



The Contribution of Humanitarian Mine Action to Food Security

Preliminary Findings from Lebanon

2023

www.maginternational.org



Table of contents

Executive Summary	4
About Mines Advisory Group	5
Acknowledgments	5
Research Team	5
The Project	6
Methodology	8
Previous Studies	10
Introduction	11
Landmines, Cluster Munitions and ERW Contamination	13
Humanitarian Mine Action Activities	22
Contribution of Humanitarian Mine Action to Food Security	29
Annex I Abbreviations	31
Endnotes	32

Executive summary

This first report outlines the findings from 26 community-level interviews carried out in Lebanon regarding the effects of landmine, cluster munitions, and other explosive remnants of war (ERW) on food security and the positive impact of humanitarian mine action (HMA) on how people and communities produce or procure quality food in adequate quantity. This is an initial contribution to MAG's objective to demonstrate how **humanitarian mine action has a series of cumulative effects that strengthen local and regional food systems and reinforce community resilience, supporting progress towards the zero hunger Sustainable Development Goal.**

By listening to the words and views of people that contribute to Lebanon's food systems, ranging from farmers, agriculture workers, and shepherds to final consumers, these preliminary findings outline how **humanitarian mine action contributes to the conditions for and drivers to food security.**

In particular, the interviews showed that:

- By making safe land available for agriculture, **humanitarian mine action releases the potential of individuals to effectively contribute to their country's food systems, guaranteeing an adequate quantity and standard of food.**
- **Safe access to land enables increased production to meet demand of local and national markets at affordable prices.** Farmers, traders, re-sellers, workers in the food processing sector, small shop owners, and consumers in both rural and urban areas benefit from **a food system that is more functional overall as a result HMA.**
- Cleared land also gives employers the **confidence to hire seasonal and permanent workers**, providing an income that itself directly improves food security, as well as **sustaining local economies and enabling them to flourish.**
- The removal of the actual and perceived threat from landmines and explosive remnants of war **allows implementation of new infrastructure projects and use of technologies to support and stimulate agriculture**, such as irrigation systems, which can be essential to cope with complex phenomena, including wide **economic crisis and climate change.**
- **The cumulative effects of humanitarian mine action support social cohesion, starting with the increase of land availability and subsequent development.** More land that can be easily and safely accessed enables more employment, even for daily workers, contributing to adequate standards of life, including specific groups, such as Syrian refugees in Lebanon.
- Improved efficiency and innovation **opportunities become accessible to a wide range of economic actors**, which can include **small business owners and women workers and entrepreneurs** in the food system of the country.

About Mines Advisory Group

Mines Advisory Group (MAG) is a humanitarian disarmament organisation established in 1989. Since then, MAG has worked in more than 70 countries globally, including in the Middle East, the Asia-Pacific region, Southern, Western, and Eastern Africa, Latin America, the Caribbean, and Eastern Europe. There are currently 33 active MAG programmes. In line with humanitarian disarmament principles, MAG aims to address and prevent the harmful effects of conventional weapons on people's and communities' lives and livelihood, including those caused by landmine, cluster munition, and explosive remnants of war contaminations, unplanned explosions at munition sites, and illicit trafficking of small arms and light weapons.

Acknowledgments

The research team and MAG Lebanon would like to thank all the men and the women who made this first round of interviews possible, especially the personnel of the Lebanon Mine Action Centre (LMAC), and all the other public officers that facilitated the activities for this preliminary research phase.

This work is made possible by the generous support of the United States of America. This publication was funded by a grant from the United States Department of State. The opinions, findings and conclusions stated herein are those of the authors and do not necessarily reflect those of the United States Department of State.

Above all, gratitude is due to all the men, women, boys, and girls, that either participated in this initial series of interviews or simply attended our sessions. These pages could have not been written without their generosity and willingness to share personal details about their own lived experience. It has been our aim throughout to treat these topics with the care and sensitivity they deserve.

Research Team

This initial phase of this research project has been a collaborative effort involving different members of MAG staff in different locations, from Nabatiyeh, MAG's main base in Lebanon, to Manchester, where most of the members of the Department of Policy and Strategic Partnerships are based. The initial idea to focus on the contribution of mine action to food security came from MAG's Middle East Regional Programme. MAG's regional team for the Middle East includes MAG Lebanon, whose staff were critical in identifying interviewees, and providing logistical and other forms of support to the two leading researchers. All those people that have been involved in the conceptualisation, research design, editing, production, and dissemination of this report have also played critical roles in the research team.

The two leading researchers of this preliminary phase were Riccardo Labianco, MAG's International Policy Manager, and Myriam Rabbath, MAG's Roving Community Liaison Manager.

The Project

Humanitarian Mine Action and Its Contribution to the Protection and Promotion of Human Dignity.

The preliminary research conducted in Lebanon is the first stage of a project aiming to better understand the broad impact of Humanitarian Mine Action (HMA) on people and communities, identifying the cumulative effects triggered by HMA activities, ranging from Explosive Ordnance Risk Education (EORE) to land release through survey and clearance. In this way, the humanitarian nature and impact of HMA activities are assessed and their links with broader humanitarian and development actions are clearly emphasised through tangible evidence.

From Preventing Physical Harm to Creating the Conditions for Development and the Full Enjoyment of Human Rights.

HMA activities prevent deaths and significant injuries, which often occur long after the end of the hostilities and significantly affect the lives and livelihoods of people and communities. HMA activities can also reduce the fear among those people and communities and unblock paths to human and economic development, as well as to the full enjoyment of human rights. This project thus aims to outline the series of cumulative effects that are triggered by HMA, in particular those that are conditions for and drivers to development and full enjoyment of human rights.

People's and Communities' Perspectives on the Impact of Contamination and HMA Effects.

By reporting the views and the words of these people and communities, this project aims to provide tangible evidence of HMA impact. By drawing on the relationship of MAG programmes with people affected by contamination, this project aims to centre the views of communities and the value of their own words, perspectives, and perceptions of both how contamination affects their lives and the impact of HMA.

Complementary Project Contributing to a Comprehensive Perspective on HMA and Sustainable Development.

Drawing on similar previous experiences of other entities in the HMA sector,^[i] this project was specifically designed to complement existing projects. In particular, it was decided to specially focus on food security – that is, Sustainable Development Goal (SDG) 2 on Zero Hunger, rather than all the SDGs, and to adopt a qualitative research approach in order to emphasise community perspectives. The project has also been designed to explore how an HMA operator like MAG can meaningfully and effectively cooperate with other humanitarian and development organisations to maximise outcomes.

Methodology

These preliminary findings are the result of the initial phase of a research project informed by an iterative qualitative research approach centred around a series of semi-structured interviews designed to allow the interviewees to express their views on aspects related to food security as freely as possible. After the interviewing period – from 26th August to 10th September – the interviews were collated, coded, and analysed with qualitative research software. This report is designed to simply record and report the factual findings resulting from the 26 interviews carried out during the interview period. [ii] A further and more detailed report including a comprehensive analysis will follow this set of preliminary findings.



<<
*Interview on 30th
August 2023 in
Arab el Louaize,
Municipality of
Wazzani.*

Interviews

A total of 26 interviews were carried out in this initial phase across MAG's areas of operations in Lebanon, including Nabatiyeh, South Lebanon, Mount Lebanon, Beqaa, and Baalbek Hermel.[iii] Interviewees were identified according to their proximity to past or current contamination, their role or involvement in local food systems,[1] ranging from farmers to final consumers,[2] and taking into consideration gender and age. This approach was designed to identify a representative and balanced sample of people whose food security is or has been affected by landmines, cluster munitions or other ERW contamination and have directly or indirectly benefitted from MAG's HMA activities.

[1] More details on the definition of 'food system' and 'food security' used in this publication are provided in the introduction of this publication below.

[2] The categories of interviewees included: landowners, farmers, including shepherds, food processing workers, traders, and consumers, as well as mayors and mukhtars. Often, an interviewee could be part of more than one of these categories.

Interviews were designed as semi-structured, with the two main researchers selecting the questions to ask the interviewees from a list of general questions made in advance. When possible, the questions were directly asked in Arabic by one of the main researchers; otherwise, they were immediately translated from English to Arabic by MAG personnel. Answers were noted down through handwriting either in Arabic or in English after simultaneous interpretation by a member of MAG Community Liaison Team (CLT). At each interview, at least one of the main researchers was present, along with at least two members of MAG CLT, as well as representatives of LMAC.

Challenges and Limitations

This report is intended to be just a preliminary factual account of the answers and trends identified during the interviewing period. In light of the iterative nature of the methodology and approach adopted, the challenges and limitations identified throughout this first series of interviews will be considered and addressed in the next stages of this project.

A number of challenges and limitations affected the research leading to these preliminary findings. First, no exact transcription of the interviews was possible for a series of reasons, including the reliance on MAG Community Liaison (CL) staff for interpretation of interviews in Arabic, and the impossibility of recording interviewees with voice recording devices. Although the translation was simultaneous and as most accurate as possible, some granular details might have been missed.

Secondly, some interviews required a higher level of involvement of the main researchers in order to explain unfamiliar concepts to the interviewees (e.g. food security). In those situations, some interviews ended up being more structured than others. Thirdly, the selection of interviewees was affected by the socio-economic reality of the visited areas and the professional sectors. This meant, for example, that there was a limited number of women in some categories of interviewees, including landowners.

Fourthly, the interviews were organised by MAG CL teams in areas where MAG currently operates or used to operate in the past. Accordingly, as victim assistance activities are outside MAG's scope of operation,^[iv] the contribution of victim assistance activities to people's and communities' food security was not captured. Finally, the choice of a qualitative research approach has the benefits of offering the most genuine snapshot of views at community-level, but some information or opinions recorded through that method might be informed by biases or imprecise information on the side of the interviewee.

Visit to a walnut and peach plantation on 30th August 2023 in Arab el Louaize, Municipality of Wazzani.
>>



Previous Studies

For this initial round of interviews and preliminary finding report, the previous studies taken into consideration were those on empirical evidence on the intersection between HMA and sustainable development in the humanitarian disarmament literature. Currently, these studies are limited in number and include the case studies produced under the GICHD and UNDP project entitled 'Beyond Square Metres'.^[v] This research aims to complement GICHD and UNDP findings with the views of communities and people that are impacted by various forms of contamination and benefitted from HMA activities in Lebanon. UNDP and LMAC also carried out a 'cost-benefit estimation of mine/EWR contamination and clearance' for Lebanon, which, among other data, also took into account qualitative data from three field visits in Lebanon.^[vi] That publication provided an important starting point for this research, which, nevertheless, aims to provide a snapshot at community level in the years following the economic crisis in Lebanon in 2019.

Two other pieces of research covering a similar topic include one by Greg Crowther^[3] on the economic impact of cluster munitions contamination in Lebanon^[vii], and Garbino's article on the impact of landmines and ERW on food security in Lebanon.^[viii] Whilst both publications provide useful information and data to inform this research, they are both macro-analyses mainly carried out through desk-research methodology. Accordingly, this research, as already noted, aims to complement this previous body of work by setting out the words, and views and experiences of people directly involved in local, regional, and national food systems.

[3] Greg Crowther is currently Director of Programmes at MAG.

Introduction

These preliminary findings highlight the links and interactions between HMA and food security, emphasising the views and perceptions on those links of people living in or close to areas contaminated by landmines, cluster munitions, and other ERW in the governorates of Nabatiyeh, South Lebanon, Mount Lebanon, Beqaa, and Baalbek Hermel.[4]

Since 2019, the country has faced ‘compounded crises’ including economic and financial turmoil, the severe impact of the COVID-19 pandemic, and the explosion at the Port of Beirut.[ix] Lebanon still continues to bear the impact of contamination with landmines, cluster munitions, and ERW related to a series of internal and regional conflicts of the last forty years. As shown in previous studies,[x] and confirmed by the findings outlined in this publication, the various forms of contamination obstruct economic development and limit the full enjoyment of human rights, before, during and since the recent compounded crises.

Contamination Background

Contamination represents a significant risk for people’s life and health. In 2022, eleven new victims were recorded, and serious and lethal accidents have been increasing as economic hardship pushes people to adopt unsafe behaviours, such as entering known or suspected dangerous areas to plant crops, access fresh pasture, collect wood for cooking and heating. Contamination is also preventing the effective and efficient use of land for farming activities, and there are signs of possible harmful effects on the environment, including water pollution or soil degradation due to the substances contained in landmines, cluster munitions and EWR, as well as the risk of wildfires.

Humanitarian Mine Action Efforts So Far

Over 80% of Lebanon's baseline of 150 million square metres of explosive ordnance contamination had been safely released, cleared or declared safe through survey, by early 2022. A total of 17% remains to be cleared. Past HMA activities, as well as those ongoing to address remaining contamination are critical to support people and communities on different levels. In fact, the findings in this publication confirm that HMA triggers a series of cumulative effects that can create the conditions to alleviate the impact of crises.

[4] A total of 26 interviews were collected in this first stage of the research. See earlier, ‘Methodology’ section.

Food Security and Food Systems

For the purpose of this publication, food security is considered to be realised when ‘people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life’ [xi] Such definition overlaps with other two relevant concepts: the human right to food, as well as Goal number 2 of the 2030 Sustainable Development Goals (SDGs) Agenda. [xii]

With regard to food system, this concept is defined as ‘[a]ll the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes’. [xiii]

Outline

This publication is set out in two main parts. The first contains a series of perspectives on contamination and its effects on people and communities’ food security, while the second concerns views expressed with regard to the role of HMA activities in addressing food insecurity and their contribution to the personal food security of people interviewed.



Team heading to task with their equipment in Blate, South Lebanon.

Landmines, Cluster Munitions and ERW Contamination

One of the first questions in each interview concerns the contamination of the area in which the interviewees are living or working. MAG's operational areas in the governorates of Nabatiyeh, South Lebanon, Mount Lebanon, and Beqaa, and Baalbek Hermel, are or have been characterised by various types of contamination, including landmines, such as in Nabatiyeh and the South,[5] cluster munitions, in both the south and the north east,[6] and improvised explosive devices (IEDs) in the north east.[7] Almost every answer showed how contamination was – and in several cases still is – very central to the lives and livelihoods of the women and men interviewed. In fact, it became immediately very clear that the presence of landmines, cluster munitions and other ERW significantly conditions the lives and livelihoods of most of the people interviewed.

“

We didn't even dream
to farm the land

Interview #1

”

The most immediate harmful effect of landmines, cluster munition, and ERW contamination is the causation of death or serious injuries. In some cases, the explosions caused by these weapons can cost the life or the bodily integrity of the people who entered contact with these devices were near the area of the explosion. In several interviews, people told stories of lethal or serious accidents involving the respondents, their family and friends, or people of the same village. [8] One interviewee told the research team about an accident he had when he was five; [9] while another person told the research team about a Syrian worker involved in an accident with a landmine while on a tractor. [10] Given the physically demanding nature of many agricultural tasks, serious accidents can affect the ability of survivors to produce food. Similar consequences can also impact the ability of people to procure their own food. [11]

[5] E.g. Interviews #7, #8, #11.

[6] E.g. Interviews #11, #16, #21, #26.

[7] E.g. Interviews #11, #20.

[8] E.g. Interview #7.

[9] Interview #7.

[10] Interview #18.

[11] Survivors were not a specific target group for this first round of interviews. However, some women interviewed told the research team that they had to step up following (non-mine-related) accidents involving their husband or father that subsequently impeded their ability to move and work. E.g. Interview #2, and #4.

Lack of Access to Land and Freedom of Movement

Contamination impedes access to land for agricultural and other activities to produce and procure food. A recurring answer in many interviews indicated that one of the most widespread effects of the contamination was the limitation of farmers' and agricultural workers' freedom of movement. In the South, for example, in areas close to the Blue Line,[12] farmers, landowners, and agricultural workers explained how contamination has prevented them from accessing the land, because of the knowledge of the presence of landmines, cluster munitions and other ERW,[13] or simply because of the fear of accidentally encountering one of those items.[14]

Lack of access to the land prevents proper care for trees and crops. Some interviewees reported that the impossibility of accessing their land had often in turn prohibited the necessary care required of certain crops and trees. For example, in Raas Baalbeck, a farmer cultivating more than 4,000 fruit trees in a valley, including cherry and apricot trees, told the research team that his prolonged absence because of the insecurity of the area and the resulting lack of care of those trees, ruined a number of plants.[15]

Such a lack of access and care for those trees and plants later requires prolonged time and resource investment by farmers to return to previous levels of tree health and harvest.[16] For example, after he had to leave for five years, the above-mentioned farmer told the research team that at least other five years were needed for the trees to recover their previous level of productivity. [17]

Lack of access to land limits employment and has further social and psychological effects on people and communities. Some interviewees showed a deep attachment to the land they cultivate, especially when it has been passed to them through generations and has remained within the family for a long time.[18]

[12] The "Blue Line" is the 'line of withdrawal' – not a definitive border – demarcating the areas in which Israeli and Lebanese forces withdrew after multiple situations of invasion and military occupation of Lebanese territory by Israeli forces. Since resolution 425 of 1978 of the UN Security Council, a UN interim force (UNIFIL) has been deployed on the blue line. See UNSC Res 425 (2006), as well as UNSC Res 1701 (2006). See also Del Col, 'It's Time to Talk about the Blue Line' at <unifil.unmissions.org/it%E2%80%99s-time-talk-about-blue-line-constructive-re-engagement-key-stability> accessed 14 October 2023.

[13] E.g. Interview #1, #6, #7, #9, #10, #16, #20, #21, #22.

[14] E.g. Interview #16, #19, #23, #24.

[15] Interview #21

[16] Interview #21, see also interview #22.

[17] Interview #21

[18] E.g. Interview #7, #9

Depriving people of their link to their own land appeared to have a significant psychological impact, as their work formed an important element of identity. [19] Similarly, part of the psychological toll caused by contamination is due to the lack of employment and income, which clearly obstructs some aspects of people's personal lives. For example, one interviewee told the research team that he could not get married and build his own family because he had no means to support them, and the land that could provide this essential income is currently useless because it is contaminated.[20]

Effects on Crops and Farmers' Work

Effects on the quality and productivity of the soil were also observed by some interviewees. During a number of interviews, some farmers, especially landowners or public figures such as mukhtars, reported that they witnessed pollution or decay of the quality and productivity of the soil after various forms of contamination, including from landmines and cluster munitions. Whilst some interviewees reported that the land and the soil were generally less productive than before contamination,[21] other interviewees reported more specific phenomena. For example, one landowner reported a yellow layer over the land during the first rain after landmines were emplaced.[22] Other farmers mentioned the presence of chemicals in the soil after landmines and cluster munition contamination, with a resulting loss of quality and productivity of the soil.[23]

“

We are farmers, and we are
always on the land

Interview #10

”

[19] E.g. Interview #7.
[20] Interview #24.
[21] E.g. Interview #10, 23, 24.
[22] Interview #6.
[23] E.g. Interview #23.

Development and use of agricultural technology, and associated economic opportunities, are also obstructed by contamination. In some cases, interviewees outlined situations where contamination has impeded development projects or the use of agricultural technology to improve farming methods and techniques. For example, in an interview in Zawtar el Charqiyeh, the research team was told how the contamination in the nearby entire valley of the Litani river made the construction of water pumps, pipes, and irrigation systems very hard, and almost impossible, preventing planting and cultivation of plants and crops that require significant irrigation, such as vegetable crops. [24] This was just one example of a far-reaching consequence of contamination, where the presence of landmines and cluster munitions prevents the full use of the land and directly impacting economic opportunities. In the case of Zawtar el Charqiyeh, vegetables instead had to be procured from other parts of the country [25] such as the Bekaa valley, more than 120km from Zawtar.

Food Habits

Contamination also means that people's food habits and preferences are informed by the presence of landmines, cluster munitions, and ERW. Where contamination prevents access to land and the instalment and use of agricultural technologies such as irrigation systems, the choice of what people can cultivate, and eventually eat, is limited by the threat or fear of dangerous items. This trend emerged clearly in many interviews, in which interviewees explained their preference towards local products, considering them more genuine, [26] or described how the inability to use certain technology and methods of cultivation restricts their choices of crops. For example, many farmers reported that, because of the lack of water and the impossibility of building irrigation systems, they could only plant legumes, especially, chickpeas, or olive trees, as they do not need as much water as other plants. [27]

[24] Interview #16.

[25] Interview #16.

[26] E.g. Interview #9.

[27] Interviews #1, #7, #9, #16.

Landowner planted vegetables in Wazani after MAG completed his task and handed back to him.
>>



Fear and its Consequences

For people living in or near contaminated land, lethal or serious accidents are a sad everyday reality with fear and psychological consequences. In fact, almost every interviewee reported stories of family members, friends, or people that they know, or used to know, who have been involved in lethal or serious accidents caused by landmines, cluster sub-munition, or other ERW. For example, a shepherd in Raas Baalbek told the research team a long list of other shepherds of the area who have been killed or seriously injured in mine and ERW accidents.[28] It was clear that the thought and fear of contamination and the risk of death and injury affecting the interviewees, their families, colleagues and workers is very much an everyday reality for several interviewees.[29]

Fear is also another significant obstacle on the path to gaining food security. Several interviewees openly spoke about fear, which was often connected to the knowledge or awareness of lethal or serious accidents involving other members of the community, even beyond farmers and agricultural workers. [30] For example, a woman who has relied for 35 years on preparing homemade food using herbs from the fields around her village told the research team that she had been afraid of entering the fields to collect and the ingredients needed for her work in the years immediately after cluster munitions were used in the area.[31]

[28] Interview #20.

[29] E.g. Interviews #6, #23, #25.

[30] E.g. Interview #4.

[31] Interview #19.

Coping with contamination and the fear and insecurity that it generates negatively affects food production and procurement. Several farmers and agricultural workers told the research team that the measures they take to adapt to the presence of landmines, cluster munitions, or other ERW and minimise the risk to life and limb, seriously affect the way in which they produce and process food and procure it for themselves and their families. For example, in the area of Raas Baalbek, the presence of several ERW and IEDs impeded the access to the home of a family of farmers, especially to their kitchen and the other structures that were necessary to produce food.[32] Similarly, shepherds in the same areas, as well as in Majdal Balhis, described how knowledge or suspicion of contamination significantly decrease the area of land that can be used for grazing livestock.[33] This prevents sheep, goats, and cows from getting sufficient nutrients, with the possible result of losses within the flock or lower quality animal products, which can also amount to economic losses.[34]

More broadly, fear for contamination generates a sense of insecurity among agricultural workers. Another trend concerned general, and often constant, feelings of fear and insecurity among the population living in or near contaminated areas. Even though this feeling is common in all the people living in these circumstances, feelings of insecurity are emphasised among agricultural workers due to their need to constantly access and work the land. This can lead farmers to abandon use of the land altogether unless they receive deep reassurances from public authorities regarding their safety.[35] This paralysing fear and insecurity is also felt by shepherds, whose activities and lifestyle create an even greater sense of vulnerability. A group of shepherds in the Beqaa, for example, told the researchers that they had been particularly afraid of mine or ERW accidents while grazing livestock because they need to cover large areas of land on foot and set fires at night during grazing season.[36]

[32] Interview #22.

[33] Interviews #20, #22, #25.

[34] E.g. Interview #20, #22.

[35] E.g. Interview #9.

[36] Interview #25, as well as interview #20.

The research team
and three
interviewees in
Hasrout - Chouf – on
8 September 2023.
>>



Broader Impact on Personal and Family Food Security

Personal and family food security are directly affected by contamination, especially in the case of subsistence agriculture. If food security is considered as including different ways to procure adequate food, including its direct production or the acquisition of the economic means to procure it,[37] the effects of contamination outlined above have a significant impact on people's and communities' food security. This is particularly relevant in most of the situations where agricultural activity is focused on subsistence and self-reliance of farmers or smallholders and their families, rather than generating surplus for market.[38] Furthermore, where permanent, seasonal, and daily workers were employed, land availability and safe access clearly meant ability for those workers to strengthen their own food security by generating income through work in cleared fields.[39] Contamination prevents or reduces those kinds of employment opportunities, with the effect of limiting food security opportunities.

[37] See introduction.

[38] This was a common trend that surfaced in almost all the interviews. E.g. Interviews #1, 8, 10, 25.

[39] E.g. Interview #3, #4, #5.

Impact on Market Dynamics

Contamination and its effects mean lack of productivity and reduced ability to meet market demands. The accumulated negative consequences of contamination, ranging from complete or partial lack of access to the land to the impossibility of cultivating certain plants and crops, can have an impact on farmers' ability to meet the demand of the market.[40] For example, despite the potential for the cultivation of vegetables of some areas in the South of Lebanon, the closest wholesale market of Saida mainly sells vegetable from the north-east of the country, which is traditionally known for this type of crop. [41] As mentioned earlier, the development of irrigation systems could improve the capacity for cultivating vegetables and better meet the demands of markets in some areas of the South.

Product surpluses are caused by contamination and lead to economic losses and waste. Similarly, the limitations and obstacles posed by contamination have also the effect of orienting the farmers' offer towards products that might not be absorbed by the market itself. For example, because of the lack of water, several farmers are driven towards the cultivation of olives and the production of olive oil, which might not always be absorbed by the market.[42] Similar phenomena occur with other agricultural products, such as fruits, including citrus fruits.[43]



Large market stand where products from former contaminated areas are sold in Toul, 5 September 2023
>>

[40] E.g. Interview #6.

[41] Interviews #12, #13, #14, #15.

[42] E.g. Interview #6.

[43] E.g. Interview #6, #14,

Knowledge of contamination and fear of it and its effects can also generate biases that affect how products are traded in markets. For example, when approached to learn more about the supply chain and the food system linking formerly contaminated agricultural areas, traders, and final consumers, traders at Saida fruit and vegetable wholesale market did not seem very open to say that some of their products might have come from formerly contaminated land.[44] Admittedly, this closeness might have been due to the use of the expressions such as 'contamination' which might be interpreted as indicating polluted and unhealthy areas. Nevertheless, traders appeared to show some sign of an implicit bias against products coming from formerly contaminated land, possibly because of the assumptions that products cultivated in those areas are of lower quality.[45] Whilst this aspect deserves more attention and investigation, it must be highlighted that traders that are more familiar with formerly contaminated land did not show such a bias.[46]

[44] Interviews #12, #13, #14, #15.

[45] Interviews #12, #13, #14, #15.

[46] E.g. Interview #18.

Humanitarian Mine Action Activities

A key goal of this research project is to explore how HMA activities can support the achievement of the SDGs and human rights, especially the achievement and strengthening of food security, in a transformative way, beyond the mere redressing of contamination-related issues. Specific questions regarding HMA activities and dynamics asked during the 26 interviews were designed to capture how HMA can contribute to addressing issues that are broader than the direct impact of contamination.

Land release strengthens food security by enabling farming activities and related employment. Release of safe land allows farmers, including shepherds, to access the land needed for their livelihoods.[47] In particular, some farmers, as well as mayors and mukhtars, reported that they were particularly satisfied by the fact that MAG, when possible, was able to coordinate land release procedures with the community, so that farmers could gradually access part of their land, without waiting for the overall survey and clearance of all their land.[48] This helped them to gradually re-establish and strengthen their own food security, as well as employing workers that, by receiving a salary, could procure food for themselves and their own families.[49]

“

A water drop after another drop, they all gather together for a full glass, and this glass will irrigate a tree daily and, after a while, the tree will grow big and shades your own kids.

Interview #8

”

[47] E.g. Interviews #5, #7, #8.

[48] E.g. Interviews #1, #2.

[49] E.g. Interview #3, #1, #6.

HMA activities, including explosive ordnance risk education (EORE), mitigate the reality and harmful impact of contamination. In several instances, interviewees expressed their surprise when first informed of different types of contamination in and around their homes and land.[50] This was a particularly serious issue in certain towns, such as Wazzani and Meiss EL Jabal, where landmines and cluster munitions were found in backyard gardens, as well as within buildings even in their foundations.[51] However, the interventions of LMAC and MAG allowed to set up safeguards and coordination mechanisms that allowed these people and communities to both live and work near contaminated areas while still being able to manage risk.[52] Some interviewees reported that the presence and work of LMAC and MAG encouraged people who had left the area to return as a result of improved safety and security.[53]



We are all humans, and we are very happy and proud when we see others helping us in the name of humanity and remove those landmines as we are not able to do it by ourselves.

Interview #10



People and communities are aware of and acknowledge the link between HMA and food security. One of the interviewed mayors, observed that every hectare cleared can help feed more and more people. [54] Similarly, it was reported by several people that land ownership helped to manage and mitigate the effects of the 2019 economic crisis and that this would have not been possible if the land had not been cleared.[55]

More complex links between HMA, agriculture, and food security were acknowledged by some interviewees. For example, a mayor and a former mayor in two different locations were very clear in stating that the irrigation systems developed in their municipalities, were critical in stimulating agricultural activities, in turn strengthening food security in their own towns and the surrounding areas.[56]

[50] E.g. Interview #6, #7,

[51] E.g. Interviews #7, #8.

[52] E.g. Interviews #6, see also #4.

[53] E.g. Interview #6.

[54] Interview #8.


[55] E.g. Interview #9.

[56] Interviews #16, #23.

In both cases, it was clear that HMA created the conditions for communal safe investments in technology that supported agricultural activity and development, also contributing to resilience in the face of unprecedented heat caused by climate change.[57] Similar reflections on technological investment made possible thanks to HMA activities were also made by some private farmers.[58]

HMA, climate change, and irrigation systems: almost every interviewee indicated extreme heat as the main harmful consequence of climate change areas affecting their lives and livelihoods. Fruit was described as rotting while still on the tree, and crops that require water cannot be cultivated, unless sufficient water is accessible to compensate for high temperatures and dry conditions.[59] In several interviews, HMA was acknowledged as a direct enabler of development projects that lead to the construction of irrigation and water management systems needed to support farmers in coping with effects of climate change.[60]

HMA also allows farmers, including shepherds, to take care of their crops, plants, and animals as quickly as possible after the end of hostilities, avoiding damages and losses. Several interviewees highlighted that lack of access to safe land during hostilities or dangerous situations had prevented them from taking care of their crops, plants, and animals. By addressing contamination and reducing risk and fear, HMA can be seen as creating conditions of confidence and security for farmers to go back to their land and taking care of their crops and animals.[61]



Shepherds now have more land for their cattle to use in Wazzani. >>

[57] Interviews #16, #23.

[58] E.g. Interview #5.

[59] E.g. Interview #5.

[60] E.g. Interviews #5, #16, #23.

[61] E.g. Interview #9.

HMA supports farmers in meeting the market demands and prevents wasting products. With proper investment in research and development around farming techniques and methods, income generated post-clearance can also support farmers and other workers in the agricultural sector to better appreciate and meet market dynamics. As mentioned earlier, investment in technology, such as irrigation systems, as well as expert support to use land more efficiently and effectively use of the land, can also support efforts to align farmers' offer to market demand, minimising wastes. In fact, several interviewees mentioned that the use of expert support by agricultural engineers is too expensive at the moment, and they experiment the cultivation of new crops, new techniques and technologies by trial and error.[62] In an interview, a manager in the food-processing field complained about the poor quality standards and lack of proper equipment maintenance showed by olive producers,[63] which was likely to be due to the lack of financial means for research and development. A similar approach appeared to be adopted with regard to facing unprecedented issues, including sudden changes due to climate change, or meeting the demands of traders and wholesale markets. [64] In some cases, some interviewees showed their ability of investing the extra income generated thanks to HMA activities in technology, and, more generally, research and development.[65]



“This project made the village flourish”

referring to a water pump and pipes
made possible by humanitarian
demining operations.

Interview #16



[62] E.g. Interview #1, #2, #6.

[63] Interview #5.

[64] E.g. Interviews #6, #12, #13, #14, #15.

[65] E.g. Interviews #23 and #26.



Members of the research team in Raas Baalbek where MAG HMA activities allowed farmers to re-enter the area safely and take care of the fruit trees that have been there for generations. <<

Released land leads to increase in productivity which then leads to the possibility of employing more workers, who can build their own food security on that employment. Several landowners invested in their own agricultural activities and hired more and more workers. In some cases, these workers are not only provided with a salary, but they are also given a house where to stay while working,[66] and are often given a portion of the harvest and fruitage to take it home.[67] Although, admittedly, those portions cannot be seen as fulfilling all the food needs of workers' families, they are evidence of some social effects triggered by the release of land: landowners are able and glad to support some basic needs of workers, including contributing to their food security by providing food products, especially fruits and vegetables, as well as providing houses and electricity, in some instances for free.[68] In some other cases, landowners, farmers, and local public figures showed willingness to invest the extra income generated because of HMA activities in projects of public and collective utility, including citizen associations,[69] or local shops in remote towns in the mountains, which are the only way for the local population to access to certain food products.[70]

[66] E.g. Interview #1, #3, #4.

[67] E.g. Interview #3, #4.

[68] E.g. Interview #1, #23.

[69] Interview #23, #26.

[70] Interview 26.

Employment opportunities unblocked by HMA are critical, especially for seasonal and daily workers. Many people, especially those without their own land, such as Syrian refugees, significantly rely on jobs in the agricultural sector, working on a permanent, seasonal, or daily basis.[71] HMA acts as an enabler for longer term employment, helping to address vulnerabilities among these workers and contributing to their improved food security.

Access to land has an important psychological value, especially for those people and communities that feel a link with their land. Many of the interviewed people conveyed a particular psychological and emotional value with the land they cultivate, or used to cultivate.[72] One respondent, for example, explained that he and his family have been farmers for generations, and he is determined that his son will neither sell the land nor build on it to preserve family tradition.[73] Loss of access to the land was a source of psychological suffering, not only because of the lack of revenue, but because of the perception of a birthright being denied.[74]

Enhanced safety and human security through HMA encourage people to return to their previous homes and areas of origin which they had left to find employment. A recurring theme in many interviews concerned the urban-rural divide. Several people left rural areas to find better employment opportunities in cities, especially Beirut.[75] In addition to lack of properly paid employment, limited welfare facilities, including healthcare and education, were highlighted as a driver to relocate.[76] Some interviewees noted that MAG's HMA activities supports the development of new livelihoods and employment opportunities, especially those linked to the agricultural sector, and this is one which gives people the sense of economic and human security needed to return.[77]

[71] E.g. Interviews #3, #4, #7.

[72] E.g. Interview #9, #10, #23, #26

[73] E.g. Interview #10.

[74] E.g. Interview #9.

[75] E.g. Interview #6, #8.

[76] E.g. Interview #7.

[77] E.g. Interview #6, #8.

HMA also intersects with the urban/rural divide for families whose agricultural income supports their children and other younger relatives who are living in urban areas. This was a recurring subject among landowner farmers in particular. Whilst, in some cases and with some exceptions,[78] the younger generations of the farmers' families had less interest in agricultural activities and employment, their parents and other relatives had supported or were supporting them to live in Beirut and other urban areas. The contribution of HMA to productivity, and in turn the income, thus also contributes to improved conditions for some of the urban population.

Risk awareness and development of national capacities to address residual from landmines, cluster munitions, and other ERW in areas that were considered as cleared are critical. As land use changes – for example, the expansion of farming activities into previously unused land, or following excavation – previously undetected items are likely to be found. Interviewees living in formerly contaminated areas reported finding explosive items, such as cluster munitions, in the course of agricultural activities, such as collecting grapes and olives,[79] or while grazing livestock.[80] The work done throughout the years by national authorities, especially LMAC, and HMA operators like MAG equips people and communities with the knowledge and skills to minimise related risks, while undertaking agricultural activities. The work of LMAC and MAG has also been critical in establishing point of contacts for reporting suspicious items, including via a dedicated hotline.[81]

[78] For an exception, e.g. Interview #23.

[79] E.g. Interview #23, see also interview #17.

[80] E.g. Interview #20.

[81] This was a frequent acknowledgment done by many interviewees. see e.g. Interview #11, #20, #21, #22.

Contribution of Humanitarian Mine Action to Food Security

Through a series of 26 interviews with farmers, agricultural workers (including shepherds), other workers in the food sector, and final consumers, this set of preliminary factual findings provided a snapshot of how HMA contributes to food security and interacts with Lebanon's food system.

The people interviewed clearly highlighted how HMA activities have not only been redressing the negative impact of landmine, cluster munitions, and ERW contamination, but also created the conditions to develop various dimensions of food security. HMA prevents fatalities and serious injuries and allows farmers to provide for their families and communities, including those that have relocated to urban areas but still rely on the products of and income from rural activities.

Furthermore, safe access allows farmers to cultivate land and generate crops, plants, and animal products, producing food that can satisfy local and regional market demands for adequate and affordable food. In fact, in situations of compounded crisis, owning safely accessible land or being employed in agricultural activities also makes a critical difference by providing the means to cope with economic hardship and financial crisis. In some cases, HMA activities also contributed to creating the conditions for people to return to their land from urban areas, opening pathways to more affordable living.

HMA also facilitates the development of critical infrastructure, such as water and irrigation systems, increasing land productivity, allowing the cultivation of new crops, and developing communities' resilience to complex challenges, including climate change phenomena, such as the extreme heat waves of recent Lebanese summers, the decrease of snow in winter, and the irregularity of the rains.

A key aspect that emerged from all these interviews was the various social impacts that the interaction between HMA and Lebanon food system created. Clearance of contaminated land can reduce fear and contribute to addressing other negative psychological effects of food insecurity and the legacy of conflict. It also enables greater freedom of movement and removes impediments to safe access experienced by farmers, shepherds, and other agricultural workers.

Yellow pickets showing
destroyed AP mines in
Amra, Blue Line.
>>



HMA's cumulative impact also creates the conditions for improved employment opportunities for permanent, seasonal, and daily workers. For these people, safe access to cleared land means earning the means to procure food for themselves and their families, contributing to the flourishing of the local and national economy. Access to livelihoods and, more generally, enhanced human security, can also improve social cohesion, as employment in the food sector has the potential to benefit and empower people, including Syrian refugees.

Although preliminary in nature, the findings outlined in this publication show some important aspects related to the daily lived experience of people and communities living in or near contaminated areas.

These experiences demonstrate the various contributions of HMA to food security for individuals and communities. This publication will be followed by a more comprehensive and analytical document that will draw on and continue to build upon the findings outlined in this work. At this stage, the key themes emerging from this publication already demonstrate links and point towards possible synergies between HMA and activities that aim to improve food security and strengthen food systems. These connections warrant further exploration to fully realise the potential of HMA to be transformational, particularly in its contribution to SDG2 on zero hunger.

Annex I

Abbreviations

CLT	Community Liaison Team
EORE	Explosive Ordnance Risk Education
ERW	Explosive Remnants of War
GICHD	Geneva International Centre for Humanitarian Demining
HMA	Humanitarian Mine Action
ICESCR	International Covenant on Economic, Social and Cultural Rights
IED	Improvised Explosive Device
IMAS	International Mine Action Standards
UNGA	United Nations General Assembly
UNDP	United Nations Development Programme
LAF	Lebanon Armed Forces
LMAC	Lebanon Mine Action Centre
MAG	Mines Advisory Group
SDG	Sustainable Development Goals

Endnotes

[i] See, for example, Hofmann, Ursing, and Olaf Juergensen. Leaving No One Behind: Mine Action and the Sustainable Development Goals. GICHD and UNDP, 2017.

<www.gichd.org/fileadmin/uploads/gichd/Media/GICHD-resources/rec-documents/Leaving_no_one_behind-Mine_Action_and_SDGs.pdf>. A series of specific case-studies were produced as part of this project. One of the latest published was a case study on South Sudan: Hoyos Iborra, Angela, and Boris Ohanyan. The Sustainable Development Outcomes of Mine Action in South Sudan. GICHD and UNDP, 2023.
<www.gichd.org/fileadmin/user_upload/Sustainable_Development_Outcomes_of_Mine_Action_in_South_Sudan_GICHD-UNDP_.pdf>.

[ii] For the purpose of this report, all the interviews have been transcribed and numbered, with the original transcripts being held in MAG's records. For the purpose of this publication, interviews and related information have been anonymised to respect the privacy of the interviewees.

[iii] See above, note no ii.

[iv] According to the International Mine Action Standards (IMAS), HMA comprises 5 activities: EORE; survey, marking, and clearance of explosive ordnance, victim assistance, stockpile destruction, and advocacy. See 'IMAS 01.10 Guide for the Application and Development of International Mine Action Standards (IMAS)'. In International Mine Action Standards (IMAS), 2023.
<https://www.mineactionstandards.org/standards/01-10/>.

[v] See above, endnote no i.

[vi] Hamade, Kanj, and Ilina Srour. The Socio-Economic Benefits of Mine Action in Lebanon - The Case for Sustained Support. UNDP & LMAC, 2019. <https://www.undp.org/lebanon/publications/socio-economic-benefits-mine-action-lebanon>.

[vii] Crowther, Greg. 'Counting the Cost: The Economic Impact of Cluster Munition Contamination in Lebanon'. The Journal of Conventional Weapons Destruction, (1 May 2008).

[viii] <https://commons.lib.jmu.edu/cisr-globalcwg/1110>; Garbino, Henrique. 'The Impact of Landmines and Explosive Remnants of War on Food Security: The Lebanese Case'. The Journal of Conventional Weapons Destruction 23, no. 2 (31 July 2019). <https://commons.lib.jmu.edu/cisr-journal/vol23/iss2/6>.

[ix] The World Bank, 'The World Bank in Lebanon'. Accessed 17 October 2023.

<https://www.worldbank.org/en/country/lebanon/overview>.

[x] See above, endnote no vii and viii

[xi] (World Food Summit – Plan of Action 1996) <<https://www.fao.org/3/w3613e/w3613e00.htm>> accessed 18 October 2023.

[xii] International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3 (ICESCR), Article 11; General Comment No. 12 on the Right to Adequate Food (12 May 1999) UN Doc E/C. 12/1999/5, in particular para 6; UNGA Res 70/01 (25 September 2015) UN doc A/RES/70/01, see in particular paras 17 and 24.

[xiii] 'Food Losses and Waste in the Context of Sustainable Food Systems'. High Level Panel of Experts on Food Security and Nutrition, June 2014. <<https://www.fao.org/3/i3901e/i3901e.pdf>> accessed 18 October 2023, 29; see also 'Rethinking Our Food Systems – A Guide for Multi-Stakeholder Collaboration'. Nairobi, Rome, and New York: UNEP, FAO, and UNDP, 2023.

<<https://doi.org/10.4060/cc6325en>> accessed 18 October 2023, vi.



 www.maginternational.org

 [@magsaveslives](https://twitter.com/magsaveslives)

