survivors and need support to ensure everyone's protection.⁽¹⁴⁸⁾

Sustainability of EORE is critical and activities such as Training of Trainers (ToTs) to build the capacity of local communities to conduct direct EORE sessions are an important element of this, alongside strengthening relationships with local authorities and communities. ToT activities are also a useful way for reaching those people not present in homes and schools during daylight hours when EORE teams visit.

147. Mine Action Area of Responsibility.

148. International humanitarian mine action actor operating in Syria.



Figure 17 & Figure 18 – Extract of EORE booklet for children. The left-hand page says ‘Explosive materials come in different sizes and shapes and might not be visible. Do not touch them and in case found inform an adult.’ The right-hand page says ‘Help Amin to get to school safe by making sure he does not pass by mines’. Courtesy of an International Humanitarian Mine Action actor operating in Syria.

“An EORE team ran an awareness session about the risks of the EO in a house of a family of five people. The head of the household used to collect the scrap metal and sell them for an income, while his wife kept some of the objects with nice shapes and colours to use as vases. During the session, the family was shocked when looking at photos of EO and videos of their impact. This shows that without EORE people can easily mistake deadly objects for just an ordinary piece of metal.”

EORE team in Syria.

HMA and other humanitarian actors who provide EORE face several challenges:

- Visiting areas with a known or suspected high level of contamination puts EORE teams at risk. This is particularly the case if HMA activities, such as survey or clearance have not previously been implemented in an area to identify suspected and confirmed hazardous areas, or mark and remove dangerous items.
- EORE in Syria reached almost one million fewer people in 2020 than in 2019, as the COVID-19 pandemic led to the temporary suspension of in-person activities, movement restrictions, and limits

to the number of people who could attend risk education sessions.⁽¹⁴⁹⁾

HMA actors resorted to limiting the number of people per in-person session and increased use of indirect EORE activities through mass media public information methods (TV, radio, newspapers, magazines), small media (billboards, posters, leaflets, t-shirts, brochures), and social media. HMA actors also focused more on ToTs to build the capacity of community members to conduct EORE sessions.

- Acceptance of EORE teams and the value communities place on their activities can depend on whether a community has major problems of contamination. Acceptance is typically lower when communities need other basic services, such as health, education, water and sanitation, and livelihood opportunities. A context-appropriate approach is key as a good understanding of local dynamics maximizes the impact of EORE by shaping messages that can resonate better with different segments of the population and identifying the people and channels trusted by communities to report EO and share advice on safe behaviours.
- Even when people have prior knowledge of the dangers of EO and/or learn more about the dangers from an EORE session, they may feel they have little or no choice but to continue to access fields or gather EO to sell as scrap metal. EORE and VA teams regularly encounter people that explain that they moved EO to access their land or their homes. This only underscores the need for clearance and a rapid response mechanism when people report contamination.
- There are concerns that there is donor fatigue regarding funding for EORE activities. For example, a major institutional donor recently informed a number of HMA actors that EORE is no longer a priority issue requiring support, and that the rate of EO accidents is not high enough to justify emergency funding. It remains critical both to accompany clearance and ensure community liaison and accountability of HMA actors throughout their operations. Further, when clearance is not possible, it is a way to continuously work towards preventing accidents.
- Through EORE sessions, humanitarian organisations obtain data on EO casualties and suspected contaminated areas. However, certain authorities in Syria impose restrictions on the extent of information humanitarian organisations can collect on EO casualties, accidents and affected communities. This can be very limiting for humanitarian

149. The Landmine Monitor, 'Syria Impact', November 2021, <http://www.the-monitor.org/en-gb/reports/2021/syria/impact.aspx>

organisations when planning interventions. The ability to independently collect, analyse and use data from areas of operation is crucial to ensure more targeted and relevant programming.



Figure 19 – Boys in northwest Syria receiving EORE session.
© The Halo Trust.

4.3 Victim Assistance (VA)

VA is internationally understood as being comprised of six elements: four are related to services, such as emergency and on-going medical care, rehabilitation, psychological and social support, social and economic inclusion. The other two are related to data collection, and laws and policies that guarantee the human rights of survivors.

VA aims to save the lives of people injured by explosive ordnance; address the diverse needs of survivors, the family members of people injured and killed, and EO-affected communities; as well as facilitate the enjoyment of survivors' rights. The mission of VA is survivors' full and effective participation in society on an equal basis to others. VA should be implemented and coordinated by means of an integrated approach. This approach is rooted in the human rights principle of non-discrimination.

The dual imperatives of this approach are:

- Multi-sector engagement by non-Mine Action organisations that reach injured people, EO survivors, and people otherwise impacted by EO accidents.
- VA specific efforts as per IMAS 13.10 on Victim Assistance in Mine Action undertaken by the HMA sector such as information management, referring EO survivors to the relevant service providers, promoting and monitoring a multi-sector response, and supporting the development of relevant national action plans.

As shown in section 2.1, multi-disciplinary health services that deliver emergency and ongoing medical care, MHPSS, rehabilitation and prosthetics and orthotics for survivors of EO accidents are in major demand, while there are a very limited number of service providers.⁽¹⁵⁰⁾ In addition to health services, livelihood support and education services are key elements of effective VA. 2021 community surveys found that the most reported support required for survivors of EO accidents in Syria is economic support.⁽¹⁵¹⁾ Experience from livelihood programs for persons with disabilities who have restarted work, for example as taxi drivers and shop keepers, clearly demonstrates that EO survivors can obtain economic independence and provide for themselves and their families.

Adoption of International Mine Action Standards (IMAS) 13.10 on Victim Assistance in Mine Action at the United Nations in October 2021 is a key enabler for the sector to contribute to facilitating access to services for people injured by EO as well as family and communities impacted by EO. HMA actors, for example, now shall identify casualties, map services and contribute to a directory of services, as well as refer survivors to services when conducting land release and EORE.

“A young man in his twenties was injured in his spine by a bomb fragment when his village was bombed. As a result his lower limbs are completely paralysed. He had difficulty moving around his home, washing himself, and could not find work. A humanitarian mine action actor made adaptations to his washroom, including installing a toilet, handrails and widening the door. It also widened the door to his family’s barn and installed a water tank on the roof to allow the young man to give water to the family’s sheep. Finally, it provided him with tools and a new battery for a motorized scooter, allowing him to graze the sheep in a nearby field.”

International Humanitarian Mine Action actor in Syria.

150. International humanitarian mine action actor operating in Syria.

151. Mine Action Syria 2021 Humanitarian Needs Overview analysis.

“A warplane appeared and dropped a dispenser of cluster munitions. I remembered I saw the cluster munition close to me and it exploded suddenly. The only thing I saw is my belly bleeding and parts of my belly out of my body. I felt no pain at that time, only fear, I gathered the bleeding parts in my arms, carried them and ran fast. I found one ambulance and people there who helped me.

Since that situation, I feel sad and deep pain. I feel I am miserable, I cannot forget the fear I felt, I am afraid of everything. The fear now is my companion everywhere. I only can do simple jobs because my body is not working with its previous capacity, I am afraid for my children who cannot find food or life needs because I do not have a good job as my body is injured. I am always wondering, will a similar scenario happen again with one of my relatives, or will I see a similar accident again?”

Survivor of an EO accident in Syria.

HMA and other actors face the following challenges when implementing VA programming:

- In areas of greater conflict intensity, there are typically more injuries from EO. However, it is often difficult for HMA and other actors to access these areas and affected people. Meanwhile, people from these areas often cannot travel to centralized locations due to concerns about secure routes or travel costs. Even though NGO services are free, there can be drop-off from participants due to financial barriers related to transport costs to access services. People often have to make a choice between paying for transportation to a rehabilitation centre, or spending that money on food.⁽¹⁵²⁾
- There are major concerns in terms of available specialized and trained staff in targeted areas, especially for emergency and on-going medical care, rehabilitation, psychological and social support. A lack of qualified staff, primarily due to limited formal training opportunities and a brain drain of existing trained medical professionals, is affecting the provision of services and capacity to scale up operational capacities. Long waiting lists for the provision of prosthetics and orthotics (P&O) remain a key concern for survivors.⁽¹⁵³⁾ Moreover, there is not enough availability of psychological support - including counselling and peer to peer support - due to a lack of skilled staff in targeted areas. Socio-cultural behavioural factors are also a key barrier for access to psychosocial support (PSS) services. The main service providers remain international and national NGOs.⁽¹⁵⁴⁾
- VA requires the provision of services over the life-time of a person. For example, a person with a recent amputation could require a

152. International humanitarian mine action actor operating in Syria.

153. Ibid.

154. Ibid.

pre-fitting intervention lasting up to three months before the fitting of a prosthetic. This is then followed by between 4-8 post-fitting sessions depending on the person's circumstances and abilities. A person with an amputation will need periodic replacement of their device due to wear and tear of the device after use. Growing children will need replacement when the device no longer fits. Globally, VA funding in the HMA sector represents only 6% of the overall budget and in the current Syria funding context only a few donors provide dedicated VA funding. The majority of VA implemented by NGOs is funded under the health framework and not the HMA one. This means that VA is integrated into health and livelihood activities, requiring additional coordination between HMA actors and other service providers. Effective survivor referral mechanisms are crucial to ensure that EO survivors have access to the required support. Referral can sometimes happen more on an ad-hoc basis than via an effective referral mechanism. Increasing engagement of the various actors in the mine action sector in carrying out the roles and responsibilities outlined in IMAS 13.10 will greatly contribute to facilitating access to services for EO survivors and affected family and community members.

- Since women are often more involved in caring for an EO survivor, it is essential that they know where to obtain the required type of assistance to both address the needs of the EO survivor, as well as their own. This should include support to ensure access to education for child survivors.
- Unfortunately, available funding for VA in 2020 and 2021 remained very limited. The requirement for VA will last well after clearance ends. Therefore, donors must commit to meeting the short, medium and long-term needs of people who have been injured by EO and the needs of affected families and communities in the long run.⁽¹⁵⁵⁾ This includes both increased earmarked funding as part of the global mine action budget and, at the same time, by effective integration of VA into broader humanitarian, development and human rights funding envelopes.



Figure 20 – Customized prosthetic legs ready to be used for training by people with amputations. Courtesy of an International Humanitarian Mine Action actor operating in Syria.

155. Ibid.

5. Recommendations

- **Observation:** Due to insecurity caused by hostilities and criminal activity, as well as bureaucratic restrictions, HMA actors can struggle to start operations and ensure a continuous presence in affected communities. For example, operational delays and re-contamination of sites can occur when roads are cut off due to fighting or permission is delayed or refused to travel to different locations.

Recommendation: Parties to the conflict, donors and the United Nations humanitarian leadership must support full and unfettered access for all HMA actors, regardless of the communities they serve, modalities and areas of operation. This includes expediting registration and access for international HMA actors, allowing free movement across areas under their control, import and use of required equipment, and ensuring staff safety. In addition, HMA actors should consider all alternative means to access affected populations, for example, in the context of VA, providers should scale up the use of mobile teams in rural and remote areas, decentralise service provision through partners, and provide cash to service users for specialized transportation services. This would also ensure a more conflict-sensitive programming approach.

- **Observation:** The Mine Action appeal in the 2022 Humanitarian Response Plan indicates that USD 83.4 million will be needed to respond to mine action needs in Syria. As of March 2022, the Mine Action sector had only secured 7% of funding required.⁽¹⁵⁶⁾ Several donors supporting HMA in Syria have either withdrawn or reduced support recently. For example, the EU's humanitarian funding mechanism - European Civil Protection and Humanitarian Aid Operations (ECHO) – recently deprioritized HMA in its Syria Humanitarian Implementation Plan stating that 'while it recognizes the importance of clearance activities and the need to strengthen and promote a comprehensive approach to HMA, partners are encouraged to identify alternative, more sustainable sources of funding.' In 2022, ECHO did not renew funding for several major HMA actors in Syria, leaving these organisations with large funding shortfalls.

Recommendation: Donors should prioritise funding for technical and non-technical surveys and clearance to facilitate maintaining and scaling-up of operations: clearance is the only way forward to permanently reduce the threat from EO. Donors should provide

156. Out of the USD 77 million requested to implement mine action activities in line with the 2021 Humanitarian Response Plan, only approximately 30% has been funded.

dedicated funding for VA to cover long-term needs and develop referral plans. Sustainable delivery of services is crucial: people with amputations, in particular children, will need new prosthetics every few years. Therefore, a strategy must be in place to ensure multi-year funding is available for service provision and guaranteeing investment in local capacity. Up until now, VA actors are supported through short term emergency funds. Meanwhile, EORE must continue to receive the necessary support to continuously work towards preventing accidents, in particular when EO clearance is unavailable. At the same time, local actors delivering land release, EORE and VA interventions should be supported with funding opportunities, capacity-building programs and involvement in mine action coordination mechanisms.

Overall, the importance of multi-year and flexible funding for HMA cannot be overstated. HMA, in particular clearance, involves huge and complex interventions. This requires a considerable number of staff (with the appropriate expertise) and very specific equipment. Setting this up requires a lot of time and funding, especially in a context where it is challenging to find sufficiently qualified clearance staff, and where international procurement of equipment is extremely difficult. Actors must have the flexibility to adapt to changing conditions on the ground, in particular security threats, and re-deploy operations in alternative locations where necessary.

Donors should also insist that implementing partners conducting surveys and clearance and/or EORE comply with IMAS 13.10 on Victim Assistance in Mine Action.

- **Observation:** HMA – in particular clearance – cannot be a standalone activity. HMA actors have cleared rural areas and villages, but access to health and education services, water and electricity infrastructure, and livelihood opportunities also determines whether the community can recover and whether displaced people can return. Similarly, humanitarian actors are unable to deliver humanitarian assistance – including crucially important early recovering programming – due to the presence of EO. It is critical that HMA activities are increasingly mainstreamed into the broader humanitarian response and coordination and information sharing is strengthened between actors to ensure that areas where EO contamination is inhibiting early recovery activities are prioritised. In addition, HMA programming does not sufficiently ensure the meaningful participation of EO survivors and persons with disabilities in the design and implementation of activities.

Recommendation: Donors and humanitarian actors must recognise that humanitarian mine action is a key enabler to many aspects of a humanitarian response and a prerequisite to any immediate or long-term recovery in Syria. They must ensure that HMA activities are more strongly integrated into other sectors through

comprehensive programming. For example, ensuring that early recovery programming includes a budget component for clearance of EO will mean that essential activities are not overly delayed or cancelled due to presence of EO. Meanwhile, further mainstreaming EORE into other programs will increase uptake among participants, and help better map EO contamination and identify survivors of accidents. Further, as for all humanitarian sectors, donors should require and support HMA programming to meaningfully include EO survivors and persons with disabilities, and take into consideration inter-sectionality factors, such as age, gender, and ethnicity, in line with the IASC Guidelines on Inclusion of Persons with Disabilities in Humanitarian Action. Hence, HMA actors should promote meaningful participation of organizations of persons with disabilities, civil society organizations, and grassroots initiatives; remove attitudinal, environmental and institutional barriers; empower persons with disabilities and survivors and support them to develop their capacity; disaggregate data for monitoring inclusion.

Further, HMA actors and donors should prioritise mainstreaming conflict sensitivity into activities to ensure that interventions have no negative effects on local conflict dynamics but that where possible this impact is transformative. This means better understanding the context, understanding how the intervention interacts with it, and acting upon this understanding to minimize the negative impact on conflict dynamics.

- **Observation:** Syria has been marked by the intense use of EO, especially those explosive weapons with wide-area effect in populated areas, including air and artillery strikes with rockets and heavy mortars. At the time of impact and subsequently through EO contamination, they kill, injure, traumatise, and displace the population, in addition to destroying civilian infrastructure and impeding access to humanitarian aid. Their devastating impact will be felt for years to come.

Recommendation: States must finalise a strong political declaration to avoid the use of explosive weapons with wide-area effect in populated areas, which includes firm commitments on land release, risk education and victim assistance.

- **Observation:** There are gaps in data on the extent of EO contamination in Syria, EO casualties and impact of EO, and mine action activities implemented. The lack of reporting of accidents in Syria is a significant issue. This is due to the limited number of HMA actors working in Syria, restrictions imposed by some authorities to obtain necessary data, physical access constraints to go to affected communities, and a lack of resources and coordination to ensure more data sharing between organisations. Further, while the HMA sector is gaining an understanding of the different impact of EO on men and women, boys and girls; the HMA sector does not know the

impact of EO on persons with disabilities. This is because it does not collect casualty data disaggregated by type of disability a person may already have had at the time of an EO accident.

Recommendation: Establish a centralized database that includes information on casualties disaggregated by gender, age and disability prior to accident as well as displacement status. In line with IMAS 13.10, data on available services should now also be collected. This information should be recorded and safeguarded in a digital format in accordance with IMAS standards. Data should be analysed and complement service mapping to assess the availability and gaps in services to meet the needs of EO survivors in the frameworks of disability, health, education, employment, development, and poverty reduction. IMAS 13.10 deployment should support this mapping as well as lead to the issuing of a directory of services, and lead to identification and referral of survivors and other people-in need to services. It also recommends the development or revision of standard operating procedures (for example, on EORE, non-technical survey and community liaison) by operators and operationalization of this standard. Where possible, data should be shared with relevant stakeholders in Syria to inform development of public services and policies. Existing databases and information sharing between HMA actors should be strengthened to better capture data related to implemented activities, for example, estimates of contaminated land, land cleared, etc. Parties to the conflict must ensure HMA actors can independently conduct all necessary data collection.

- **Observation:** In the last two years, hostilities and COVID-19 related travel restrictions have significantly disrupted HMA activities and coordination. For example, the 2019 military incursion into northeast Syria meant that a large number of humanitarian organisations evacuated international staff, with return further delayed by COVID-19 travel restrictions. This meant that HMA activities and coordination among actors was significantly disrupted. HMA actors work hard to overcome such challenges to re-commence activities and related coordination. However, work remains to be done. A recently established Mine Action Centre in northeast Syria provides an opportunity to ensure the presence of a sustainable and locally-run coordination body. However, there are questions about how to ensure the operational independence of such bodies in Syria in a complex and politicised context.

Recommendation: Donors, HMA actors, and other humanitarian actors should strengthen individual hub and Syria-wide coordination mechanisms. HMA actors and donor countries must work closely together to establish the appropriate means of support for locally established mine action centres, whether this is capacity building, funding, or a combination thereof, so that they can effectively coordinate HMA in Syria while striving for their own operational independence.

Acronyms

AXO	Abandoned Ordnance
EO	Explosive Ordnance
EORE	Explosive Ordnance Risk Education
EWIPA	Explosive Weapons in Populated Areas
HMA	Humanitarian Mine Action
IED	Improvised Explosive Device
IMAS	International Mine Action Standards
MSNA	Multi Sector Needs Assessment
NGO	Non-Governmental Organization
P&O	Prosthetics and Orthotics Services
PSS	Psychosocial Support
TTPs	Tactics, Techniques or Procedures
UXO	Unexploded Ordnance
VA	Victim Assistance
VOIED	Victim-Operated Improvised Explosive Device



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