



Evaluation of MAG's Mine Action Responses in Sinjar and Tel Afar district, Ninewa Governorate, Republic of Iraq

Impact, Challenges and Best Practices

August 2024

Acknowledgement

The Mines Advisory Group (MAG) expresses its utmost gratitude to the people and institutions that so generously collaborated to produce this evaluation by sharing data, experiences, resources, and expert feedback.

These include the residents and local authorities of Al Ayaidiya, Asbieia, Ashiq and Tirmi villages (Tel Afar district); Al A'Dnaniyah Collective – Sector 1, Al Jazira Complex – Sector 1, Ne'neah, and Tel Ezer villages (Sinjar district); representatives from the Directorate of Mine Action (DMA), the Iraqi Kurdistan Mine Action Agency (IKMAA), Action Contre la Faim (ACF), Anti-Persoonsmijnen Ontmijnende Product Ontwikkeling (APOPO), Fondation Suisse de Déminage (FSD), HAMAP-Humanitaire, the International Committee of the Red Cross (ICRC) Weapons Contamination Unit, the Iraqi Health and Social Care Organization (IHSCO), iMMAP Inc., Impact Initiatives, International Organization for Migration (IOM), Norwegian People's Aid (NPA), Shareteah Humanitarian Organization (SHO), Sylus Global, United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), United Nations Mine Action Service (UNMAS), Youth Bridge, and MAG personnel of the Iraq and other country programmes, as well as from headquarters. Without the aforementioned stakeholders' willingness to transparently share information and offer valuable insights, the publication of this guide would not have been possible.

MAG would also like to thank the Ministry of Foreign Affairs of the Netherlands for generously providing the funding enabling this evaluation.

Katrin Atkins, Ayat Dusche and Tom Atkins (RISKey GmbH), with support from the MAG Iraq country programme and MAG's Programme Quality Team, conducted this evaluation and are the authors of this report.

Front picture: Devastated city of Mosul, Ninewa governorate. Mark Warburton, MAG.

Terms, Definitions and Abbreviations

Abbreviations

ACF	Action Contre la Faim
AOR	Area of Responsibility
APM	Anti-personnel Mine
APMBC	Anti-Personnel Mine Ban Convention
APOPO	Anti-Persoonsmijnen Ontmijnende Product Ontwikkeling
AVM	Anti-vehicle Mine
AXO	Abandoned Explosive Ordnance
CCIA	Comprehensive Clearance Impact Assessments
CCM	Convention on Cluster Munitions
CCW	Convention on Certain Conventional Weapons
CFP	Community Focal Point
CHA	Confirmed Hazardous Area
CMR	Cluster Munition Remnants
DTM	Displacement Tracking Matrix
EO	Explosive Ordnance
EOD	Explosive Ordnance Disposal
EORE	Explosive Ordnance Risk Education
ERW	Explosive Remnants of War
EWIPA	Explosive Weapons in Populated Areas
DMA	Directorate of Mine Action
FGD	Focus Group Discussion
FSD	Fondation Suisse de Déminage
GOI	Government of Iraq
HMA	Humanitarian Mine Action
iDMC	Internal Displacement Monitoring Centre
IDP	Internally Displaced Persons
ICRC	International Committee of the Red Cross
IED	Improvised Explosive Device
IHSCO	Iraqi Health and Social Care Organization
IKMAA	Iraqi Kurdistan Mine Action Agency
IMAS	International Mine Action Standards

IOM	International Organization for Migration
ISIS	Islamic State of Iraq and Syria
KI	Key Informant
KII	Key Informant Interview
KRI	Kurdistan Region of Iraq
MA	Mine Action
MAG	Mines Advisory Group
MoD	Ministry of Defence
NGO	Non-Governmental Organisation
NPA	Norwegian People's Aid
NRC	Norwegian Refugee Council
NTS	Non-Technical Survey
PM/WRA	Bureau of Political-Military Affairs, Office of Weapons Removal and Abatement
PPCIA	Pre/Post Clearance Impact Assessments
RCIA	Rapid Clearance Impact Assessments
REPP	Risk Education Pre/Post Survey
SAA	Small Arms Ammunition
SALW	Small Arms and Light Weapons
SHA	Suspected Hazardous Area
SHO	Shareteah Humanitarian Organization
SWOT	Strength, Weaknesses, Opportunities, Threats
TOT	Training of Trainers
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNMAS	United Nations Mine Action Service
UNOPS	United Nations Office for Project Services
UNOSAT	United Nations Satellite Centre
US	United States [of America]
UXO	Unexploded Ordnance
VOIED	Victim-operated IED

Terms

All reasonable effort describes what is considered a minimum acceptable level of effort to identify and document contaminated areas or to remove the presence or suspicion of explosive ordnance. All reasonable effort has been applied when the commitment of additional resources is considered to be unreasonable in relation to the results expected.

(International Mine Action Standards, Technical Note 07.11/03)

Impact is the extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects.

(Organisation for Economic Co-operation and Development OECD)

Land release describes the process of applying all reasonable effort to identify, define, and remove all presence and suspicion of explosive ordnance through non-technical survey, technical survey and/or clearance.

(International Mine Action Standards IMAS 07.11 Land Release)

Definitions used for the purpose of this report only

Durable solution is understood as a mine action intervention that contributes to long-term safety, security and freedom of movement; access to livelihoods; and restoration of housing land and property.

Reconstruction is understood as mine action intervention that contributes to the process of rebuilding a physical space or structure.

Rural is understood as an environment that – in its characteristic – resembles the countryside rather than a significantly populated area (e.g., town).

Urban is understood as an environment that – in its characteristic – resembles a significantly populated area (e.g., town) rather than the countryside.

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Foreword

As we approach the tenth anniversary of the Sinjar massacre – a decade since ISIS initiated its genocidal campaign against Iraq’s Yazidi ethno-religious minority – we reflect on the resilience and recovery of Yazidi, Arab, and Kurdish communities affected by conflict in northern Iraq, as well as the challenges that remain.

Humanitarian mine action (HMA) has played a critical role in that recovery – but there is much that remains to be done and much that can and should be improved upon. This report provides clear evidence of the importance and impact of mine action (MA) in enabling stabilisation, recovery and development activities in two regions of Iraq, Sinjar and Tel Afar districts, that were devastated by the conflict inflicted with ISIS.

Lives have been saved, casualties reduced, suffering has been alleviated and livelihoods restored. MA interventions have been crucial for reconstruction and the establishment of durable solutions which delivered socio-economic improvements. In the last four years alone, MAG has released almost 24 square kilometres of contaminated land and removed almost 6,000 items of explosive ordnance in Sinjar and Tel Afar. Some 9,500 risk education sessions have also been conducted, benefitting almost 67,000 people.

But it is clear that there is more to be done, lessons to be learnt and much to be improved upon. Stakeholders must work together to ensure an efficient and effective response to the remaining explosive ordnance contamination. So, a great amount has been achieved, but the job is not finished yet. There are contaminated areas remaining, and explosive ordnance (EO) still causes accidents in Sinjar and Tel Afar. Further, we must acknowledge that while national coping mechanisms are not yet sufficiently established to ensure the job can be done without the contribution of international actors, the only stable response is one that is “as local as possible, as international as necessary”.

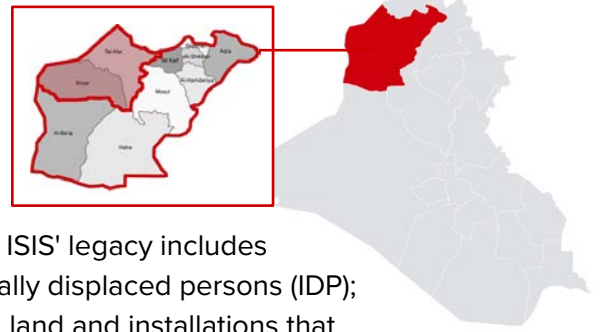
This report also identifies important lessons and steps that should be considered in relation to urban contamination, a timely contribution to this issue considering current events elsewhere in the Middle East. This report must, therefore, encourage further debate about how these challenges are collectively addressed by the Iraq MA community in support of its National Mine Action Strategy and by the wider international community, when considering the proliferation of challenges in contexts such as Gaza and Ukraine.

Finally, let me take this opportunity to thank the report’s authors for their diligence, MAG’s staff in Iraq for their dedication, our donors, in particular the Ministry of Foreign Affairs of the Netherlands whose funding supported this report, for their unswerving commitment, and our partners in the Iraq Government for their support.

Above all, we thank the people of Sinjar and Tel Afar for their trust and acceptance.

Darren Cormack
Chief Executive, Mines Advisory Group (MAG)

Executive Summary



Sinjar and **Tel Afar** districts in Ninewa governorate of the Republic of Iraq have both been heavily affected by the rise and rule of the Islamic State of Iraq and Syria (ISIS)ⁱ. ISIS' legacy includes thousands of dead, injured and traumatised civilians, internally displaced persons (IDP); destroyed infrastructure and homes, sabotaged agricultural land and installations that are contaminated with improvised and conventional EO – some of which still remains to be cleared almost a decade after ISIS' defeat.¹

MAG has implemented HMA responses in Tel Afar district since 2015, and in Sinjar district since 2016. Between 2020 and May 2024, in both districts, MAG released 24 km² of land, and since 2019, implemented risk education activities for the benefit of almost 300,000 beneficiaries, and collected information from 231 explosive ordnance (EO) related accidents.^{ii, 2} The report at hand analyses the impact achieved, evaluates the potential further needs, and draws lessons learned – particularly in terms of dealing with contamination of an improvised nature in an urban environment.³

MAG's MA responsesⁱⁱⁱ in Sinjar and Tel Afar districts created a notable impact. Continuous survey allows a clearer picture of today's remaining EO contamination, and at the same time, the land released facilitated reconstruction efforts, allowed the resumption of livelihood activities, and contributed to IDPs' motivation to return to locations that have the potential to become durable solutions for returnees. The land and infrastructure in use following land release, demonstrates the contribution of MA responses in creating a socio-economic impact. Risk education also helped to limit the number of EO related casualties: Data shows that the majority of victims from EO related accidents have not benefitted from explosive ordnance risk education (EORE). In addition, MAG played a pivotal role in empowering the affected population by enhancing their perception of safety and more generally, their feeling of self-determination.⁴ Despite the positive findings and to increase the impact of MA responses, it is recommended to look at possibilities for better cooperation of the planning and prioritisation of reconstruction efforts between stakeholders, including MA operators, other humanitarian actors, the Government of Iraq (GOI) and donors. Furthermore, it is suggested that the MA community in Iraq discusses how the effectiveness and efficiency of the national land release process can be improved.⁵

A great amount has been achieved, but the job is not finished yet. There are contaminated areas remaining, and EO still causes accidents in Sinjar and Tel Afar.⁶ The Republic of Iraq is a States Party to the Anti-Personnel Mine Ban Convention (APMBC), and the Convention on Cluster

ⁱ Other common names include: Islamic State of Iraq and the Levant (ISIL), Islamic State (IS) or Daesh.

ⁱⁱ Data provided pre-2020 for land release and pre-2019 for risk education up to now claims the release of 33 km² of land and almost 300,000 beneficiaries from EORE. However, as this data has been processed differently from post-2019 data, an analysis and comparison is challenging in terms of validity. This evaluation therefore focuses on the analysis of figures from 2019/2020 up to 22 May 2024.

ⁱⁱⁱ Throughout this report, MA responses, activities and initiatives are humanitarian by principle.

Munitions (CCM) and has signed the Convention on Certain Conventional Weapons (CCW) Protocol IIa and V, and as such, has clearance obligations for anti-personnel mines (APM), including improvised mines, for cluster munition remnants (CMR), and for explosive remnants of war (ERW).⁷ These obligations have yet to be fulfilled, and neither has all reasonable effort been achieved.⁸ The current challenges to overcome include discrepancies in data and the perception of what areas are left to be addressed, as well as doubts related to the integrity of areas released by national security forces, as their work is not conducted in accordance with internationally agreed humanitarian standards. In conjunction with this, it is acknowledged that national coping mechanisms are not yet sufficiently established to ensure the job will be done without the contribution of international actors. At the same time, during the evaluation, it was proposed that MAG should intensify its localisation efforts towards the establishment of sustainable national capacities.⁹ The report suggests that these challenges are discussed by the Iraqi MA community and MAG in support of the implementation of Iraq's National Mine Action Strategy 2023 – 2028, and the planning of the activities for the upcoming years in the light of Iraq's 2028 clearance deadlines.¹⁰

Conducting MA in an urban environment comes with specific challenges. The naming of these challenges requires the identification of factors differentiating work in urban compared to more rural environments. Survey and clearance in both environments can include the use of the same assets in similar two- or three-dimensional spaces, yet the complexity of an environment that resembles the countryside, compared with a more populated and overbuilt area, differs significantly. For a more accurate cost calculation of MA responses in both environments, this report proposes to test a formula based on the use of standard baseline costs for different assets, multiplied by square or cubic metres, multiplied by a complexity and context score that facilitates adding-in cost-relevant factors, such as resources required to deal with human remains, establish and maintain safety cordons, etc. Regardless of any cost calculation model, the report highlights that MA in urban environments is always likely to be more time-consuming and cost-intense, but equally, the impact may also be of a greater magnitude – a consideration that should be in the foreground.¹¹ It is concluded that MAG and other humanitarian MA operators in Iraq have successfully engaged with conventional and improvised contamination in complex environments. Factors for success include the use of integrated mechanical assets and the acknowledgement of the crucial importance of community liaison and coordination with third parties, e.g., for assessing secondary hazards (e.g., electricity, water, chemicals) and dealing with legal issues. The report also identifies the need for more internationally applicable guidance in terms of the overall management of MA responses in urban environments. This includes the most effective handling of debris (removal and recycling), and crucial cooperation with humanitarian, commercial, and government actors to ensure coordinated and efficient reconstruction efforts can take place in accordance with the Political Declaration on Explosive Weapons in Populated Areas (EWIPA), which has not been signed yet by Iraq.¹²

Food for thought. The broad objectives and the time available for the evaluation did not allow to follow each finding to its very root. Particularly the findings related to the further need of MA responses in Sinjar and Tel Afar and the planning and implementation of MA responses in urban environments revealed insights that are worthwhile to be further discussed with a broader audience. This report aims to encourage further debate and follow-up publications for the benefit of the international MA community.

Background

Iraq has suffered from multiple conflicts that left behind massive contamination of EO including improvised explosive devices (IEDs), mostly improvised APMs. The context in northwestern Iraq is complex and – despite significant progress made – one of the current challenges is to identify what remains left to be done for the MA sector to contribute to the establishment of durable solutions for the local population.

The war with Iran between 1980 – 1988, the 1991 Gulf War, and the 2003 invasion of the country by a United States (US)-led coalition have left the Republic of Iraq with a massive contamination of landmines, CMR and other ERW. In addition, ISIS used IEDs, mostly improvised APMs, extensively in diverse governorates including Ninewa, the governorate with the second highest number of IDPs, but also the highest number of returnees in Iraq.¹³ Iraq is a States Party to the APMBC, the CCM and as such, has a current clearance obligation by 2028.¹⁴ Despite the release of an annual average of approximately 130 km² of contaminated land over the past few years (as of the end of 2023), Iraq reported the remaining contaminated area to still be almost 2,500 km², with 53.5 km² of it located in Ninewa governorate. However, thanks to almost a decade of MA responses, Ninewa's extent of contamination today only ranks ninth of the 15 governorates under the oversight of the Directorate of Mine Action (DMA).¹⁵

The Sinjar and Tel Afar context

As per 2018, Sinjar and Tel Afar were the most populous two districts of Ninewa governorate after Mosul, and home to diverse ethnic and religious groups including Yazidi, Arab, and Turkmen populations.¹⁶ But ten years after ISIS' genocide on the Yazidis, approximately 183,000 people from Sinjar remain displaced, including 85% of the district's Yazidi population. ISIS destroyed around 80% of public infrastructure and 70% of civilian homes in Sinjar City and surrounding areas, wiped out the region's natural resources, sabotaged its irrigation canals and wells, and razed its farmland.¹⁷ Tel Afar became famous as another ISIS stronghold and last bastion of ISIS after their defeat in, and retreat from, Mosul. Today, the area remains relatively stable, and in comparison to Sinjar, is reported to have recovered more, including having the second highest number of returnees for the governorate.¹⁸

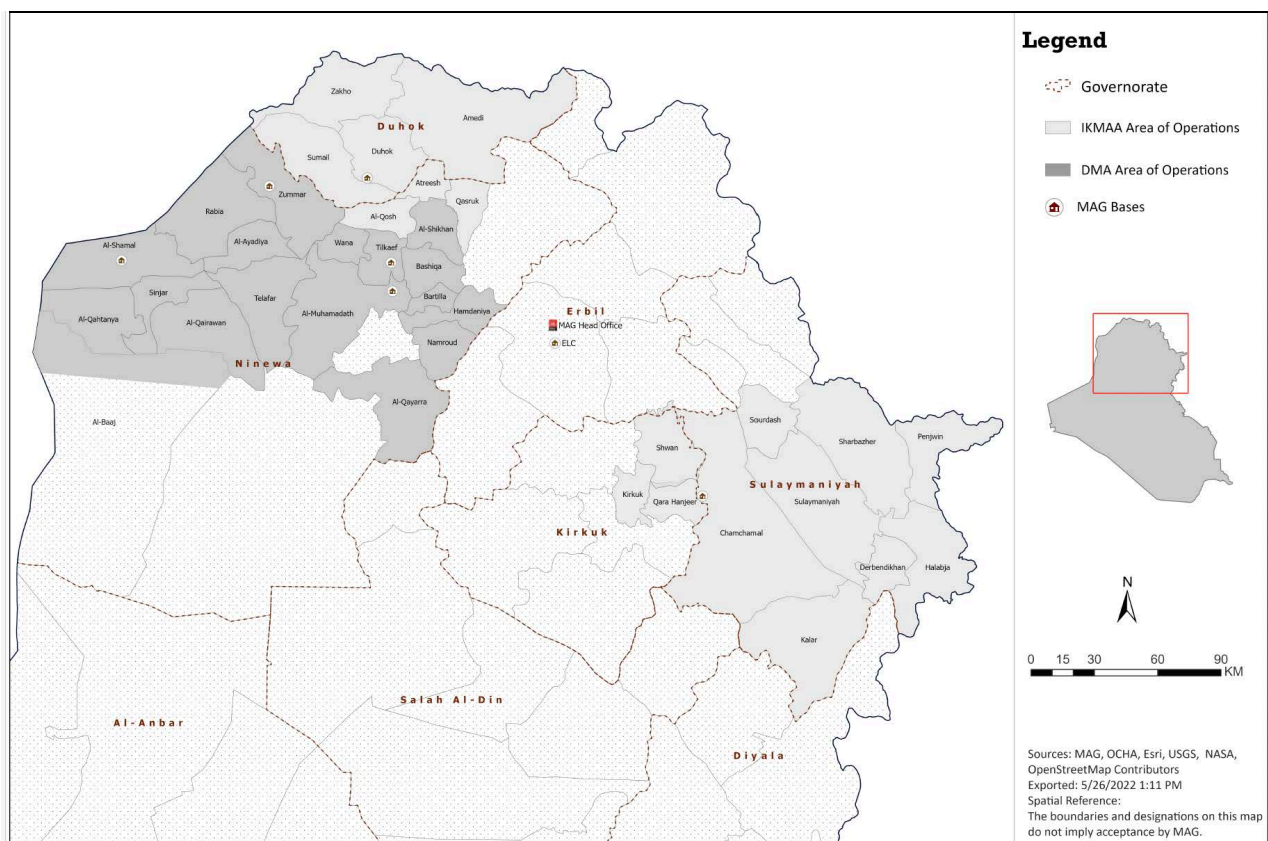
Implication for MA responses

The complex circumstances in Sinjar and Tel Afar illustrate that the implementation of any type of humanitarian or development action in both districts requires a highly conflict sensitive approach. Security and logistical challenges, although they have decreased over time, continue to affect the planning and implementation of MA activities in Ninewa and other Iraqi governorates. The nature of the contamination, consisting of IEDs including improvised APMs, overlaid with conventional unexploded ordnance (UXO), brought an additional layer of complexity to MA operations in northwest Iraq that, by its sheer scale, in the beginning, was a unique challenge for humanitarian MA operators. Nevertheless, MAG and other national and international MA operators have managed to significantly decrease the populations' exposure to the EO threat in Sinjar and Tel

Afar. After almost a decade of post-ISIS engagement, this evaluation aims to look back at what has been achieved, and at what remains.

MAG's presence in Iraq

MAG was founded in 1989 in response to the horrific impact of landmines and unexploded ordnance on civilians. The Iraq programme, which was set up in 1992, paved the way for further MAG programmes worldwide. Since beginning operations in Penjwin, Sulaymaniyah governorate in response to the extensive landmine contamination following the Iran-Iraq War, MAG has continued operations in Iraq, responding to subsequent conflicts. MAG has operated in the Kurdistan region of Iraq (KRI) since 1992, and expanded into Ninewa governorate in June 2015, when it began operations in Zummar sub-district of Tel Afar district. Currently, MAG has operations in Ninewa (primarily in Sinjar, Tel Afar, and Tel Kayf districts), Dohuk, and Sulaymaniyah governorates, working across both, the KRI and Federal Iraq in coordination with Iraqi Kurdistan Mine Action Agency (IKMAA) and the DMA.



Overview of MAG's bases in Iraq and relevant areas of responsibility (AOR) of the two national mine action authorities.

Scope of the Evaluation

The evaluation aimed to assess the impact of, and remaining need for, Mine Action responses in Tel Afar and Sinjar district, including assessing particular challenges related to the planning and implementing of such responses in urban compared to rural environments.

1

Identified evaluation objectives

Assess the impact of EO clearance on reconstruction efforts and durable solutions, and the impact of EORE, including any potential unintended consequences of MA.

2

Assess the needs required to complete EO clearance in North-west Iraq and discuss challenges and constraints

3

Identify challenges and constraints, document lessons learned and provide recommendations on conducting MA (including survey, prioritisation and resource allocation) in urban compared to rural environments.

1

Expected outcomes

Provides donors and the broader international community with evidence of the importance and impact of MA responses, to enable stabilisation, recovery and development activities.

3

Identifies common challenges and lessons learned related to urban clearance that can be used to inform MA responses including survey, prioritisation and the allocation of resources to conduct clearance in other conflict-affected areas with a need for clearance in urban environments.

2

Identifies what MA work still has to be done in the light of:

- the change already enabled through clearance and EORE;*
- the impact caused by the remaining contamination;*
- Iraq's obligations related to the APMBC, the CCM and the CCW Protocol IIa and V;*
- the application of all reasonable effort as per IMAS.*

4

Quantifies the costs of MA in urban compared to rural environments with the aim to facilitate advocacy related to the avoidance of the use of explosive weapons in populated areas.

5

Draw lessons learned that can be reflected on in the implementation of the Political Declaration on EWIPA.

Evaluation Methodology

To ensure credibility, MAG mandated an external team with the conduct of the evaluation, which was subsequently implemented between March and June 2024. It included a comprehensive desk study, key informant interviews (KIIs), focus group discussions (FGDs) and field data collection in the two subject districts.

The evaluation was designed as a mixed-method study using qualitative and quantitative data and 19 research questions to inform the three evaluation objectives. The focus laid on implementing a participatory approach that considers the existing rich set of impact data collected by MAG, as well as additional field data and stakeholder information collected for this evaluation exclusively.

Data collection and analysis¹⁹



Comprehensive desk study: Consideration and analysis of more than **120 documents** containing qualitative information and quantitative data from MAG and other organisations. The desk analysis included a thorough analysis of MAG's available quantitative data from the Risk Education Pre/Post Survey (REPP) and Pre/Post Clearance Impact Assessments (PPCIA), as well as the qualitative data gained through FGDs on risk education.

Field data collection: Conduct of a **household survey** and **interviews with local authorities** in eight villages including where land release and/or EORE took place and in villages known to be contaminated but that did not benefit from MA responses.



KIIs: Conduct of **36 semi-structured interviews** and online consultations including MAG technical personnel, representatives from other MA operators and humanitarian organisations, as well as international MA technical experts.

FGDs: Conduct of **two FGDs** with MAG global level non-operational and field level operational personnel.



Data collection and analysis were conducted in accordance with the International Mine Action Standards (IMAS) 14.10 Guide for the Evaluation of MA Interventions, the International Organization for Standardization (ISO) 9001 Procedure 9.1.3 on Analysis & Evaluation, and the Guidelines of the Organisation for Economic Co-operation and Development's Development Assistance Committee (OECD DAC).²⁰

However, one area of non-compliance concerns the gender of key informants and FGD participants which was not balanced, as they were systematically selected based on their function and subject matter expertise required to inform the evaluation. Despite this acknowledged shortcoming, it is believed that all reasonable effort has been applied in the conduct of this evaluation and that the findings are fully credible.

Accomplishments in Figures

Since 2020,^{iv} in Sinjar and Tel Afar, MAG has released almost 24 km² of contaminated land and removed 5,770 EO items including more than 70 IEDs and over 820 improvised APMs. Furthermore, MAG conducted around 9,500 risk education sessions in both districts for the benefit of almost 67,000 persons at risk and collected information from EO related accidents that resulted in 221 civilian casualties (56 deaths and 165 injured).²¹

Land Release^v

Seventy-two percent of all land released, 59% of all land cleared and 88% of all land reduced by MAG in Iraq since 2020 was located in Sinjar and Tel Afar (chart 1), but only 13% of all EO items removed by MAG in Iraq during the same time period – including from land release and explosive ordnance disposal (EOD) spot tasks – were found in Sinjar and Tel Afar (chart 2). Of the items removed in Sinjar (not counting some 2,300 small arms ammunition [SAA] small arms and light weapons [SALW], as well as diverse explosive components found), UXO and abandoned explosive ordnance (AXO) accounted for around 50% of the finds, followed by improvised APMs (27%) and CMR (21%), which are reported separately from other EO in accordance with Iraq's obligations as State Party to the CCM. The CMR found in Sinjar also account for 99% of all CMR found by MAG in Iraq.^{vi} In

Tel Afar (not taking into account around 1,100 SAA, SALW and explosive components removed), improvised mines account for the highest number of EO items found (47%), followed by UXO/AXO (39%) and conventional APM (6%) (chart 3).²²

Of all square metres processed by mechanical assets by MAG since 2020, 45% was processed in Sinjar and around 20% in Tel Afar. Building search in Sinjar (in square metres) accounted for almost 59% of all building search conducted by MAG in Iraq, while only 5% was conducted

in Tel Afar. The opposite is the case for rubble removal: 69% of all rubble removed was in Tel Afar, while only 17% was removed in Sinjar (charts 4 to 6).²³ It should be noted that the figures for

Improvised APMs are victim-operated (VO) IEDs that fall under an APMBC States Party's clearance obligation. Whereas efforts to counter the threat of IEDs tend to centre on military and security approaches, the devastating humanitarian impacts of improvised APMs can, and must, be addressed through HMA. MAG has played a pivotal role in advocating for the treatment of improvised APMs under humanitarian frameworks.

> [I want more information](#)

MAG is responsible for 62% of the total land released by NGOs in Sinjar and Tel Afar since 2020. With that, MAG is the HMA operator with the largest footprint in both districts.

^{iv} Since 2017, MAG released 33.5 km², removed a total of 10,287 EO items and delivered 18,633 EORE sessions in both districts for the benefit of more than 215,206 people at risk. However, pre-2020 figures for land release and pre-2019 figures for EORE have not been considered in this chapter as data was processed differently and hence, validity of any comparison would be in question. The data analysed in this chapter focuses on the analysis of figures from 1 January 2020 (for land release) / 1 January 2019 (for EORE) to 22 May 2024.

^v The product of the land release process is released land, which can include land cancelled through non-technical survey, land reduced through technical survey and/or land cleared through different clearance methods.

^{vi} The CMR were cleared around Tel Azeer village, following a targeted strike by the coalition forces on an ISIS truck loaded with concealed ammunition (assessed as a vehicle borne improvised explosive device (VBIED)) that resulted in the destruction of the vehicle and the scattering of its explosive payload over a large area.

building search and rubble removal – as they are reported in square, and not cubic metres, do not provide an accurate picture of the extent of work conducted (see also pp. 31 and 32).

Comparing MAG's land release in Sinjar and Tel Afar with the total released by all non-governmental organisations (NGOs) since 2020, MAG's work accounts for about 62%. If all areas released by all actors (NGOs, commercial and government actors and the security forces), are accounted for, MAG is responsible for 42% of the land released in both districts (chart 7).²⁴

During KIIs, it was mentioned that the number of EO items found per square metre cleared decreased significantly over time. This may be the case and can also reasonably be anticipated if comparing the early days of the response with the last few years of recovery. However, comparing APMs, AVMs, improvised mines, IEDs and UXO/AXO found for the last four years only, the data itself does not necessarily support the statements made during the KIIs.^{vii} In Sinjar, in 2023 and 2024 (up to May), fewer items per square metre were found than in 2020 and 2021, but more were found than in 2022. In Tel Afar, the items found per square metre increased continuously since 2020, except for the first five months in 2024 (chart 8).²⁵

Land Release conducted by MAG since 2020 in Sinjar / Tel Afar in charts

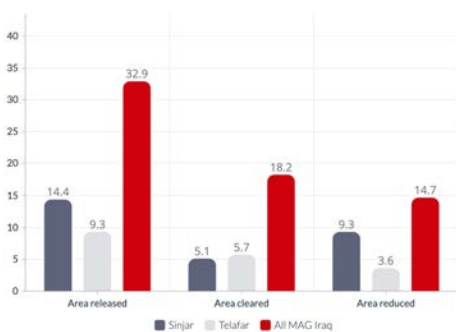


Chart 1: Land released in km²

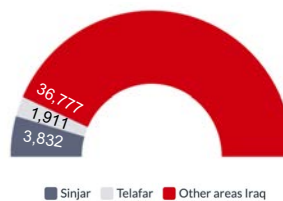


Chart 2: EO items removed including during spot tasks

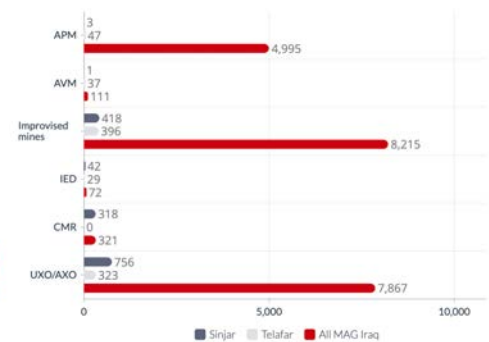


Chart 3: Type of EO items found including during spot tasks

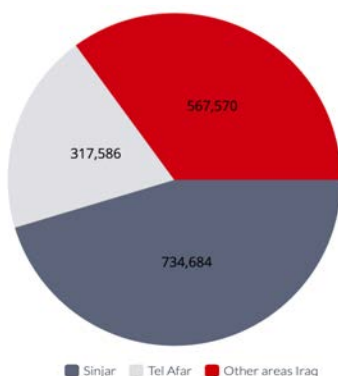


Chart 4: Square meters processed with mechanical assets

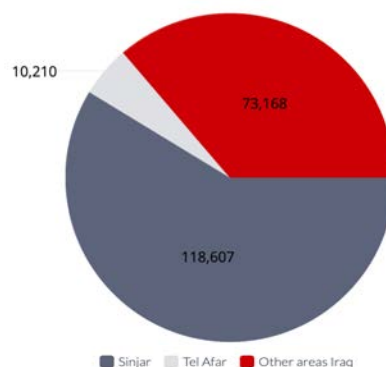


Chart 5: Building search in square meters

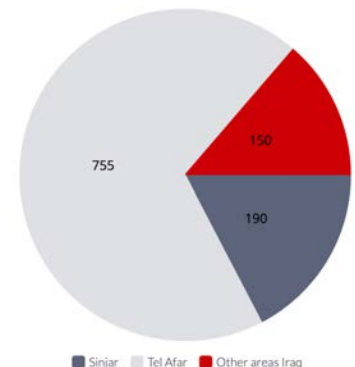


Chart 6: Rubble removal in square meters

^{vii} The paragraph on page 14 does only highlight the „Top Three“ EO finds in Sinjar and Tel Afar district. Hence, AVMs and IEDs – although shown in chart 3 – have not been listed on page 14.

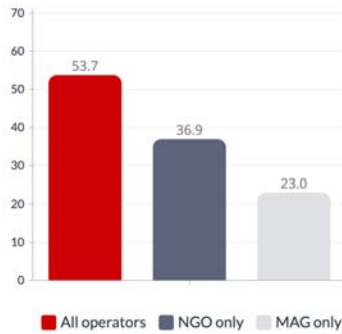


Chart 7: Land release conducted by MAG in comparison with other operators

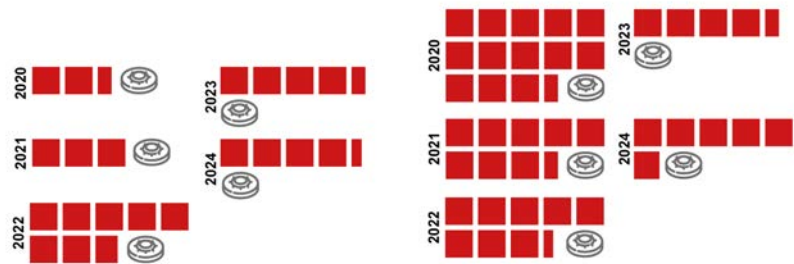


Chart 8: Ratio of square meters cleared (in thousands) and EO items found in Sinjar (chart on the left) and Tel Afar (chart on the right)

EORE

Of the almost 41,780 EORE sessions conducted by MAG in Iraq since 2019, approximately 15% took place in Sinjar and 7% in Tel Afar. Interestingly, with 22% of all EORE sessions conducted in these two districts, only 10% of the over 309,600 beneficiaries of MAG's EORE conducted in Iraq were beneficiaries in Sinjar and Tel Afar (chart 9 and 10).²⁶

In Sinjar, 89% of the persons participating in EORE activities were returnees and IDPs. In Tel Afar, the majority of beneficiaries were people that have not been displaced (70%) and returnees and IDPs only accounted for 5% of the beneficiaries (chart 11). This explains why in Tel Afar, compared to Sinjar, almost twice the beneficiaries were reached per implemented EORE activity: one of the challenges to work in Sinjar is the accessibility of people, based on their displacement status and movement. However, the focus on IDPs and returnees in Sinjar, and the high number amongst them that benefitted from EORE for the first time (86%) – compared with the number of first-time attendees in Tel Afar (63%) – certainly justifies the effort to reach this particular group at risk (see also casualty figures pp. 20/21).²⁷

Nevertheless, when analysing the data provided by the International Organization for Migrations' Displacement Tracking Matrix (IOM DTM), it is surprising (and affects the impact of MAG's work, see also casualty figures pp. 20/21) that not more returnees have been reached by MAG in Tel Afar. As of April 2024, Tel Afar had almost three times as many returnees as Sinjar.²⁸

In both districts, over 30% of the beneficiaries were boys aged six to 11, followed by girls of the same age (around 24%). Adult men and women represented the third biggest beneficiary group in Sinjar (around 15%), while male youth aged 12 to 17 and adult women represented the third biggest beneficiary group in Tel Afar (12%).

Comparing MAG's EORE activities in Sinjar and Tel Afar with EORE interventions by all operators since 2019 (of which NGOs account for 96% of all EORE activities implemented), MAG's work accounts for about 30% (chart 12).²⁹

Ninety-five per cent of the EORE interventions conducted by MAG in both districts were interpersonal EORE sessions conducted by MAG teams. Less than 5% involved community focal points (CFP) conducting EORE themselves. Only under 1% were Training-of-Trainers (TOT) activities, risk education for institutions, and media campaigns. Consequently, the method used the most, was presentations (94%), followed by training (5%), with media, games, and public performance, accounting for only around 1%.³⁰

MAG is also successfully using digital EORE in Iraq, mostly via Facebook and Instagram following the positive results of a pilot conducted in 2018 in partnership with the US State Department’s Bureau of Political-Military Affairs, Office of Weapons Removal and Abatement (PM/WRA), Facebook, and the DMA.³¹ Since 2019, with a small budget of only USD 22,000.00, ads were displayed almost 80 million times to over 8 million people in Ninewa governorate including in Sinjar and Tel Afar.^{viii} The ads generated 246,312 link clicks, 75,457 post reactions, 12,000 likes and 1223 comments.³² An evaluation conducted by MAG in 2023 confirmed the effectiveness of digital means as a channel to disseminate EORE messages (chart 13).³³

EORE conducted by MAG since 2019 in Sinjar / Tel Afar in charts

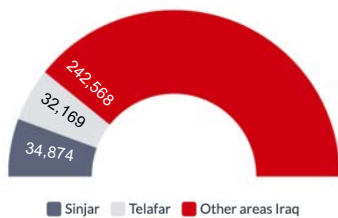


Chart 9: EORE beneficiaries

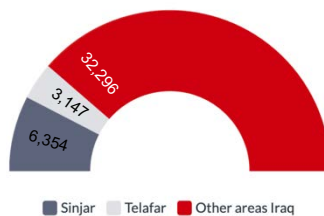


Chart 10: EORE sessions conducted

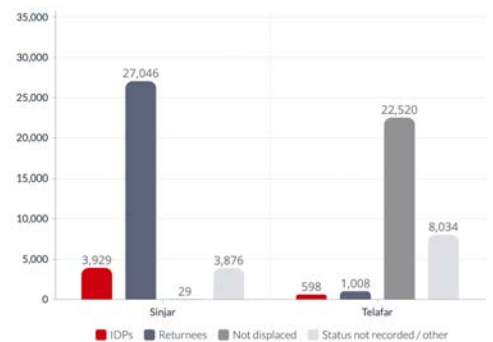


Chart 11: EORE beneficiaries' displacement status

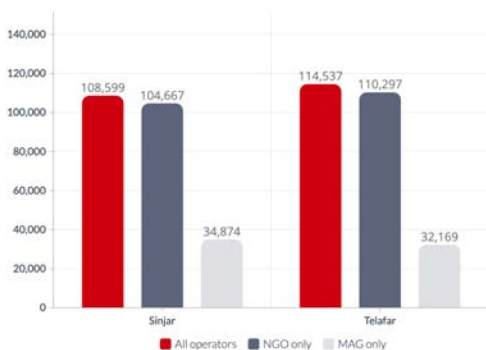


Chart 12: EORE conducted by MAG in comparison with other operators

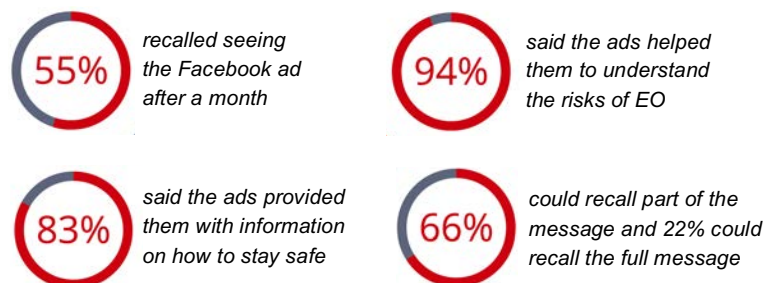


Chart 13: Evaluation results of the Digital EORE implemented in Iraq in 2018.

“I learned how to protect myself and the people of my village from the danger of explosive remnants of war. These advertisements affected our behavior and we are now more careful than before.”

Participant of an FGD to evaluate the impact of DEORE

^{viii} The population size in Ninewa governorate in 2021 was estimated to be 4,030,006 (Central Statistical Organization (CSO), <https://www.cosit.gov.iq/ar/2013-01-31-08-43-38>).

The Impact

Through the work presented in the previous chapter, MAG has generated significant change. This includes land and structures released that are now in use again and hence, contribute to a positive socio-economic impact. Furthermore, through land release and EORE, MAG has helped to reduce casualties, and improve the affected population's wellbeing through an increased feeling of safety and self-determination.

Contribution to Reconstruction

For this evaluation, it is understood that a MA intervention that aids the process of rebuilding a physical space or structure is contributing to reconstruction. There is clear evidence that MAG did contribute to reconstruction efforts.

Comprehensive Clearance Impact Assessments (CCIA) conducted by MAG between June 2023 and June 2024 in a sample of communities that were cleared by MAG between 2017 and 2022 show that **100% of the land cleared is in use or with firm plans for future use**, with the most significant increase of actual land use compared with intended or anticipated land use being for natural resources and infrastructure, and to a lesser extent for residential purposes, community facilities, and access (roads, paths, bridges). The extent of agricultural land use remained as predicted.³⁴

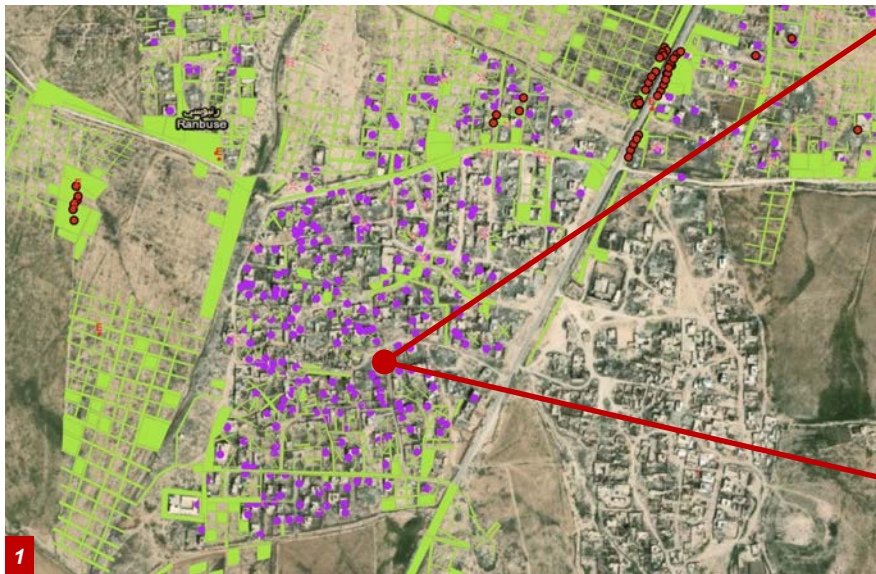
A different picture in terms of the amount of land in use post-clearance was drawn in the external monitoring reporting conducted by iMMAP on behalf of PM/WRA. The reporting includes visits of MAG tasks that had been completed between two and five months before, and only some land was found to be in use. The reasons for land not being in use were either that sampling and/or handover of the land had not yet taken place by the DMA, beneficiaries did not have the means (e.g., not received compensation from the GOI yet) to reconstruct or use the land, or did not have the permission from authorities to do so.³⁵ This highlights two important points concerning the (measuring of the) impact of responses in general:

- The national authority plays a crucial part in the effectiveness and efficiency of the land release process. Delays at any stage of the process, but particularly in the final stage of signing off completed tasks, affects the immediate outcomes of MA responses.
- It is the MA operators' responsibility to release land in accordance with pre-defined, agreed, humanitarian priorities. But while the release of contaminated spaces is a pre-condition to give people (and other humanitarian and development organisations) the confidence to use it, it is very often not the only criteria to be fulfilled to ensure reconstruction of structures and the resumption of livelihood activities. Immediate resources, but also a long-term prospect of safety, security, wellbeing and opportunities for generating a sustainable income and education, are crucial factors influencing the use (or non-use) of cleared spaces. However, the fulfilment of these criteria lies beyond MA operators and the MA authority's responsibility and **needs the broader coordinated commitment of all stakeholders including humanitarian and development actors, the GOI and donors.**

“If areas are not cleared, nothing can be done. Removal of UXOs is essential to bring in the most needed supplies such as food, shelter, etc.”

Key informant from a humanitarian organisation

Contribution to Reconstruction in pictures³⁶



Rambosi village, Sinjar:

- 1) Map showing land released by MAG (green = cleared areas, purple = searched buildings).
- 2) Heavily damaged health centre.
- 3) MAG removing contaminated rubble and the remaining structure with mechanical assets.
- 4) The newly constructed health centre, rebuilt by the Nadia's Initiative NGO.



Qubuq village, Telafar:

- 1) Map showing land released by MAG (green, light green, light blue areas = manually, visually or mechanically cleared areas).
- 2) Newly built school and police station.
- 3) MAG removing contaminated rubble with mechanical assets.
- 4) Newly constructed road and electricity network on cleared land.

MAG's Contribution to a Durable Solution

For this evaluation, it is understood that a MA intervention that helps to achieve long-term safety, security and freedom of movement, access to livelihoods, and restoration of housing land and property is contributing to a durable solution.

MAG's work contributed to durable solutions in three ways:

- 1. By creating the pre-conditions for safe reconstruction and resumption of livelihood activities as described on the previous pages;**
- 2. By limiting EO related casualties;**
- 3. By enhancing beneficiaries' mental wellbeing and feeling of safety and self-determination.**

Creating the pre-conditions for safe reconstruction and resumption of livelihood activities:

In addition to the insights provided on the previous pages, another important point needs to be highlighted:

The removal of EO contamination and hence, increased safety, freedom of movement and access to homes and land, is a factor considered by IDPs in their decision-making to return.³⁷

However, research conducted by the Internal Displacement Monitoring Centre (IDMC) in cooperation with the Norwegian Refugee Council (NRC), shows that the main motivation to return for IDPs is that they miss their home or have to deal with difficult host conditions. Improved security and regaining livelihoods or property only rank in third and fourth place. *In short: If IDPs want to return home, they are likely to return, even when circumstances are challenging.*³⁸

MA interventions create crucial pre-conditions for reconstruction and the establishment of durable solutions. But whether they materialise depends on numerous factors beyond MA operators' responsibilities.

Even more important are the barriers to return, which include the worry about economic opportunities and services, financial insecurity (e.g., not knowing if their home has been destroyed and not having the money or trust in receiving compensation to reconstruct it) and significant movement restrictions related to documents that are required to return which – ironically – IDPs can only get in their area of origin. In addition, IDPs – if there are any real or perceived links to ISIS – are in danger of being arrested or at risk from retaliatory attacks, abuse and discrimination. *In short: The barriers to return are monumental – despite and regardless of removed EO contamination.*³⁹

Limiting EO related casualties

Since 2015, MAG has recorded 221 civilian and 85 military/peshmerga casualties and/or casualties from demining accidents. Of the civilian casualties, 169 are in Tel Afar and 52 in Sinjar.^{ix} No unambiguously decreasing trend of accidents or casualties can be claimed for either of the

^{ix} The MAG casualty data has been submitted to the DMA. However, the DMA dataset consists of 71 all time casualties (including military casualties and demining accidents) only for Sinjar/Tel Afar.

districts, despite the land release and risk education activities conducted (chart 14). This is also a clear indication that there is still contamination left that causes accidents.⁴⁰

Noticeable is the significantly higher number of casualties in Tel Afar. It seems obvious that there is a link between the much higher rate of returnees (as per IOM DTM) and the low number of returnee beneficiaries and first time EORE attendees in Tel Afar compared with Sinjar (see also p. 16). However, there is not sufficient evidence to draw a clear correlation: There may simply be more casualties in Tel Afar because there are more people. Unfortunately, the casualty statistics provided do not allow any conclusion in terms of victims' displacement status.⁴¹

The casualty statistics are also not sufficiently age disaggregated and in general, quality and consistency of MAG's casualty data collection should be improved. As an example: While the dataset includes the birth date of casualties, only in some cases it is identified whether they are considered being "adult" or "child". Sometimes casualties are also identified as "youth" and not correctly disaggregated into the adult/child category. Chart 15 shows that – of all civilian victims for which sufficient details were recorded – 57% of the casualties in Sinjar and 51% in Tel Afar are men, followed by boys (around 35% in Sinjar and 38% in Tel Afar), while women and girls together only account for about 8% of the casualties in Sinjar and around 11% in Tel Afar. Comparing the available details of the casualty statistics with the EORE demographics (see also p. 16) – as far as possible with the available data, it is suggested for MAG to potentially focus more on male youths (around 11 to 17 years old), particularly in Tel Afar.⁴²

88% of all civilian casualties in Sinjar and Tel Afar since 2015 have not received EORE. This is a clear indicator that EORE beneficiaries have an improved understanding of the risk and this helps them to stay safe.

Analysing the undertakings of the 193 casualties for which the activity that caused the accident was recorded, included tending/grazing livestock (around 30%), playing (16%), collecting food / water and passing by / standing nearby (12%) and farming and scrap metal collection (around 7%). Diverse other activities causing accidents include household work, checking property, driving large trucks, etc. (chart 16). MAG already addresses these groups at risk well, but it is suggested that the data collection related to casualties and EORE activities should be better aligned (e.g., in terms of demographics, displacement status, differing spellings of locations, different occupation categories, activities, etc.), which will *allow more thorough and comprehensive analysis of where and why accidents happen to whom and how EORE can be best targeted to prevent these accidents*.⁴³

Lastly, it is remarkable that 88% of the civilian casualties recorded by MAG for Sinjar and Tel Afar have not received EORE. For 7% it was not known, whether they had received EORE, and only 5% were casualties that had received EORE.⁴⁴

Despite the areas for improvement mentioned, this clearly shows the effectiveness and impact of MAG's existing EORE activities: **Where EORE activities reached the people at risk, they were used successfully to convey the necessary knowledge and led to behaviour change.** Further evidence for this is provided by the Risk Education Pre/Post Survey and in external monitoring reports from iMMAP. Chart 17 on the following page shows that the increase in knowledge following EORE sessions is particularly high in Sinjar, presumably because of the high number of first attendees. This knowledge and behaviour change ultimately limits the number of accidents and contributes to the overall safety of the people of Sinjar and Tel Afar and with that, to a durable solution.⁴⁵

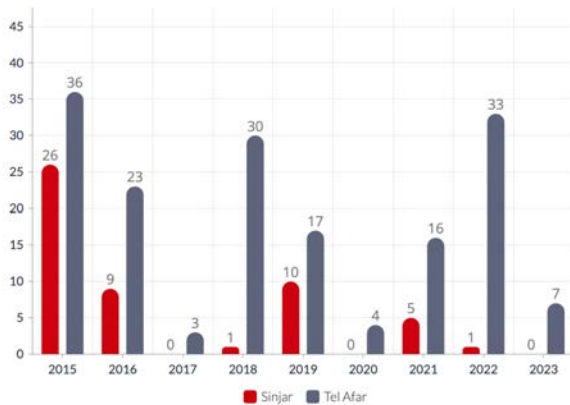


Chart 14: Civilian casualties from EO related accidents between 2015 – 2023 in Sinjar and Tel Afar

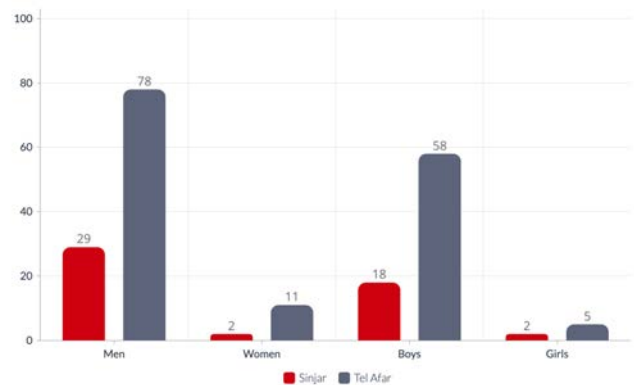


Chart 15: Casualty demographics

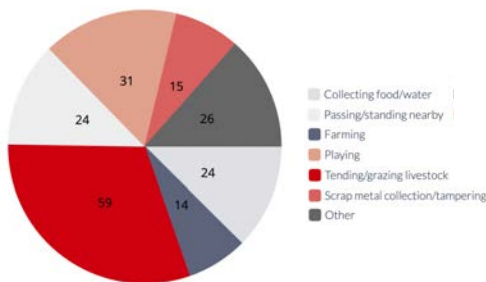


Chart 16: Casualties' activities causing the accident



... of 5,106 survey participants in Sinjar ...



... of 2,915 survey participants in Tel Afar ...

... showed an increased knowledge of EO related threats

Chart 17: Beneficiaries' increased knowledge following the attendance of EORE sessions

Enhancing beneficiaries' mental wellbeing and feeling of safety and self-determination

MAG's land release and risk education activities also led to a psychological impact: Field data from this evaluation, REPP data, external monitoring reports from iMMAP, and MAG case studies all provide evidence that land release, as well as EORE activities, enhance people's feeling of safety and self-determination, with a higher impact in Sinjar, where most of the EORE beneficiaries were first-time attendees:⁴⁶



... of 5,106 survey participants in Sinjar ...

... reported an increased feeling of safety



... of 2,915 survey participants in Tel Afar ...

Chart 18: EORE beneficiaries' feeling of safety



Unintended consequences

Predominantly, MAG's interventions achieved the results and outputs likely to be expected for MA activities. Nevertheless, a few interesting side-effects were mentioned by key informants participating in the evaluation:⁴⁷



Symbolic meaning of clearance:

“For people, removing IEDs/UXO from houses occupied/attacked by ISIS has an importance beyond making it safe. It means ISIS has finally gone.”

Key informant from a humanitarian organisation



Community liaison prevents accidents in chaotic situations:

“You can’t stop people eager to get back to their houses. Sometimes they would bring things they had found – community liaison and ad-hoc risk education is crucial to deal with such situations and prevent accidents.”

Key informant from a MA operator



Challenging traditional gender roles:⁴⁸

Gender balance is essential for the effectiveness and efficiency of all MA responses, but it also challenges traditional gender roles: The gender balanced composition of the community liaison teams and recruitment of female deminers promotes women’s development and integration in community-based initiatives, work and activities they tended to be excluded from.



MA organisations help to overcome ownership disputes:

“When we arrive, any disputes over ownership have already been solved by the ones who did the clearance.”

Key informant from a humanitarian organisation

During CCIsAs, in only one of 22 cases had a post-clearance land dispute been reported. This is in line with key informant statements: Actual disputes between two or more parties do not seem to happen often.

But due to the complicated post-conflict situation with structures and land previously occupied by ISIS, IDPs that have not returned, and returnees that do not have the required documentation, there are challenges related to the identification of lawful owners and proposed beneficiaries. Gaining the required consent to start clearance work can be equally challenging for the same reason. It is time-consuming and demands conflict and culture sensitivity as well as personal empathy.

MAG implements a strict Housing, Land, and Property (HLP) rights policy and guideline. Other humanitarian organisations following MAG's engagement seem to benefit from these efforts – an unintended positive consequence of MA for the wider humanitarian and development sector.⁴⁹

The Remaining Need

There are hazardous areas left, and EO still causes accidents – Sinjar and Tel Afar are not impact-free. Iraq has clearance obligations for mines, CMR and other ERW. As long as there are contaminated areas, these obligations are not fulfilled and neither has all reasonable effort been applied to identify and document contaminated areas, or to remove the presence or suspicion of EO.⁵⁰

Remaining contamination

Depending on whether data from the MAG or the DMA database is taken as baseline, between 18 and 26 km² of hazardous areas remain to be addressed in both districts. Interesting is that MAG's database indicates that most of these areas are in Sinjar (around 14 km² with only 4.7 km² remaining in Tel Afar), while in the national database more areas are left to be addressed in Tel Afar (around 14 km² and 12 km² in Sinjar).⁵¹

Ultimately – as the GOI is responsible for the reporting towards their clearance obligations – the job will be considered completed once all 'open' areas in the national database are 'closed'. Between MA operators and the DMA, there is a need to discuss the causes of data discrepancies, and to *come to an agreement regarding what remains to be done by whom, to complete land release in these two districts as soon as possible*. The exchange also needs to address doubts related to land released by security forces. KIs expressed their concerns in terms of the clearance standard applied by the security forces, which are known to not be in accordance with the agreed humanitarian standard. In several cases, re-clearance has provided evidence of missed EO items.⁵²

Comparing the remaining open areas in the national database with the total land already released, and the areas that are currently worked on, 89% of the hazardous areas in Sinjar and 85% of the ones in Tel Afar are already released. If the land release conducted by security forces is not accounted for, around 78% of the contaminated areas in both districts have been addressed.⁵³

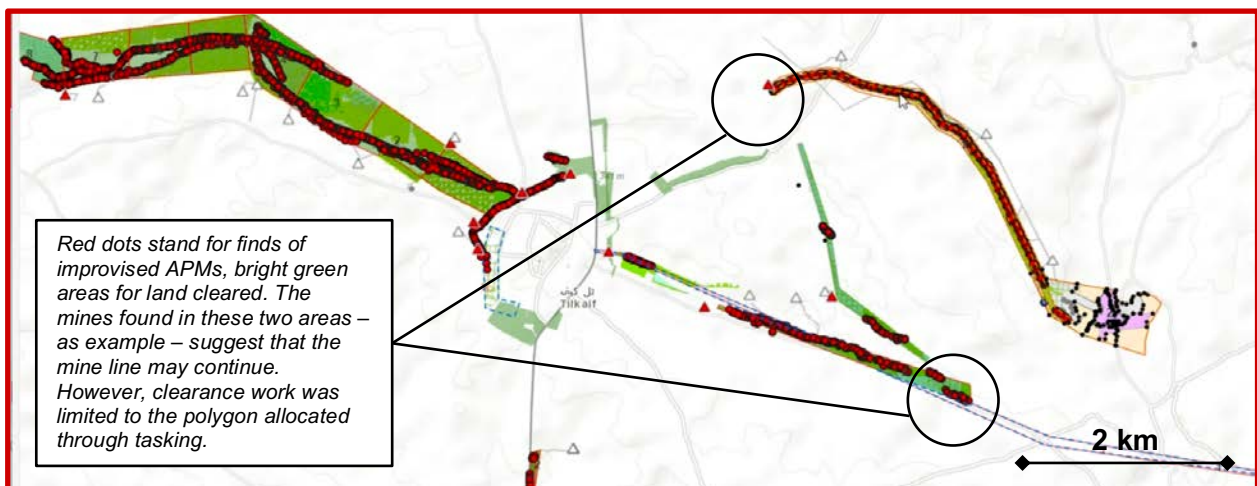
The extent of the remaining contamination and the clearance standard applied by the security forces is an essential debate that needs to take place to plan the way forward. Additionally, stakeholders should discuss the challenges related to the national land release process to ensure the remaining work is done in the most effective and efficient manner. This includes, but it not limited to:⁵⁴

- **Tasking:** Task orders should be issued in a timely manner and task allocation should be sufficiently flexible to fade out / expand tasks. This would allow focus on clearing evidence of EO rather than assigned polygons (see example next page).
- **Non-technical survey (NTS) and follow up tasks:** As a principle, since 2023, clearance tasks are not assigned to the same operator who conducted NTS. However, this procedure requires that the complete information from NTS is shared with any follow-up organisation. This is currently not the case and leads to inefficiency, as re-survey is required to be carried out by the follow-up operator to gain the necessary information that allows them to proceed with clearance. Furthermore, it is not an efficient procedure in areas where only one or two operators

The job is not finished yet: In both districts, there is contamination remaining that causes casualties and has a negative impact on people's lives. To ensure all reasonable effort has been applied, and to fulfill clearance obligations, the remaining hazardous areas have to be addressed.

work: If one operator has completed the survey, the same operator will then not be allowed to work further in their AOR. An important question to plan the completion of land release is, therefore, which of the remaining areas to be addressed is MAG allowed to work on? The need to get the job done as soon as possible – with the required level of external monitoring and oversight – should outweigh a procedure that slows down and complicates the land release process.

- *Disposal of reported EO items:* Humanitarian MA operators are not allowed to do demolitions of EO items reported or encountered – this leads to delays, particularly for items reported to risk education / community liaison teams, which are reported to the national authority but not dealt with subsequently. This is a disincentive to report and diminishes the impact and reputation of EORE initiatives.
- *External quality assurance, control and formal handovers:* Delays which are currently occurring, or the non-compliance with mandated processes, should be avoided. The national authority's oversight is an important factor to ensure beneficiaries have the confidence to use released land. If this confidence is not provided by the DMA, the relevance and impact of land release is negatively affected.



This example from Tel Kayf, Tel Kayf district, shows that current tasking practices and regulations follow the principle of clearance of polygons rather than following the evidence of EO, and giving the possibility to fade out where required. There is a need to better “connect the dots”, reduce the processing of areas with no evidence of EO, and release safe communities and urban neighbourhoods rather than polygons, permanently.

Further need for risk education

There is a clear need for further risk education: Accidents are still happening and 88% of the recorded casualties have not received EORE. As mentioned on page 21, emphasis should be given to the analysis and comparison of casualty and accident data and insights from REPP assessments to *target the groups most at risk which are identified as men, boys and male youth engaging in tending livestock, collecting natural resources or manipulating EO items consciously or unconsciously.*⁵⁵

Additional need for risk education – and land release – was also highlighted during the household survey and interviews with local authorities conducted for this evaluation. Both, beneficiaries from previous EORE activities and people that have not benefitted yet from MA responses emphasised the importance of further action. The two main reasons for the demands are:⁵⁶

- 1. None, or not all, of the (perceived or real) contamination has been addressed in the area. This causes mental stress and limits people's freedom of movement and room to manoeuvre. In particular, people fear to use damaged buildings and agricultural land they do not deem to be safe in or surrounding already cleared villages.**
- 2. Not all people living in areas with remaining (perceived or real) contamination have benefitted from EORE, because they have not been reached through previous activities, or they have not been around at the time of previous EORE activities.**

STATEMENTS FROM MAG BENEFICIARIES

"The area needs more awareness because many people returned and they had not taken awareness lectures, and they have no knowledge of explosive remnants and their impact."

"There are many people in the village and there are areas they [the CL teams] haven't been to yet, and there are many damaged buildings."

"If the landmines surrounding our village would also be removed, we would greatly benefit from this removal."

Statement from informants during evaluation field data collection

STATEMENTS FROM PEOPLE IN TIRMI VILLAGE, TEL AFAR (KNOWN TO BE CONTAMINATED)



"Our village has not been cleared yet because of a lack of support, and the village is completely devastated. Local villages are afraid of these remnants and lack the knowledge of how to deal with them. If the remaining contamination is not cleared, people will not return to their areas and remain displaced elsewhere, live in rented houses they can't afford, leading to difficult living conditions."

Statement from local authority members



"No one is assessing our needs or gives any attention to our village."

"Village inhabitants never received any guidance about explosive remnants from anybody, and they need awareness."

Statements from residents

Additional points for consideration to plan further activities

While the IDPs who have not returned yet are not expected to voluntarily go back to their location of origin, there will be some sort of movement if the GOI closes the remaining IDP camps. This will expose those on the move to the immediate risk of EO related accidents. It is important that MA operators, the national authorities, and other humanitarian and development actors coordinate a risk education campaign to reach these persons at risk as soon as possible.⁵⁷

The need for further MA responses in Sinjar and Tel Afar is proven. However, to ensure MA responses truly contribute to reconstruction and the establishment of durable solutions, the lessons learned as presented in this report, and reiterated in the following case study, should be considered when planning further action:

JADALA VILLAGE, SINJAR

MAG cleared the contaminated rubble of a total of 22 destroyed houses on the outskirts of Jadala village. As a result, IOM and the United Nations Office for Project Services (UNOPS) were able to help the owners rebuild their homes.

This allowed 25 families to return, and they were waiting to receive support from the Government of Iraq's agriculture department to cultivate their farmland again, which had also been cleared by MAG.

In addition, the GOI built a paved road on the land cleared by MAG, which links Jadala village to Sinjar town.



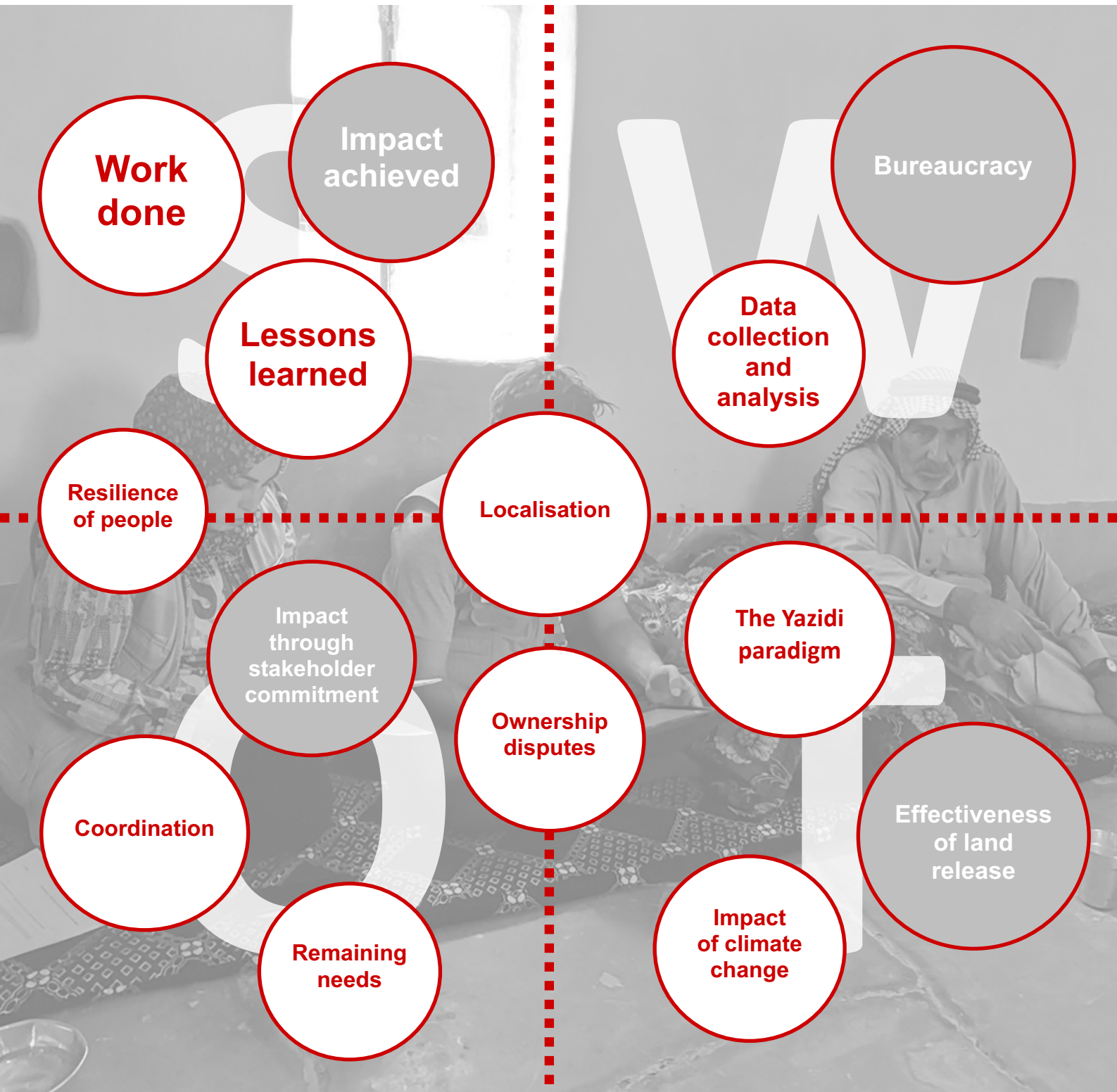
Factors to success:

- **MA targeting the entire village rather than polygons**
- **Activities coordinated with other humanitarian and development actors**
- **Commitment and contribution of the GOI**

Ultimately, the clearance obligations in Sinjar and Tel Afar will be fulfilled, and any residual contamination will have to be dealt with by national resources exclusively. National technical capacities in terms of both, EOD and EORE exist already and should be further enhanced. Appropriate national coping mechanisms to manage residual risk (e.g., a well-known national hotline to report EO items, EORE integrated in national disaster risk reduction mechanisms, an a national EOD capacity, etc.) should be established.⁵⁸ MAG is encouraged to develop its own exit strategy now, with an emphasis on increasing its localisation efforts and actively contributing to the planning of sustainable mechanisms to deal with residual contamination.

Impact and Remaining Needs: Challenges, Constraints and Lessons Learned

To allow a more differentiated view, the challenges, constraints and lessons learned that emerged during this evaluation are summarised in the following as strengths, weaknesses, opportunities and threats (SWOT).



Strengths

The **work completed** in itself is a strength of the MAG project in Sinjar and Tel Afar. Even before the final defeat of the ISIS in Tel Afar in 2017, MAG implemented MA responses in both districts under difficult circumstances and with that, MAG made a significant **impact**: MAG's work limited EO casualties and contributed to reconstruction and the establishment of durable solutions.

The most important **lessons learned** include ways to manage a threat that was new to humanitarian operators in the early days, and an environment that is challenging in many ways, including in terms of security, conflict sensitivity, etc. Almost a decade later, MAG has well-established procedures in place to deal with both. Most importantly, the availability of mechanical assets in rural and urban environments as well as the extensive use of highly skilled community liaison teams for a wide range of tasks have proven to be a success.

Weaknesses

Bureaucracy on the national level, including within the DMA, is a weakness that cannot go unnoticed and affects not only the land release process, but the progress related to reconstruction and the establishment of durable solutions in general. Any improvement of the situation is beyond MAG's and other MA operators' responsibility and capacity but remains highly desirable to speed up MA processes and the country's recovery.

Data collection, reconciliation and analysis relating to some aspects of the MA process is another current weakness. While MAG collects a significant amount of pre- and post-EORE and clearance data, the meaning of this data remains limited as long as it is not put into perspective and read in the broader context. MAG and donors would benefit from a more systematic and visual approach to illustrate outcomes (and barriers to achieve outcomes) as shown, e.g., on page 19 of this report. Particular attention should be given to the improvement of casualty data collection and analysis to effectively guide planning and implementation of MA responses. Finally, there are significant differences between MAG's and the DMA's database and consequently, a different understanding of the remaining needs. This is particularly true for the extent and location of remaining open hazardous areas and the impact in terms of the number of casualties caused by EO over the past decade including recent years. It is crucial that the planning of future MA interventions is based on an agreed dataset and a mutual understanding of the meaning of this dataset.

Opportunities

The main opportunity to create bigger impact with MA responses is an **increased, mutual stakeholder commitment** (including donors) to the reconstruction and establishment of durable solutions for communities and urban neighbourhoods. The findings of this evaluation highlight the importance of a *holistic approach* that considers needs beyond the clearance of buildings and polygons in and around isolated locations. It includes the affected population being convinced that there is no EO threat remaining in their surroundings, and that they are capable to cope with any potential residual threat. But equally important is the availability of financial means as well as the permission to use cleared areas and structures, and the freedom to weigh up possibilities and move elsewhere in favour of a better prospect of life. Strong international, national and local coordination mechanisms are required to ensure community after community, and neighbourhood

after neighbourhood is considered safe. Such mechanisms are currently not sufficiently institutionalised and should – following the abolishment of the MA sub-cluster meetings – start with the re-establishment of a systematic coordination and exchange mechanism within the MA sector; followed by a more effective national cross-sector / cross-stakeholder coordination mechanism.

Another significant opportunity for the future is the **resilience of the Iraqi people**: Over decades, people have learned to cope with adverse circumstances, and they are used to helping themselves as best as they can. This is a great pre-condition for the long-term establishment of local mechanisms to cope with, and manage, the remaining EO threat. Through increased **localisation** efforts (e.g., increasing the cooperation with community focal points), the Iraqi people should be prepared for the transition to residual contamination management.

Threats

The main threat are the current **deficiencies in the land release process** (see pp. 24/25) and the lack of confidence in land released by the security forces. Both affect the effectiveness and the efficiency of land release, as well as the further planning and prospect of getting the job done in Sinjar and Tel Afar.

It is important to acknowledge that even a decade after the genocide, Yazidis still face discrimination **and Yazidi communities lack support**, resulting in fundamental barriers to return.⁵⁹ As long as this bias exists, no truly durable solution for Sinjar will be achieved. Finally – although not subject to this evaluation – it should be noted that Iraq is increasingly affected by **climate change** that leads to new internal displacement and new groups potentially exposed to EO threats. The consequences of climate change have to be considered in the further planning of MA responses and follow-up-activities to establish durable solutions.⁶⁰



A MAG community liaison team member during in an interview with a local resident in Sinjar district.

Mine Action in Urban Compared to Rural Environments

In addition to assessing the impact of, and the further need for, Mine Action in Sinjar and Tel Afar, the evaluation aimed to identify challenges and constraints, and to document lessons learned related to MA in urban compared to rural environments. This, as a starting point, requires the identification of factors that characterise work in both environments.

What is urban?

The term "urban" is not standardised in Iraq, nor is there an internationally standardised definition. Depending on the context, it is often understood as:

- a certain level of administrative unit;
- a certain level of population size and/or population density; or
- an accumulation of structures of differing types, sizes, purposes, density, etc.

The MA sector itself uses the terminology "urban clearance" with regularity, but without having an agreed definition for it. Nevertheless, in general, "urban clearance" is used to refer to the clearance of structures.⁶¹ For the purpose of this evaluation, urban is understood as an environment that – in its characteristics – resembles a significantly populated area (e.g., town) rather than the countryside.

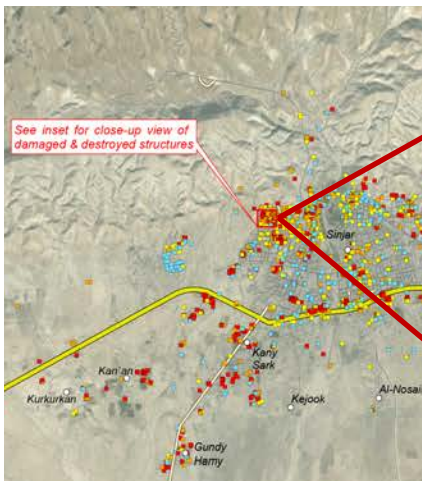
Characteristics of land release in an urban versus a rural environment

Survey and clearance in both environments can include the use of the same assets (e.g., manual clearance teams, drones, mechanical teams) in similar two- or three-dimensional spaces, whereby open areas and roads are understood as two-dimensional (reported as square metres released), and buildings and debris as three-dimensional spaces where cubic metres have to be managed.

All types of spaces can be of a more or less complex nature to be surveyed and cleared and equally, all types of spaces can be part of a more or less challenging context. The following table gives examples of factors that affect the complexity and context of a MA response:

Space	Complexity factors	Context factors
Two-dimensional: Open areas, roads, etc. (m ²)	<ul style="list-style-type: none"> • Expected soil condition and contamination • Level of vegetation • Nature, density and pattern of EO items expected • 	<ul style="list-style-type: none"> • Likelihood and type of legal issues (e.g., ownership disputes) to occur • Size/density of the surrounding population • History of working in the area (= level of trust of people) • Level of difficulty for logistical arrangements (e.g., accommodation, fuel, roads, security, etc.) • ...
Three-dimensional: Debris, buildings, etc. (m ³)	<ul style="list-style-type: none"> • Extent of damage on the building (statics) • Number and nature of secondary hazards (e.g. electricity, water, chemicals) • Nature, density and pattern of EO items expected • Likelihood to find human remains • Homogeneity of rubble to be searched and moved • Type of rubble recycling planned • ... 	

While the cost per assets and space (m² or m³) remains constant, other factors related to complexity and context may vary and influence the cost of MA projects (e.g., in terms of community liaison resources required).



United Nations Satellite Centre (UNOSAT) damage assessment of Sinjar area. The visible extent of devastation helps to understand the challenges involved in clearance of urban environments.⁶²

Calculation of costs

One of the presumptions for this evaluation was that clearance in an urban environment is, per se, multiple times more expensive than clearance in a rural environment. While MA in an urban environment is certainly more expensive in most cases, it is important to understand what the cost relevant factors are.

To help calculating the costs of land release in different environments and under differing circumstances more accurately, it is proposed to use a model that calculates costs based on known factors (price per asset per square or cubic metre) and allows to add a score depending on the complexity and the context of the task as shown on the previous page:

$$\text{Asset price} \times \text{m}^2/\text{m}^3 \times \text{complexity score 1 to 3 (1 = least complex; 3 = most complex)} \\ \times \text{context score 1 to 3 (1 = least challenging; 3 = most challenging)}$$

The formula remains to be tested but equally, it is important to note that regardless of any cost calculation model, MA in urban environments is likely to always be more time-consuming and cost-intensive, but equally, the impact may also be of a greater magnitude – a consideration that should be in the foreground and also be understood by donors.⁶³

Challenges, constraints and lessons learned⁶⁴

The challenges, constraints and lessons learned related to MA in an urban environment compared to MA in a more rural environment can be grouped along three main thematic spheres:

- 1 Cooperation with third parties
- 2 Specialist capacities
- 3 Importance of community liaison

1 Traditional **tasking and reporting mechanisms** are not suitable for MA in an urban environment. Thinking in polygons that need clearance, reduction or cancellation in accordance with the traditional land release approach is of limited use. Effective and efficient reconstruction of an urban environment includes buildings, backyards, access routes, areas to deposit cleared rubble, etc. These factors have to be considered in the tasking and planning of MA responses and require a different approach to monitoring and quality management. Using satellite imagery and grids to sub-divide neighbourhoods in the survey phase has worked well. But ultimately, the tasking and planning, as well as measures to ensure the confidence in the quality of the work done in urban environments, should be agreed with the follow-up actors responsible for reconstruction. Similarly, the information management system for Mine Action (IMSMA) does not allow the reporting of three-dimensional spaces – a major current shortfall for the reporting of land release in urban environments. The cooperation with experienced development and construction actors could help to find new ways (and systems) to report MA in urban environments more appropriately.

1 **2** The assessment of **secondary hazards** such as electricity, water networks, the presence of chemicals and the damaged statics of structures, etc. is of crucial importance for clearance teams' safety and to avoid further damage during land release operations in urban environments. However, this is the expertise of construction specialists and local authorities, not of MA operators. Experts have to be involved in the initial planning, and rubble removal and clearance in urban environments has to be conducted in close cooperation with them.

1 **2** The **management of rubble** is another task that is traditionally the construction sectors' expertise, requires mechanical assets and planning in terms of where to move debris and how to recycle it. Yet in contaminated areas, any movement of rubble requires supervision from personnel with EOD expertise. For MAG, it has proven to be efficient to take ownership of this process and remove rubble with its own mechanical assets. However, in such a case, the cooperation with actors responsible for the reconstruction is important to ensure rubble is handled efficiently and safely with its subsequent recycling in mind.

1 **3** Urban environments that experienced intense fighting are likely to include **locations/ structures that are subject to investigations related to war and other crimes, as well as objects of religious or cultural value**. The cooperation with third parties including local authorities, security forces, the affected population, but also international actors, is crucial to receive consent, set priorities and ensure that MA work is not sabotaged.



A MAG pilot project implemented in Sinjar with funding from the Ministry of Foreign Affairs of the Netherlands, employed digital elevation software to derive and represent buildings in a three-dimensional model.

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- 1** **2** **3** In conjunction with the previous point, the challenges related to **multiple private ownership**, e.g., of multi storey buildings is, as a challenge, also worth mentioning. While not different from the liaison related to ownership in rural areas, it is more time-consuming to receive the consent of all relevant parties in an urban environment. Finally, the possibility of encountering **human remains** is another challenge not only in terms of the required liaison upon discovery, but first and foremost because it is a psychological strain for the individual that discovers human remains. Personnel working in urban environments need to be trained and prepared for such encounters and they should have access to counselling services to help them coping with the discoveries.
- 2** Drones, ground-penetrating radar (GPR), satellite imagery and 3D-modelling are only some of the methodologies used to increase effectiveness and efficiency of land release in urban environments. All of them have proven to work well, depending on the context – there is no one size fits all solution. However, the **availability of operators' own mechanical assets** and the flexibility to integrate them in land release operations where suitable (not only for rubble removal but also for clearance of open areas) has proven to be an advantage that enhances operational efficiency.
- 2** The **management of any contamination in an urban environment is more challenging than the clearance of EO in an open area**, with increasing difficulties the more devastated the environment to work in is: items have to be expected on the surface, hidden under, behind, above objects and remains of structures. Furthermore, in general, a more diverse set of improvised devices including booby-traps and mines has to be expected in urban environments. This requires the most skilled and most experienced EOD/IEDD operators who also have the capability to manage all the afore-mentioned additional challenges of working in an urban environment.
- 3** **People have proven to be desperate to return**, particularly in the immediate aftermath of conflicts, be it to see if their house still stands or has been destroyed or damaged, and that their belongings are still there, to look for value items or to start the improvised reconstruction of their homes. This exposes returnees, but also clearance teams working nearby, to significant risks, and equally, it slows down or brings the ongoing clearance work to a complete halt. The presence and engagement of community liaison teams with the returning population and the delivery of ad hoc emergency risk education where and when required, is of utmost importance to avoid accidents.
- 3** The presence and engagement of community liaison teams at any stage of land release in an urban environment is essential, not only to deal with all the challenges mentioned, but also to ensure that **safety distances and cordons** can be maintained, and people understand where they are allowed to stay or to move to at different times.

Conclusion and Suggestions

Since 2015, in Sinjar and Tel Afar, MAG has contributed considerably to reduce the affected population's exposure to risk through land release, has raised their awareness of risk, and what safer behaviours to adopt through risk education. MAG's work enabled access to crucial infrastructure and resources, the reconstruction of homes and essential communal facilities, as well as the re-cultivation of agricultural land. Beneficiaries of MAG's activities feel safer and perceive having an enhanced self-determination.

However, hazardous areas remain in both districts and EO accidents still take place. Beneficiaries, as well as those who have not benefitted from clearance and risk education activities, have highlighted a need for additional MA response. In addition, Iraq has clearance obligations against international conventions which are yet to be fulfilled. The job in Sinjar and Tel Afar can be completed with increased impact if stakeholders can agree on what is left to be done in what order of priority, and if they truly commit to the reconstruction of entire communities and urban neighbourhoods allowing the establishment of durable solutions.

Planning and implementing MA in urban (and rural) environments comes with particular challenges that vary depending on the complexity and context of the tasks. Scoring these aspects can help to develop more accurate costing of MA responses, although emphasis should always be given on the ultimate outcomes achieved. MAG has documented significant lessons learned related to working in urban environments, which are summarised in this and other literature. While technical aspects are well regulated through international and national standards, as well as organisations' standard operating procedures (SOPs), there is an appetite among the broader MA community for further guidance related to the planning and management of MA in urban environments. Based on the existing documentation, MAG has an opportunity to champion these ideas, and establish a guide on 'Mine Action in an Urban Environment' for the benefit of the broader MA community.



MAG community liaison team members during in an interview with a local resident in Tel Afar district.

Suggestions for the future

1

The upcoming closure of the remaining IDP camps will expose those on the move to the risk of EO related accidents. MA stakeholders should consider a targeted risk education campaign.

2

MAG is encouraged to reconsider the purpose of, and work on, the consistency of current data collection. Data without thorough analysis or putting it into a broader context remains of limited use.

3

With a view on Iraq's APMBC and CCM clearance deadlines, MA stakeholders should come to a mutual agreement regarding the remaining needs in Sinjar and Tel Afar, and develop a multi-year plan to finish the job.

4

MA stakeholders should re-establish regular coordination meetings to find solutions to mitigate the challenges that affect the effectiveness and efficiency of the land release process.

5

Stakeholders incl. donors and the GoI should thrive for a more holistic approach to establish durable solutions and agree on priority communities and urban neighbourhoods for reconstruction and development.

6

The MA sector in Iraq as a whole should start discussing the development of a transition plan to residual contamination management that allows for a district-by-district transition.

7

MAG is encouraged to take the lead in the development of a good practice guide on the planning and management of MA in urban environments for the benefit of the wider MA community.

8

MAG should start working on an exit strategy that focuses on enhanced localisation efforts to further help building up local technical, managerial and administrative capacities.

9

MAG is encouraged to explore the costing and reporting of clearance in urban environments in more depth. There is great potential for further discussions that can help improving cost calculation of future tasks.

From the Evaluation to Direct Action

Although findings from evaluations are acknowledged and the implementation of related recommendations are planned, intended changes often do not happen as we get distracted by other urgent matters. Follow-up action plans leading to immediate improvements should be initiated as soon as possible, to ensure the evaluation makes a real difference.

To start the planning of follow-up actions without delay, the conduct of a final stakeholder workshop was an integral part of this evaluation. The invited stakeholders included national agencies, MA and other humanitarian actors and institutions, as well as donors. In two breakout groups, suggestion 4 and 5 (see previous page), which concern recommended improvements for the benefit of the whole sector, were discussed with the aim to identify possible action plans and feasible next steps.

Summary of discussion points and next steps

Suggestion 4: MA stakeholders should re-establish regular coordination meetings to find solutions to mitigate the challenges that affect the effectiveness and efficiency of the land release process.

Discussion: The group discussed the different challenges and concluded that the re-establishment of regular coordination meetings among MA operators in Iraq would be beneficial to identify the most urgent and important issues affecting operational efficiency and impact. Such issues shall, in a second step, be brought to the attention of, and be discussed with, the national authority; potentially through a designated spokesperson / liaison officer. Furthermore, it was agreed that it would be beneficial for all stakeholders if Iraq would work towards its clearance obligations following a district-by-district approach – in the best case by allocating responsibilities per district to a certain MA operator.

Next steps: MAG will organise a first coordination meeting among MA operators in Iraq on a Country Director level. In this meeting, requirements and participants for, as well as the modality and form of, further meetings shall be discussed to engage with the current challenges in the land release process.

Suggestion 5: Stakeholders incl. donors and the GoI should thrive for a more holistic approach to establish durable solutions and agree on priority communities and urban neighbourhoods for reconstruction and development.^x

Discussion: The group agreed with the recommendation and acknowledged that there is not sufficient cross-sector cooperation to ensure that the MA sector, and other humanitarian and development agencies, work hand in hand towards durable solutions in support of the Inter-Agency Durable Solutions Strategic and Operational Framework, established in 2021 by the United Nations Deputy Special Representative of the Secretary General / Resident Coordinator /

^x While a community is understood as a group of people living together in a rural environment (in an administrative unit the size of a village or municipality), an urban neighbourhood is understood as a group of people living together in districts/quarters within bigger settlements such as towns.

Humanitarian Coordinator (DSRSG / RC / HC), and the GOI's National Plan for Returning IDPs to Liberated Areas adopted in March 2021. Therefore, advocacy for the subject matter and close liaison with the GOI, but also with the DSRSG, is key to striving for a more holistic approach. Identifying a "Mine Action Champion" within the DSRSG and the GOI, who is willing to work closely with the MA sector, could not only help with promoting durable solutions, but also advocate for the importance of the fulfillment of Iraq's clearance obligations as soon as possible.⁶⁵

Next steps: The discussion will be continued and action points identified during one of the newly established MA coordination meetings (see next steps suggestion 4, previous page).

Immediate action in support of the implementation of other suggestions

Suggestion 1: While risk education has been conducted in the relevant IDP camps in the past, the MA sector, including MAG, has already taken further action and implemented additional EORE sessions in the camps to be closed. Furthermore, the sector – in close cooperation with IOM – will actively monitor the movement of IDPs upon closure of the camps and is prepared to deliver EORE when and where required.

Suggestion 2, 3, 6 and 9: A date to identify follow-up actions for these suggestions has already been agreed between the MAG Iraq Programme Country Director and the MAG Head of Programme Performance & Learning (PPL).



Presentation of findings and final stakeholder workshop in July 2024 in Baghdad with around 20 in-person and over 25 online participants.

Endnotes

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⁶⁴ RISKey GmbH, "Key Informant Interviews MAG HMA Evaluation Iraq," conducted between March and June 2024; Lodhammar, Pehr, "Lessons learned," presentation during the United Nations Institute for Disarmament Research (UNIDIR) workshop on Explosive Weapons in Populated Areas (EWIPA) in Geneva; 29 February and 1 March 2024; MAG, "Lessons learned concentrating on our Syria and Iraq Programmes," presentation during an UNDP workshop on rubble removal in Amman, Jordan, 16 to 17 April, 2024; MAG, "Urban Approach Pilot", 2020; MAG, "[Explosive Weapons in Contaminated Areas – Survivor Stories](#)," undated; MAG, "Survey in urban context based on experience in Raqqa, Syria," Technical Note 08.10/01, version 1, September 2020; MAG "HMA Global Technical Standards, 09.13 Building Clearance," November 2020, version 1; IMAS, "[IMAS 09.31 Improvised Explosive Device Disposal](#)," February 2019, 1st edition; IMAS, "[IMAS 09.13 Building Clearance](#)," 4 February 2019, 1st edition; IMAS, "[TNMA Explosive Hazard Risk Assessment in Debris Management \(Rubble Removal\) Operations](#)," July 2018; DMA, "National Mine Action Standards (NMAS) 09.13 Building Clearance", 2021; GICHD, "[Improvised Explosive Device Clearance Good Practice Guide](#)," 2021; GICHD, "Presentation, Mine Action in Urban Settings and Improvised Explosive Devices," July 2020; United Nations Environment Programme (UNEP), "Technical Report Mosul Debris Management Assessment," May 2018; HI, "A Persistent Danger: Unexploded Ordnance in Populated Areas", 2020.

⁶⁵ United Nations Deputy Special Representative of the Secretary General / Resident Coordinator / Humanitarian Coordinator (DSRSG / RC / HC), "[Resolving Internal Displacement in Iraq: Inter-Agency Durable Solutions Strategic and Operational Framework](#)," June 2021; and Republic of Iraq, Secretariat General of the Council of Ministers, Office of the Council of Ministers' Affairs and Committees, "[National Plan for getting the IDPs back to their liberated areas](#)," May 2021.

