

KEY DATA

ANTI-PERSONNEL (AP) MINE CONTAMINATION: MEDIUM

NATIONAL AUTHORITY ESTIMATE

17.5 km²

AP MINE
CLEARANCE IN 2021

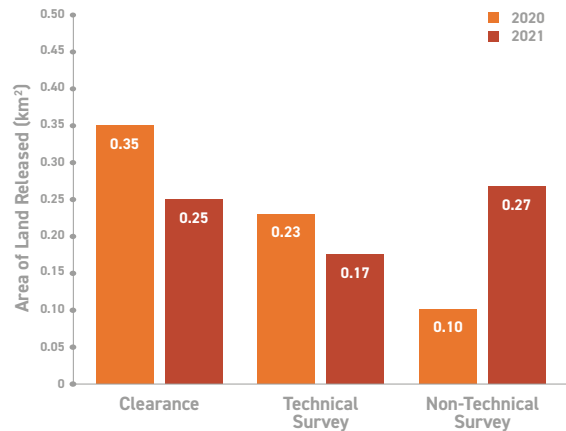
0.25 km²

AP MINES
DESTROYED IN 2021

17,881

(INCLUDING 43 DURING
SPOT TASKS)

LAND RELEASE OUTPUT



KEY DEVELOPMENTS

The Lebanon Mine Action Centre (LMAC) and its national and international partners continued to make progress in mine clearance in 2021, although mine clearance output fell for the third consecutive year in 2021, largely due to cuts in international funding. However, in a positive milestone, Humanity and Inclusion (HI) released all remaining contamination in the North governorate, the first governorate to be declared cleared of mine contamination. In 2021, LMAC also completed migrating from its former version of the Information Management System for Mine Action (IMSMA) New Generation to IMSMA Core, with support from the Geneva International Centre for Humanitarian Demining (GICHD).

RECOMMENDATIONS FOR ACTION

- Lebanon should accede to the Anti-Personnel Mine Ban Convention (APMBC) as a matter of priority.
- Lebanon should clear anti-personnel mines in areas under its jurisdiction or control as soon as possible, consonant with its obligations under international human rights law.
- Wherever possible, evidence-based non-technical survey and technical survey should be used to define areas of mine contamination more accurately prior to initiating clearance. This is particularly important in non-pattern minefields, such as the militia/scattered minefields in Mount Lebanon, and for contamination from anti-personnel mines of an improvised nature in the north-east of the country.
- Where appropriate, LMAC should consider using demining machinery and mine detection dogs (MDDs) as primary as well as secondary clearance assets.

DEMINEING CAPACITY

MANAGEMENT CAPACITY

- Lebanon Mine Action Authority (LMAA)
- Lebanon Mine Action Centre (LMAC)
- Regional Mine Action Centres (RMAC-N and RMAC-RB)

NATIONAL OPERATORS

- Lebanese Armed Forces (LAF)/Engineering Regiment (ER)

INTERNATIONAL OPERATORS

- DanChurchAid (DCA)

- Humanity and Inclusion (HI)
- Mines Advisory Group (MAG)
- Norwegian People's Aid (NPA)

OTHER ACTORS

- Geneva International Centre for Humanitarian Demining (GICHD)
- United Nations Development Programme (UNDP)
- UN Interim Force in Lebanon (UNIFIL)
- United Nations Mine Action Service (UNMAS)

UNDERSTANDING OF AP MINE CONTAMINATION

At the end of 2021, Lebanon had more than 17.5km² of confirmed mined area, including along the Blue Line, across 1,131 confirmed hazardous areas (CHAs) (see Table 1).¹ A total of 26,211m² of unrecorded legacy anti-personnel mine contamination across seven sites was added to the database in 2021.²

This is a small reduction of estimated contamination compared to the end of 2020, when Lebanon had over 18.2km² of confirmed mined area, including along the Blue Line, across 1,256 confirmed hazardous areas.³ Implementation of IMSMA Core enabled LMAC to identify some internal errors in the database regarding contamination data, which it continued to clean up in 2021.⁴

Table 1: Mined area by province (at end 2021)⁵

Province	CHAs	Area (m ²)*
Al Beqaa	53	5,021,701
Al Janoub and Al Nabatiyeh (south Lebanon)	843	6,948,610
Jabal Loubnan (Mount Lebanon)	235	5,534,350
Totals	1,131	17,504,661

* Includes 398,411m² containing anti-personnel mines of an improvised nature at in Al Beqaa in north-east Lebanon.

In addition, as at end of 2021, LMAC report that "Dangerous Areas" totalled 5,885,008m², some of which were suspected to contain booby-traps.⁶ These "Dangerous Areas" relate predominantly to rapid response or explosive ordnance disposal (EOD) spot tasks and are often the result of accidents having been reported to LMAC by the local community,⁷ for which further investigation/survey is required in order to confirm the existence, type, and extent of any contamination.⁸

The majority of mined areas are in the south of Lebanon, are in conventional minefields, laid according to a pattern, and the location of the mines is identified on minefield maps. The minefields in north Lebanon and Mount Lebanon are typically "militia" or "scattered" minefields (i.e. were laid without a pattern and for which minefield records and maps do not exist), and were laid by multiple actors during the civil war.⁹ In addition, there is a small amount of contamination from anti-personnel mines of an improvised nature (victim-activated improvised explosive devices (IEDs), totalling nearly 0.40km² and located in north-east Lebanon in Al Bekaa province.¹⁰ In 2021, HI released all remaining contamination in the North governorate, the first governorate in which mine clearance was completed.¹¹

1 Email from Lt.-Col. Fadi Wazen, Operations Section Head, LMAC, 1 June 2022.

2 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022. DCA reported discovering 1,704m² of previously unknown mined area during non-technical survey in 2021 (email from Mouhamed Chour, acting Country Director, DCA, 2 June 2022); HI reported discovering 15,616m² of previously unknown mined areas during non-technical survey in 2021 (email from Nahed Al-Khlouf, Country Manager, HI, 6 August 2022); and MAG reported discovering one area of previously unknown mined area in Rob Tlatine village, Marjaoun district, which totalled 1,670m² (email from Hiba Ghandour, Programme Manager, MAG, 7 April 2022).

3 Emails from Lt.-Col. Fadi Wazen, LMAC, 15 March 2021 and 24 September 2022. The baseline of mined area as at end of 2021, as compared to end of 2020, is not fully explained by the results of survey and clearance in 2021. This is because 68,497m² of 2020 clearance by HI which was accidentally and erroneously excluded LMAC's 2020 annual report, was brought forward into the 2021 report.

4 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022.

5 Ibid.

6 Ibid.

7 Interview with Brig.-Gen. Elie Nassif, Director, and Brig.-Gen. Fakh, Head of Operations, LMAC, Beirut, 18 April 2016.

8 Interview with Brig.-Gen. Elie Nassif, and Brig.-Gen. Fakh, LMAC, Beirut, 18 April 2016.

9 Interview with Brig.-Gen. Elie Nassif and Brig.-Gen. Fakh, LMAC, Beirut, 11 April 2016.

10 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022.

11 LMAC, "Annual Report 2021", pp. 6 and 11; and email from Nahed Al-Khlouf, HI, 6 August 2022.

Lebanon's mine problem is largely a legacy of 15 years of earlier civil conflict and Israeli invasions of south Lebanon (in 1978 and 1982) and subsequent occupations that ended in May 2000, and there is a small amount of new mine contamination in "Jroud Aarsal" on the north-east border with Syria, resulting from spill-over of the Syrian conflict onto Lebanese territory in 2014–17.¹² The Lebanese territory in question was fully regained by the Lebanese Armed Forces (LAF) in August 2017 and was assigned to LMAC for survey and clearance. In addition to anti-personnel mines of an improvised nature (victim-activated IEDs), contamination in the north-east includes cluster munition remnants (CMR) and other explosive remnants of war (ERW).¹³

The LAF continue to play a major role in this northern region, as the number of rapid-response missions remains high. In recent years, LMAC has had to address contamination from mines migrating from the north Syrian border, through floods and riverbeds, to new areas in Wadi Khaled and Wadi Nahle

in the north.¹⁴ Mine migration can happen anywhere along the border river and LMAC only knows about the migrated mines through the reporting of accidents. LMAC surveyed the location of accidents and submitted a report to the LAF headquarters, recommending that, where possible, berms are raised in these locations to prevent future migration. The LAF Engineering Regiment search and clear large fade-out areas and put fences and marking up where possible, and mine risk education is conducted.¹⁵ In 2021, two new victims resulted from mines which had migrated from across the northern border. The accidents were in the vicinity of the region where previous accidents occurred. The LAF Engineering Regiment has been tasked to mark, search, and clear the locations where the accidents were recorded and other locations where there is a probability of finding migrated mines.¹⁶

For details on CMR contamination, see Mine Action Review's *Clearing Cluster Munition Remnants* report on Lebanon.

PROGRAMME MANAGEMENT

Lebanon's mine action programme is under the control of the military. The Lebanon Mine Action Authority (LMAA), which has overall responsibility for Lebanon's mine action programme, is the responsibility of the Ministry of Defence and is chaired by the Minister of Defence. In 2007, a national mine action policy outlined the structure, roles, and responsibilities within the programme, and LMAC was tasked to execute and coordinate the programme on behalf of the LMAA.¹⁷

LMAC, part of the LAF, is based in Beirut. Since 2009, the Regional Mine Action Centre-Nabatiyeh (RMAC-N), which is a part of LMAC, has overseen operations in south Lebanon and western Beqaa, under LMAC supervision.¹⁸ At the end of 2018, a new regional centre, the RMAC-Ras Baalbek (RMAC-RB), was established in the north-east of Lebanon, to oversee the mine action operations in this region.¹⁹ To a large extent LMAC has a well-functioning capacity, but, as they are army officers, the senior management of LMAC and RMAC are typically routinely rotated every two years or so, which can hamper development and continuity in the management of the three mine action centres.²⁰ The current director of LMAC started in March 2019, replacing his predecessor who had served as director for two years.²¹

A new standing operating procedure (SOP) for LMAC was developed and approved in 2020. The SOP specifies the roles of each section of LMAC and clarifies the responsibilities and cooperation between sections. It is hoped that it will help preserve institutional memory, assist new LMAC staff, and reduce the impact of staff rotations.²²

UN Development Programme (UNDP) personnel, funded by the European Union (EU), are also seconded to LMAC, providing support for capacity building, including transparency reporting, strategic reviews, IMSMA database entry, community liaison, and quality assurance (QA). In 2021, there were six UNDP personnel supporting LMAC.²³

UNDP received funding in 2020 from the Norwegian Embassy for a three-year project for 2020–23 of support to LMAC coordination capacities.²⁴ In April 2021, the Netherlands agreed a further three-year contract with UNDP for international support to LMAC, totalling US\$1.5 million.²⁵

The GICHD also provides support to LMAC on information management and on gender and diversity. LMAC staff have benefitted from courses under the regional framework of the Arab Regional Cooperation Programme (ARCP).²⁶

12 Emails from Lt.-Col. Fadi Wazen, LMAC, 7 March 2019; David Willey, Programme Manager, MAG, 7 March 2019; and Emile Ollivier, Grants Coordinator, NPA, 19 March 2019.

13 Email from Lt.-Col. Fadi Wazen, LMAC, 7 March 2019, and presentation in Beirut, 8 April 2018; LMAC, "Annual Report 2018", p. 14; and email from Hala Amhaz, NPA, 17 March 2021.

14 LMAC, "Annual Report 2019", pp. 7 and 25.

15 Email from Lt.-Col. Fadi Wazen, LMAC, 15 March 2021.

16 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022.

17 LMAC, "Mid-term Review to Strategy 2011–2020, Milestone 2013", August 2014, pp. 4–5.

18 LMAC, "Lebanon Mine Action Strategy 2011–2020", September 2011, p. 4.

19 Email from Lt.-Col. Fadi Wazen, LMAC, 21 August 2019.

20 LMAC, Lebanon Mine Action Strategy 2020–25, signed June 2020, p. 4.

21 Email from Brig.-Gen. Ziad Nasr, Director, LMAC, 26 March 2019.

22 Emails from Lt.-Col. Fadi Wazen, LMAC, 19 March 2020 and 15 March 2021; and LMAC, "Annual Report 2020", p. 28.

23 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

24 Email from Lt.-Col. Fadi Wazen, LMAC, 19 March 2020; and LMAC, "Annual Report 2020", p. 28.

25 Email from Lt.-Col. Fadi Wazen, LMAC, 15 June 2021; and LMAC, "Annual Report 2021", p. 40.

26 Email from GICHD, 22 April 2022.

A "Mine Action Forum" was established in Lebanon in close partnership between LMAC and Norway following a workshop, in January 2018, convened in partnership between Norway and LMAC. The forum meets twice a year, with UNDP designated as the secretariat for the Forum.²⁷ In 2021, the Netherlands took over from Norway as Forum co-chair.²⁸

The Mine Action Forum provides an informal mechanism for LMAC to maintain open dialogue and information sharing with implementing partners and donors on national priorities and needs for the survey and clearance of CMR and landmines.²⁹ During each meeting, stakeholders present achievements compared to previously set action points, discuss challenges and needs, and then propose future steps for the coming six months.³⁰ In 2021, the Netherlands took the lead for the forum. The Forum is said to have resulted in better coordination and greater transparency as well as enhancements to land release methodology, enshrined in the revised national mine action standards (NMAS).³¹

There is good coordination and collaboration between LMAC/the RMAC and clearance operators, with the operators consulted before key decisions are taken.³² International clearance operators reported that an enabling environment exists for mine action in Lebanon, with LMAC facilitating the processing of visas for international staff and assisting with the importation of equipment, including exemption of customs fees for equipment.³³ Norwegian People's Aid (NPA) reported that a challenge was the length of time needed to obtain security clearances for new local staff. This process can take more than three months.³⁴

A technical working group (TWG) was established in March 2018, under the auspices of LMAC, based on recommendations of the Mine Action Forum and following the release of the revised NMAS. The TWG, provides a useful forum for LMAC/the RMACs to meet collectively with clearance operators to review and discuss field issues, including implementation of revisions to the NMAS, to identify issues, and suggest further NMAS revisions and potential ways to improve operational efficiencies. The LMAC is open to suggestions from operators for improvements.³⁵ The TWG met twice in 2021 – in March and December.³⁶

As in the previous year, the Lebanese government contributed US\$9 million annually in 2021 towards mine action in Lebanon (for both mine- and CMR-related work): to support costs associated with the running of LMAC (facilities and staff); for the LAF Engineering Regiment companies working in demining (four teams, two of which work on CMR, in addition to mechanical and mine detection dog (MDD) support); risk education; victim assistance, and training. However, the devaluation of the Lebanese Pound due to the economic crisis in the country severely reduces the amount actually received.³⁷

A Regional School for Humanitarian Demining in Lebanon (RSHDL) was established in partnership between Lebanon and France.³⁸ The School became operational in 2017, enabling civilian and military personnel from Arab and other countries to benefit from an array of courses and workshops on non-technical survey, EOD, operational efficiency, and gender and diversity.³⁹

ENVIRONMENTAL POLICIES AND ACTION

LMAC recognises its responsibility to ensure that demining operations are conducted responsibly and efficiently while also minimising the impact on the environment. Lebanon's NMAS on Safety and Occupational Health – Protection of the Environment (10.70) specifically aims to achieve this. LMAC and its implementing partners ensure that they operate in conformity with NMAS 10.70 including:

Coordinating with local authorities and landowners before start of operations.

Compiling a list of factors related to operations that may affect the environment for all types of assets, assessing the threat, and making informed decisions.

After demining and EOD operations have been completed at a worksite, but before the formal release of the area, implementing agencies are required to remove and appropriately dispose of all rubbish and large fragments of ordnance, and fill any holes in the ground to stabilise the surface to allow for natural regeneration, using water to consolidate the soil when appropriate.⁴⁰

27 LMAC, "Annual Report 2018", p. 23.

28 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

29 LMAC, "Annual Report 2018", p. 23; Statement of Lebanon on International Cooperation and Assistance, CCM Ninth Meeting of States Parties, Geneva, 4 September 2019; and LMAC, Lebanon Mine Action Strategy 2020–25, Foreword by the chair of the LMAA (Minister of Defence).

30 Statement of Lebanon, CCM Intersessional meetings, Geneva, 16 May 2022.

31 Emails from Lt.-Col. Fadi Wazen, LMAC, 7 March 2019 and 19 March 2020; LMAC, "Annual Report 2018", p. 23; and revised 2020 Article 4 deadline Extension Request, 25 February 2020, pp. 38 and 39.

32 Emails from Sylvain Lefort, Country Director, MAG, 24 March 2021; Hala Amhaz, NPA, 15 March 2021; Mahmoud Rahhal, POD, 8 March 2019; and David Ligneau, Mine Action Programme Manager, Humanity and Inclusion (HI), 21 April 2020.

33 Emails from Hiba Ghandour, MAG, 7 April 2022; and Southern Craib, Operations Manager, NPA, 28 March 2022.

34 Email from Southern Craib, NPA, 28 March 2022.

35 LMAC, "2018 Annual Report Lebanon Mine Action Centre", pp. 4, 7, and 17; and emails from Lt.-Col. Fadi Wazen, LMAC, 7 March 2019; Mouhamed Chour, DCA, 4 April 2022; Hiba Ghandour, MAG, 7 April 2022; Southern Craib, NPA, 28 March 2022; and Revised 2020 Article 4 deadline Extension Request, 25 February 2020, pp. 8 and 54.

36 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

37 Article 7 Report (covering 2021), Form I; and email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

38 LMAC, "Lebanon Mine Action Strategy. Second Milestone Review 2014–2016", March 2018.

39 Email from Brig.-Gen. Ziad Nasr, LMAC, 27 April 2018; CCM Article 7 Reports (covering 2018 and 2019), Form A; Statement of Lebanon on International Cooperation and Assistance, CCM Seventh Meeting of States Parties, Geneva, 4–6 September 2017; and LMAC, "Annual Report 2020", p. 29.

40 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

DanChurchAid (DCA) reported that it is compliant with the Environmental Health and Safety Guidelines and that it follows the NMAS and the International Mine Action Standards (IMAS) procedures with regard to the environment. DCA's SOPs identify specific smoking areas at task sites to prevent uncontrolled fires and DCA monitors all vegetation-cutting procedures to prevent damage to flora that is protected under Lebanese law, especially when its teams are deployed in national reserves such as the Al Shuf Cedars, where DCA conducted clearance in 2021.⁴¹

HI has an environmental management system in place and its SOP21 on environmental management includes general protection for watercourses and groundwater, during vegetation clearance, in the construction and removal of temporary support facilities, during transport of toxic and hazardous materials, for livestock, wildlife, and cultural resources, and provision for the environmental awareness of clearance personnel. HI operates according to the NMAS and its SOPs at all times, with a view to minimising the

environmental impact of its operations.⁴²

Mines Advisory Group (MAG) has an environmental management system in place, which was in the process of being revised as at April 2022. MAG's environmental SOP takes into consideration the environment. In particular, special measures are implemented to avoid spreading of fires on mine clearance tasks, caused by demolitions.⁴³

NPA Lebanon said it has an environmental plan in place which it is implementing, including recent installation of a solar system; a recycling programme (paper, plastic, glass, and plastic); and fleet upgrading for fuel efficiency. NPA has also begun to track its environmental footprint through the use of an annual reporting tool. It also strives to minimise the removal of vegetation to the extent that it is safe to do so.⁴⁴

UNIFIL said it has been committed to environmental safety, including staggered timings for demining activities to reduce risks of bush fires during the summer season.⁴⁵

GENDER AND DIVERSITY

The gender and diversity-related policy applied at LMAC is that of the LAF military rules. According to LMAC, all its personnel are familiar with these rules and the specific provisions related to gender equality and inclusion, safeguarding, and behavioural codes.⁴⁶

LMAC has taken several actions to mainstream gender in its implementation plan, including through inclusive policies, data disaggregation in risk education and victim assistance, and participation in courses at the RSHDL.⁴⁷ In agreement with LMAC, the GICHD conducted a gender and diversity capacity assessment mission to Lebanon in July 2019.⁴⁸ In August 2019, LMAC appointed a new gender focal point.⁴⁹ The focal point participated in the Remote regional ARCP Gender Equality and Inclusion capacity development programme held online from October 2020 to March 2021.⁵⁰

Lebanon's new National Mine Action Strategy 2020–25, approved by the LMAA in June 2020, includes considerations on gender and diversity.⁵¹ Of the five objectives in the new strategy, the fifth states that: "The specific needs and perspective of women, girls, men and boys from all groups of society are considered, in order to deliver an inclusive

HMA [mine action] response". LMAC also acknowledges in the strategy that mine action "is a male-dominated environment and we have therefore a particular responsibility to empower women and ensure that we have a gender sensitive approach to our work".⁵² As per its strategic implementation plan, LMAC has drafted a code of conduct regarding gender, diversity, and inclusion, in collaboration with a committee composed of human resources personnel, safeguarding personnel, and gender focal points from the NGOs in Lebanon.⁵³ Lebanon's NMAS was due to be reviewed in 2022 from a gender perspective.⁵⁴

Of LMAC's total personnel, 17 (11%) are female. With respect to operational roles, eight (16%) of LMAC's 49 personnel are female. With respect to managerial/supervisory level positions at LMAC, none are currently held by women.⁵⁵ The number of staff at LMAC is determined by the LAF headquarters, so LMAC has limited control over the number of women, but it consistently requests that the percentage of women be increased.⁵⁶ However, the proportion of women at LMAC is more than double the 5% average of the Lebanese armed forces and LMAC seeks to improve this ratio further.⁵⁷

41 Emails from Mouhamed Chour, DCA, 4 April and 2 June 2022.

42 Email from Nahed Al-Khlouf, HI, 6 August 2022.

43 Email from Hiba Ghandour, MAG, 7 April 2022.

44 Email from Southern Craib, NPA, 28 March 2022.

45 Lt.-Col. (CHN) Dongjie Zhang, Chief – J3 Combat Engineer Section, UNIFIL Force HQ, 4 August 2022.

46 Email from Lt.-Col. Fadi Wazen, LMAC, 19 March 2020.

47 LMAC, "Annual Report 2018", p. 5; and email from Lt.-Col. Fadi Wazen, LMAC, 7 March 2019.

48 Email from Rana Elias, Cooperation Programmes Coordinator, GICHD, 26 August 2020.

49 Email from Lt.-Col. Fadi Wazen, LMAC, 21 August 2019.

50 Emails from GICHD, 14 May 2021 and 22 April 2022.

51 Emails from Lt.-Col. Fadi Wazen, LMAC, 19 March and 22 July 2020.

52 LMAC, Lebanon Mine Action Strategy 2020–25, p. 8.

53 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

54 Ibid.

55 Ibid.

56 Emails from Lt.-Col. Fadi Wazen, LMAC, 19 March 2020 and 15 March 2021; and LMAC, "Plan for the Implementation and Monitoring of the LMAP Strategy (2020–25)", p. 19.

57 LMAC, "Annual Report 2020", p. 37.

DCA's gender focal point conducted internal training on gender and diversity mainstreaming in 2021 and encouraged DCA to enhance the role of women within the organisation. DCA also held meetings with other NGOs regarding strengthening the role of women and attended two meetings convened by LMAC on gender and diversity mainstreaming. It reported that 15 of its 69 overall staff in Lebanon are female, with women accounting for 53% of managerial/supervisory positions (8 women) and 14% of all operations positions (7 women).⁵⁸

HI, MAG, and NPA all reported having gender policies in place.⁵⁹

HI reported that in 2021 9% of its mine action programme staff (including explosive ordnance risk education, EORE personnel) were women. This included 5% of women in operations positions, but none in managerial or supervisory positions.⁶⁰

MAG reported that it consults women during survey and community liaison activities; that all its community liaison teams are mixed; and that its data is disaggregated by sex, age, and nationality. Overall, women account for 19% of MAG's Lebanon programme, including 18% of operational roles in MAG's survey and clearance teams in Lebanon, and 14% of managerial level/supervisory positions.⁶¹ MAG considers a wide range of elements under diversity as part of its operations, taking into consideration the diverse community and religious background of the areas in which it works and trying to consider these aspects during recruitment, to

ensure they are reflected in MAG's personnel.⁶² In 2021, MAG promoted the first women as Field Operations Manager and the first male National Technical Field Manager. MAG was able to establish a Gender Diversity and Inclusion Steering Committee for the programme.⁶³

NPA was implementing its organisational gender policy for Lebanon, based on recommendations from the GICHD. It is encouraging more women to apply for field positions through job postings and social media. NPA personnel participated in various trainings and fora on gender and diversity co-hosted by the GICHD and LMAC in 2021. As at June 2022, NPA reported that 22% of its employees are women, including 16% of employees in operational roles, and 50% of management personnel.⁶⁴ NPA disaggregates data by sex and age.⁶⁵

Both UNIFIL's Troop Contributing Countries (Cambodia and China) have female deminers, team leaders, and site supervisors and in total there are 14 women (11% of the total demining personnel).⁶⁶

Women, girls, boys, and men are said to be consulted during survey and community liaison activities.⁶⁷ According to LMAC, Lebanon's baseline of contamination has been developed over many years. As per Lebanon's NMAS, non-technical survey teams consult with women, girls, boys, and men, including, where relevant, minority groups, in order to make sure all available information is included.⁶⁸

INFORMATION MANAGEMENT AND REPORTING

In 2021, LMAC completed migrating from its former version of IMSMA (New Generation) to IMSMA Core, with support from the GICHD. The transition to IMSMA Core revealed errors in the province name in which some CMR tasks were registered, which were corrected.⁶⁹ As at April 2022, IMSMA Core was fully functional for all activities, but LMAC was still in a transition period for daily and weekly progress reporting.⁷⁰

LMAC hopes IMSMA Core will help facilitate the production of clearer reports that can be translated into dashboards for stakeholders, including donors, to monitor and follow.⁷¹ Operators believe that IMSMA Core will enable better direct access to data, which will enhance understanding of broader CMR contamination and assist in identifying tasks where further non-technical and technical survey could be valuable.⁷²

Some of the information in the database may not be accurate. This is especially the case with respect to scattered/militia minefields from civil war, for which non-technical survey was conducted many years ago, with limited reliable information available. It can be challenging to gain a clear picture of what contamination was cleared by the LAF and if the related clearance documents were transferred to LMAC and are included in the information management database.⁷³ LMAC has said that non-technical survey will be extremely important for these scattered minefields.⁷⁴

58 Email from Mouhamed Chour, DCA, 2 June 2022.

59 Emails from Emile Ollivier, NPA, 19 March 2019; David Willey, MAG, 7 March 2019; and David Ligneau, HI, 23 August 2019.

60 Email from Nahed Al-Khlouf, HI, 6 August 2022.

61 Emails from Hiba Ghandour, MAG, 7 April and 3 June 2022.

62 Email from Sylvain Lefort, MAG, 27 May 2021.

63 Email from Hiba Ghandour, MAG, 7 April 2022.

64 Email from Valerie Warmington, Programme Manager, NPA, 6 June 2022.

65 Email from Valerie Warmington, NPA, 28 May 2020.

66 Email from Lt.-Col (CHN) Dongjie Zhang, J3 Combat Engineer Section, UNIFIL Force HQ, 7 September 2022.

67 Email from Lt.-Col. Fadi Wazen, LMAC, 5 April 2019.

68 Email from Lt.-Col. Fadi Wazen, LMAC, 19 March 2020.

69 Article 7 Report (covering 2021), Form F; and email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

70 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

71 Emails from Brig.-Gen. Ziad Nasr, LMAC, 27 April 2018; and LMAC Operations Department, 28 June 2018; "Mine Action Forum: Action Points 1st Quarter Progress Report, March 2018"; and LMAC, "2018 Annual Report Lebanon Mine Action Centre", p. 14.

72 Email from Valerie Warmington, NPA, 28 May 2020.

73 Email from David Ligneau, HI, 21 April 2020.

74 LMAC, "Plan for the Implementation and Monitoring of the LMAP Strategy (2020-2025)", p. 16.

The GICHD provides support to LMAC under its Information Management Capacity Development Framework and conducts IM training sessions and workshops.⁷⁵

DCA has been using Tiramisu Information Management Tool (T-IMS) for the past three years.⁷⁶ HI uses ArcGIS and Trimble, in addition to IMSMA Core for reporting to LMAC.⁷⁷ MAG started using "Survey123" software in Lebanon in August 2021 after training and field testing the new data collection system.⁷⁸ MAG believes that synchronisation of its internal reporting system (Survey 123) and LMAC's IMSMA core would avoid the need for double reporting and help decrease the margin of errors.⁷⁹ In the second half of 2020,

NPA introduced the ARC-GIS programme for data collection to its information management system, which has allowed more precise monitoring and evaluation of the programme's activities, efficiency, outputs, and reporting.⁸⁰

In the Lebanon Mine Action Strategy 2020–25, and the accompanying implementation plan, LMAC states that it will initiate voluntary APMBC Article 7 reporting.⁸¹ In its Annual Report for 2020 (published in 2021), LMAC again said that it would initiate the process for voluntary reporting to the APMBC.⁸² However, as at July 2022, no APMBC voluntary Article 7 report had yet been submitted.

PLANNING AND TASKING

In September 2011, LMAC adopted a strategic mine action plan for 2011–20.⁸³ The plan called for clearance of all CMR by 2016 and for completion of mine clearance outside the Blue Line by 2020. Both goals were dependent on capacity, but progress fell well short of planning targets, which were not met.

LMAC has developed a new National Mine Action Strategy for 2020–25, with support from the European Union-funded UNDP project, in a participatory approach with national and international implementing agencies, mine action non-governmental organisations (NGOs), UN agencies, and donors.⁸⁴ The new strategy was signed by the LMAA in June 2020. A mid-term and final external review are planned, as well as annual reporting on progress.⁸⁵

LMAC has also elaborated a strategic implementation plan for 2020–25, based on the new strategy and in collaboration with implementing partners, to operationalise the new strategy with objectives, outputs, and indicators.⁸⁶ Results from the monitoring of the strategic implementation plan would be discussed at the operational level with implementing agencies at the TWG and a group of recommendations agreed and then presented at the biannual Mine Action Forum meetings.⁸⁷ The implementation plan will be revised annually by LMAC, the Institutional Support Programme (UNDP at present), and in consultation with humanitarian clearance operators LMAC planned to conduct a full review of the

strategy and implementation plan in 2022, in cooperation with all stakeholders.⁸⁸ In addition, LMAC had an annual work plan for 2021 which was subsequently shown to have been slightly over-ambitious – something which its 2022 work plan has taken into consideration.⁸⁹

According to LMAC, increased urbanisation; clearance of the Blue Line; spill-over from Syria creating new contamination, including IEDs; and the sudden increase in residents, have combined to result in a change to clearance priorities.⁹⁰ With regard to task prioritisation, LMAC conducted a study, whose results have informed a new national prioritisation system, based on three strategic categories: safety, economy, and treaty compliance. Each category contains subcategories which take operational considerations and impact into account.⁹¹ LMAC has introduced new forms for non-technical survey for entry into IMSMA Core which now capture information needed for the new prioritisation matrix. The new IMSMA Core only became fully functional in 2021, therefore additional information is still required to be able to specify the priorities. As at April 2022, non-technical survey teams had collected information and updated the priorities for three districts and were working to complete reprioritisation in 2022. In the meantime, LMAC is using the district-level priorities for the equitable distribution of teams.⁹²

75 Emails from GICHD, 14 May 2021 and 22 April 2022.

76 Email from Matthew Benson, Country Director, DCA, 4 June 2021.

77 Email from Nahed Al-Khlouf, HI, 12 August 2022.

78 Email from Hiba Ghandour, MAG, 7 April 2022.

79 Ibid.

80 Email from Hala Amhaz, NPA, 15 March 2021.

81 LMAC, Lebanon Mine Action Strategy 2020–25, June 2020, p. 4; and LMAC, "Plan for the Implementation and Monitoring of the LMAP Strategy (2020-2025)", p. 5.

82 LMAC, "Annual Report 2020", p. 26.

83 LMAC, "Lebanon Mine Action Strategy 2011–2020", September 2011, p. 4.

84 LMAC, Lebanon Mine Action Strategy 2020–25; and LMAC, "Annual Report 2019", p. 7.

85 Email from Lt.-Col. Fadi Wazen, LMAC, 22 July 2020; and LMAC, Lebanon Mine Action Strategy 2020–25, p. 4.

86 Emails from Lt.-Col. Fadi Wazen, LMAC, 22 July 2020 and 15 March 2021; and LMAC, "Plan for the Implementation and Monitoring of the LMAP Strategy (2020–25)", p. 3.

87 LMAC, "Plan for the Implementation and Monitoring of the LMAP Strategy (2020–25)", p. 21.

88 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

89 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022.

90 LMAC, "Annual Report 2019", p. 30.

91 Email from Lt.-Col. Fadi Wazen, LMAC, 15 March 2021; and LMAC, "Annual Report 2020", p. 35.

92 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

DCA has deployed two non-technical survey teams for Baabda and Aley districts in Mount Lebanon, and said there had been a new re-prioritisation of tasks in this region. According to DCA, district level reports will be issued when finished including the prioritisation classification, which will help in the deployment of the clearance/technical survey teams.⁹³

HI's prioritisation of tasks is based on proximity to populated area, but mine clearance operations in north Lebanon and the Mount Lebanon area are also determined by seasonal factors: clearance of low altitude minefields during winter (October to April), and then clearance tasks above 2,000 metres begin in April and continue through the summer, depending on snow.⁹⁴ After completing mine clearance in the north in 2021, HI shifted its operations to Aley district in Mount Lebanon where its non-technical survey teams re-surveyed all tasks

assigned to it by LMAC. Tasks were re-prioritised according to LMAC criteria.⁹⁵

As per the previous year, in 2021 MAG received task dossiers and maps for minefields well ahead of deployment, which allowed it to conduct non-technical survey and prioritise these tasks for increased impact. It also allows for effective use of resources and deployment of teams.⁹⁶

Prior to 2016, demining along the border with Israel had been said to depend on "political developments",⁹⁷ but the Lebanese government subsequently took the decision to initiate larger-scale, planned clearance on the Blue Line.⁹⁸ Clearance by humanitarian demining operators, which began in November 2016,⁹⁹ was still ongoing as of writing.

LAND RELEASE SYSTEM

STANDARDS AND LAND RELEASE EFFICIENCY

Lebanon developed its first NMAS in 2010.¹⁰⁰ In 2017, LMAC revised and harmonised national standards with IMAS, adding new modules not present in the original standards.¹⁰¹ It has since continued to review and revise the NMAS to focus more on land release and evidence-based decision making, based on recommendations and analysis of operational data. Notable enhancements included reduction of the required clearance depth from 20cm to 15cm; revision of fade-out specifications for pattern minefields, and enhancements in how rapid response tasks are addressed and recorded.¹⁰² Lebanon's mine action strategy includes plans for a full review of the NMAS in 2022, which was to be conducted by a UNDP consultant.¹⁰³

Further updates were made to the NMAS in late 2019 and a full review of the standards was completed at the beginning of 2020¹⁰⁴ and released to implementing partners in July 2020.¹⁰⁵ These included the introduction of a new NMAS (07.14) on Risk Assessment, and a new standard (09.31) on improvised explosive device (IED) Disposal (IEDD), which

were adopted in March 2020.¹⁰⁶ With regard to technical survey, the NMAS no longer specifies a minimum percentage of area over which technical survey must be conducted, which permits LMAC to reduce technical survey when appropriate, especially on the Blue Line minefields and for CMR.¹⁰⁷ The NMAS also allows for areas under full clearance to be reduced (or in part reduced), based on information gathered during clearance, as well as for the original task boundaries to be changed based on experience during clearance. Changes were also made to the NMAS on demolitions.¹⁰⁸

Operators now have an opportunity to discuss specific land release considerations with LMAC for assigned clearance tasks, which arise during the pre-clearance assessment stage of operations. Such discussions might result in the refining of the task size or approved land release specifications (e.g. use of technical survey, for all or part of the task, rather than full clearance).¹⁰⁹

93 Email from Mouhamed Chour, DCA, 2 June 2022.

94 Emails from Chris Chenavier, HI, 7 April 2016; and David Ligneau, HI, 29 August 2018 and 9 April 2019; and Danila Zizi, HI, 26 July 2021.

95 Email from Nahed Al-Khlouf, HI, 6 August 2022.

96 Emails from Sylvain Lefort, MAG, 24 March 2021; and Hiba Ghandour, MAG, 7 April 2022.

97 Presentation by Maj. Bou Maroun, RMAC, Nabatiyeh, 4 May 2012; and response to Landmine Monitor questionnaire by Leon Louw, Programme Manager, UN Mine Action Support Team (UNMAST), 7 May 2014.

98 Interview with Brig.-Gen. Elie Nassif and Brig.-Gen. Fakhri, LMAC, Beirut, 11 April 2016.

99 Email from Brig.-Gen. Ziad Nasr, LMAC, 24 April 2017.

100 Email from Brig.-Gen. Elie Nassif, LMAC, 17 June 2015.

101 Emails from Brig.-Gen. Elie Nassif, LMAC, 7 July 2015; Dave Wiley, MAG, 27 April 2018 and 7 March 2019; and Craig McDiarmid, Programme Manager, NPA, 17 April 2018 and 19 March 2019; and Revised 2020 Article 4 deadline Extension Request, 25 February 2020, p. 15.

102 Emails from Brig.-Gen. Ziad Nasr, LMAC, 27 April 2018; Craig McDiarmid, NPA, 17 April 2018; and Dave Wiley, MAG, 27 April 2018; and LMAC, "Annual Report 2018", p. 17.

103 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022.

104 Email from Lt.-Col. Fadi Wazen, LMAC, 15 March 2021.

105 Email from Hala Amhaz, NPA, 15 March 2021.

106 Emails from Lt.-Col. Fadi Wazen, LMAC, 19 March and 2 September 2020.

107 Ibid.

108 Ibid.

109 Interview with Brig.-Gen. Elie Nassif and Brig.-Gen. Fakhri, LMAC, Beirut, 11 April 2016; and with Lt.-Col. Fadi Wazen, LMAC, Beirut, 16 April 2019.

Most recently, LMAC has focused on further strengthening evidence-based non-technical and technical survey to more accurately define the presence of an explosive threat (or confirm its absence).¹¹⁰ A study on operational efficiency found that the NMAS generally places heavy limitations on how mine action operators are able to operate and that this drastically affects efficiency.¹¹¹ The study called for a comprehensive and harmonised understanding of, and training on, land release across stakeholders, with an emphasis on the importance of evidence-based technical survey before clearance.¹¹² Other recommendations included allowing a more flexible marking system based on the NMAS; extending the time slot for demolitions; and improving and expanding the role of animal detection systems (ADS).¹¹³

Participants at the Mine Action Forum meeting on 22 January 2021 agreed on the need to strengthen the use of technical survey and analyse existing methods and tools to identify areas for potential improvement in operational efficiency.¹¹⁴ LMAC subsequently reviewed and field tested the recommendations, and further updates to the NMAS on technical survey, battle area clearance (BAC), and minefield clearance were discussed in the TWG in 2021, and shared with operators for feedback. Training was subsequently conducted in April 2021 and the revised NMAS were adopted by LMAC and released in May 2021.¹¹⁵ NGO clearance operators updated their SOPs accordingly and commenced application of technical survey on BAC tasks.¹¹⁶ LMAC is supporting the LAF ER to update its SOPs.¹¹⁷

LMAC updated its strategic implementation plan to reflect the increased focus on technical survey,¹¹⁸ and it was agreed at the TWG meeting in December 2021 that more technical survey will be conducted by manual search teams. Further training was conducted in February 2022 to unify and enhance understanding of the concept and improve the application of technical survey in all hazardous areas, and specifically in CMR tasks.¹¹⁹

Mined areas in pattern minefields/along the Blue Line are classified into high-threat hazardous area (HTHA) and low-threat hazardous area (LTHA). The use of technical survey, instead of full clearance, is permitted for some parts

of CHAs based on discussion and agreement between LMAC operations officers and clearance operators.¹²⁰ Previously, full clearance had been required for 15 metres from the mine rows, but in the revised NMAS this has been changed to a required fade-out of five metres from the mine rows, and technical survey from the edge of the five-metre fade-out up to the minefield fence, for minefields in which the lanes have not been disrupted.¹²¹ If there is no fence, 10 metres of technical survey is required from the edge of the 5-metre fade-out. Fade-out for anti-vehicle mines has been reduced from 20 metres to 10.¹²²

Based on empirical evidence, international operators have not found mines further than five metres from the outer mine row, in minefields in which the lanes have not been disturbed.¹²³ Arguably therefore, technical survey beyond the five-metre fade-out should only be required if there is sufficient evidence to suggest mines have migrated from the mine rows. However, while technical survey is still required beyond the five metres from the outer mine row, the amended NMAS now provides for improved flexibility in the percentage of area searched as part of technical survey. Technical survey requirements are now being decided more in line with operational observations and decisions are being made collaboratively with RMAC, with good effect.¹²⁴

With respect to technical survey requirements, NPA focuses its efforts on areas adjacent to missing mines, where the terrain may have allowed migration or where there appears to be a logical tactical reason for laying mines somewhere other than the defined line. Until recently NPA had yet to discover any mines in these areas, but in 2022 reported that it had discovered six mines during technical survey in a single task which were well away from the mine rows. The six mines were all in an area that could have been run-off from the mine line, but were all found at a depth of approximately 10cm and were all orientated correctly. This suggests they may have been deliberately emplaced, possibly as a result of the engineers who originally laid the minefields having a number of mines "left over" which they subsequently deployed wherever convenient. These mines would not have been found had it not been for the requirement for technical survey.¹²⁵

110 Emails from Lt.-Col. Fadi Wazen, LMAC, 7 March 2019; Dave Wiley, MAG, 27 April 2018; and Craig McDiarmid, NPA, 17 April 2018; and Statement of Lebanon on Clearance, CCM Ninth Meeting of States Parties, Geneva, 2 September 2019.

111 Email from Hala Amhaz, NPA, 15 March 2021.

112 LMAC, "Annual Report 2020", p. 36.

113 Ibid.

114 LMAC, "Annual Report 2020", p. 26.

115 Emails from Lt.-Col. Fadi Wazen, LMAC, 15 June 2021 and 29 March 2022; and Hiba Ghandour, MAG, 7 April 2022.

116 Emails from Mouhamed Chour, DCA, 4 April 2022; and Hiba Ghandour, MAG, 7 April 2022.

117 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

118 Email from Lt.-Col. Fadi Wazen, LMAC, 15 June 2021.

119 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

120 Email from Brig.-Gen. Ziad Nasr, LMAC, 27 April 2018.

121 Email from Dave Wiley, MAG, 19 August 2019.

122 Emails from Brig.-Gen. Ziad Nasr, LMAC, 27 April 2018; Craig McDiarmid, NPA, 17 April 2018; and Ali Nasreddine, MAG, 24 July 2018.

123 Emails from Ali Nasreddine, MAG, 24 July 2018; Craig McDiarmid, NPA, 17 April 2018 and 8 April 2019; and Hala Amhaz, NPA, 17 March 2021.

124 Emails from Valerie Warmington, NPA, 23 July 2021; Southern Craib, NPA, 12 April 2022; and Hiba Ghandour, MAG, 7 April 2022.

125 Email from Southern Craib, NPA, 12 April 2022.

NPA believes changes could be considered to the procedure for missing mines in patterned minefields along the Blue Line. Many mines are missing due to water and soil-related movement or detonation by animals and the current "missed-mine" protocol is resource-intensive.¹²⁶ NPA believed a study of the empirical evidence would be useful, including how many missed mine drills each agency has performed and how many mines were discovered as a result.¹²⁷ NPA's own data suggests the process of the missing mine drill serves no useful purpose beyond added "peace of mind". Since 2017, NPA had conducted 1,648 missing mine drills in Lebanon and had found no mines or evidence of such. However, analysis of the data also suggests that the impact on clearance rates is not as significant as originally thought. On average a missing mine drill takes approximately 45 minutes to perform whereas a deminer would otherwise clear 1.55m² in the same time.¹²⁸

In 2019, NPA began to consider using Ground Penetrating Radar (GPR)-equipped detectors as a solution and was planning to arrange a potential trial of UN Mine Action Service (UNMAS)-owned dual sensor equipment in 2020 to conduct missed-mine checks.¹²⁹ COVID-19 lockdowns and evacuation of relevant UNMAS personnel, resulted in a delay of the planned trial in 2020.¹³⁰ As at April 2022, NPA had conducted limited trials on GPR detectors to date, and the trials were inconclusive with respect to their potential use on missing mines. NPA planned to conduct further trials in 2022 once the weather had improved.¹³¹ At the same time, following a TWG meeting in early 2021 in which international NGOs highlighted that missing mine excavations had not resulted in any missing mines being located, there has been increased flexibility from RMAC with regard to the "missing mine" drill. RMAC officers have permitted some of NPA's requests not to conduct the drill where there was evidence that the mine had been moved (and located nearby) or that it was previously detonated.¹³²

Minefields in areas outside of the Blue Line, for example in the north-east and in Mount Lebanon, will be studied on a case-by-case basis, to determine where full clearance is required and where technical survey must be applied.¹³³

In the north-east, technical survey, including with MDDs or using large-loop detectors, could be highly efficient in addressing a low level of threat dispersed over a large area.¹³⁴ In north of Lebanon, the main contamination is scattered minefields, and past land release has typically been characterised by large areas cleared and small number of anti-personnel mines destroyed. Where conditions allowed, HI applied technical survey methodology in 2021 in coordination with LMAC's operations section. This resulted in 53% of land being reduced and swifter release of land back to communities.¹³⁵

LMAC accepted the recommendations proposed by the clearance operators regarding the "metal-free" criteria, and LMAC's requirement for "metal-free" in the north-east was changed in early 2021. The criteria is now "half of the MUV-9 fuze" for the clearance of the minefields on the Blue Line, with confirmed contamination of No. 4 anti-personnel mines only.¹³⁶ NPA subsequently achieved its highest clearance rates in the north-east in the two months prior to it ending its operations in this region of Lebanon due to a drop in funding.¹³⁷

Both DCA and MAG, welcomed the change of the demolition timings to the morning, which MAG said provides a longer time window to conduct more demolitions if needed,¹³⁸ and which DCA said reduces fire risk at the sites.¹³⁹

LMAC has said that with the introduction of IMSMA Core, the assigning of tasks for non-technical survey teams, and the reviewing of them by the implementing partners and by LMAC's non-technical survey officer, is faster, easier, and very effective. LMAC's non-technical survey officer meets with the non-technical survey teams from implementing agencies on a weekly basis, to discuss results and planning. LMAC also assigns a group of tasks to implementing agencies rather than one task, and the operators have the capability in IMSMA Core to see which tasks are close by to the area in which they are working and to ask to expand their mission directly while in the field. Priority levels in accordance with the new system are then determined based on their reports.¹⁴⁰

OPERATORS AND OPERATIONAL TOOLS

In 2021, manual mine clearance was conducted by international operators DCA, HI, MAG, and NPA, along with the Engineering Regiment of the LAF. In addition, UNIFIL continued conducting clearance for humanitarian purposes (first commenced from June 2020), in addition to its regular demining operations for demarcation purposes on the Blue Line. Clearance capacity in Lebanon in 2021 was a significant decrease on the previous year, due to the drop in funding in 2021.¹⁴¹

The LAF Engineering Regiment has two BAC teams. A further three Engineering Regiment companies conduct rapid response call-outs. In addition, each deployed Combat brigade company has its own combat engineering company which can also conduct rapid-response call-outs. The LAF has seven MDD teams for technical survey and for use as a secondary asset supporting clearance. Through the Engineering Regiment, LMAC provides mechanical assistance to clearance operators that lack this capacity.¹⁴²

126 Email from Valerie Warrington, NPA, 28 May 2020.

127 Email from Hala Amhaz, NPA, 17 March 2021.

128 Email from Southern Craib, NPA, 12 April 2022.

129 Email from Valerie Warrington, NPA, 28 May 2020.

130 Email from Valerie Warrington, NPA, 23 July 2021.

131 Email from Southern Craib, NPA, 12 April 2022.

132 Email from Valerie Warrington, NPA, 23 July 2021.

133 LMAC, "Annual Report 2020", p. 10.

134 Email from Valerie Warrington, NPA, 23 July 2021.

135 LMAC, "Annual Report 2021", p. 16.

136 Email from Hiba Ghandour, MAG, 7 April 2022.

137 Email from Southern Craib, NPA, 12 April 2022.

138 Email from Hiba Ghandour, MAG, 7 April 2022.

139 Email from Mouhamed Chour, DCA, 2 June 2022.

140 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

141 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022.

142 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022; and LMAC, "Annual Report 2021", p. 19.

In Lebanon, machines are mostly used as secondary assets to support clearance teams (e.g. for ground preparation, rubble removal, or for fade-out); in areas where manual clearance is difficult; and for technical survey and LTHA.¹⁴³ Often, however, the terrain is not suitable for machines. Unfortunately, the economic crisis in Lebanon has resulted in huge budget cuts in all government institutions and therefore the LAF teams are not able to conduct the same level of activities as before, including with respect to some of the mechanical assets. Clearance operators who are supported by mechanical assets from the LAF are providing fuel, maintenance, and spare parts for the machines. In addition, new mechanical assets have been introduced by MAG, which will be used as primary assets.¹⁴⁴

Table 2: Operational clearance capacities deployed in 2021¹⁴⁵

Operator	Manual teams	Total clearance personnel*	Dogs and handlers	Machines**	Comments***
DCA	2	16	0	0	Combined mine and BAC capacity. Clearance personnel also conduct technical survey. LMAC reported that DCA had three clearance teams.
HI	3	24	0	0	Clearance personnel also conduct technical survey when required.
MAG	6	55	0	12	This was a decrease of 15 deminers in 2021 due to the end of FCDO funding as of March 2021. Mechanical assets were used to support both cluster munition and mine clearance operations.
NPA	2	16	0	0	NPA continued to operate with two mine clearance teams in 2021. Clearance personnel also conduct technical survey when required.
UNIFIL	5	124	0	1	Including team leaders, site supervisors, and also includes one EOD team, which is in addition to the five manual clearance teams. The demining machine is an armed excavator which can be used as a primary tool (using the bucket attachment for excavating and sifting) or for area confirmation or reduction (using the rotary attachment).
Totals	18	235	0	13	

* Clearance personnel may also conduct technical survey. ** Excluding vegetation cutters and sifters. *** Clearance teams also work on technical survey tasks.

The UNIFIL capacity was provided by its two Troop-Contributing Countries: Cambodia and China. Operational capacities and capabilities of UNIFIL are determined by operational need. In 2022, UNIFIL capacity totalled 124 personnel (five manual clearance teams, two EOD teams, and one mechanical team).¹⁴⁶ UNMAS provides initial training with UNIFIL demining units when they rotate into the country, refresher training, and QA and validation of the demining teams.¹⁴⁷

UNIFIL was established in 1978¹⁴⁸ in order to confirm the withdrawal of Israeli forces from southern Lebanon (which occurred in 2000); restore international peace and security; and assist the Government of Lebanon to re-establish its authority in the area.¹⁴⁹ The primary task of UNIFIL mine clearance teams has been to clear access lanes through minefields in order to visibly demarcate the 118km-long Blue Line. Historically, UNIFIL has not conducted clearance on the Blue Line for humanitarian purposes but only to facilitate placement of markers by clearing three-metre-wide lanes into mined areas,¹⁵⁰ and also to clear mines close to UNIFIL posts or which pose a danger to UNIFIL patrols. However, in a positive development, on 30 January 2020, UNIFIL and LMAC signed a MoU on Humanitarian Demining, and planned to work together, with UNIFIL helping the LAF/LMAC clear areas contaminated by both mines and unexploded ordnance (UXO).¹⁵¹ According to LMAC, UNIFIL Engineering Units subsequently started humanitarian demining in June 2020, with two teams.¹⁵² As per the MoU, LMAC joined UNMAS in the accreditation of the UNIFIL teams and QA visits.¹⁵³

143 Emails from Brig.-Gen. Ziad Nasr, LMAC, 24 April 2017; Samuel Devaux, HI, 4 April 2017; Dave Willey, MAG, 25 April 2017; and Lt.-Col. Fadi Wazen, LMAC, 5 April 2019.

144 Email from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022.

145 Emails from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022; Mouhamed Chour, DCA, 2 June 2022; Nahed Al-Khlouf, HI, 6 August 2022; Hiba Ghandour, MAG, 7 April 2022; Valerie Warmington, NPA, 7 September 2022; and Lt.-Col. (CHN) Dongjie Zhang, UNIFIL Force HQ, 7 September 2022.

146 Lt.-Col. (CHN) Dongjie Zhang, UNIFIL Force HQ, 7 September 2022.

147 Lt.-Col. (CHN) Dongjie Zhang, UNIFIL Force HQ, 4 August 2022.

148 UN Security Council Resolutions 425 (1978) and 426 (1978).

149 UNIFIL, "UNIFIL Mandate", at: <http://bit.ly/2YpCwuD>.

150 Presentation by Maj. Pierre Bou Maroun, RMAC, Nabatiyeh, 4 May 2012; and emails from Henri Francois Morand, UNMAS, 2 October 2015 and 18 September 2017.

151 Emails from Lt.-Col. Zengliang Zhou, UNIFIL, 20 April 2020; and Lt.-Col. Fadi Wazen, LMAC, 19 March 2020.

152 Email from Lt.-Col. Fadi Wazen, LMAC, 15 March 2021; and LMAC, "Annual Report 2020", p. 17.

153 LMAC, "Annual Report 2020", p. 17.

With respect to non-technical survey capacity (for both mines and CMR) in 2021, LMAC reported that there were seven non-technical survey teams in total: two LMAC teams (totalling two personnel); two DCA teams (totalling four personnel); one HI team (totalling three personnel); one MAG team (totalling three personnel); and one NPA team (totalling two personnel up to the end of March and then one person thereafter).¹⁵⁴ As at April 2022, NPA no longer had dedicated non-technical or technical survey capacity and when survey is required, suitably trained NPA personnel are drawn from existing clearance capacity.¹⁵⁵

National operator LAMINDA ceased survey and clearance operations in Lebanon in August 2020, due to the economic situation in Lebanon and the inability to fund overhead expenses.¹⁵⁶

DCA's clearance capacity remained constant in 2021 and was expected to continue to remain the same in 2022.¹⁵⁷

HI's demining personnel decreased remained at three teams totalling 24 deminers for clearance and technical survey in 2021.¹⁵⁸ MAG's EU grant ended on 31 January 2021, resulting in a reduction of one multi-task team in the north-east, and MAG's UK Foreign, Commonwealth & Development Office (FCDO) grant ended on 31 March 2021, reducing capacity by 2.5 teams in the South.¹⁵⁹

NPA employs a multitask approach, with all deminers, team leaders, and team supervisors trained to address all explosive ordnance types in Lebanon, which has enabled NPA to respond to changing priorities and operational constraints. This has been helpful in mitigating the impact of COVID-19 disruptions, such as reassigning deminers between mine and

CMR tasks as needed.¹⁶⁰ NPA saw a significant reduction in overall operational capacity in 2021 due to loss of funding, in particular from the EU and FCDO, which resulted in closure of NPA's sub-base and operations in north-east Lebanon from the end of April 2021.¹⁶¹

LMAC encourages research, application, and sharing of the innovative technological means and methodologies.¹⁶² MAG Lebanon has introduced two new mechanical assets: the Rebel Crusher, introduced in late 2021, used for processing (crushing) of soil contaminated with anti-personnel mines; and the GCS-200 equipped with flail attachment for mechanical ground preparation of technical survey lanes. MAG has conducted trials with the Rebel Crusher and training for GCS-200. As at April 2022, both assets were in the accreditation process and were planned to be deployed once accredited.¹⁶³

As part of non-technical survey on the north-east border of Lebanon, contaminated during spill-over of the Syrian conflict in 2014–17, drones were used for the first time in 2018, and proved very helpful in helping inform survey efforts according to LMAC.¹⁶⁴ HI organised a visit by its unmanned aerial vehicles (UAV) expert partner to Lebanon on 19–23 April 2021, to study the feasibility of the use of drones/UAV in HI's land release operations, with a view to enhancing the non-technical and technical survey processes as well as testing innovative methods based on thermal and LiDAR sensors. The visit found that Lebanon is a "perfect environment" for the deployment of drones and a project for 2022 was developed and submitted to donors.¹⁶⁵ HI began using drones in its operations in Mount Lebanon in 2022, in collaboration with LMAC.¹⁶⁶

DEMINER SAFETY

According to LMAC, there were three demining accidents in 2021, two in MAG and one in UNIFIL (one person also injured by a N14 mine during clearance operations).¹⁶⁷ The two accidents in MAG occurred during clearance operations on 3 March and 12 October resulting in one person injured in each accident. MAG performed internal investigations and the investigation reports were shared with LMAC.¹⁶⁸ LMAC also conducted an external investigation of MAG's accident.¹⁶⁹ UNIFIL confirmed it had one demining accident in 2021, which was investigated by the technical investigation team of UNIFIL. UNIFIL said that an after action report (AAR) of the

incident was produced and shared, which highlighted the following:

- "Change in investigation procedure to include technical representative from Combat Engineering Branch of UNFIL HQ;
- Specific casualty evacuation flow chart and rehearsals including air evacuation of casualty
- Change in demining SOPs suiting the deployment and terrain in respect of incident reporting, management, and investigation".¹⁷⁰

154 LMAC, "2021 Annual Report Lebanon Mine Action Centre", p. 17; and emails from Lt.-Col. Fadi Wazen, LMAC, 29 March 2022; Mouhamed Chour, DCA, 2 June 2022; Nahed Al-Khlouf, HI, 12 August 2022; Hiba Ghandour, MAG, 7 April 2022; and Southern Craib, NPA, 28 March and 12 April 2022.

155 Email from Southern Craib, NPA, 12 April 2022.

156 LMAC, "Annual Report 2020", p. 8; and email from Lt.-Col. Fadi Wazen, LMAC, 15 June 2021.

157 Email from Mouhamed Chour, DCA, 4 April 2022.

158 Email from Nahed Al-Khlouf, HI, 6 August 2022.

159 Emails from Sylvain Lefort, MAG, 24 March and 27 May 2021.

160 Email from Valerie Warmington, NPA, 7 September 2022.

161 Email from Southern Craib, NPA, 28 March 2022.

162 Email from Hiba Ghandour, MAG, 7 April 2022.

163 Ibid.

164 Presentation by Lt.-Col. Fadi Wazen, LMAC, at the Regional School for Humanitarian Demining in Lebanon (RHDSL), Beirut, 8 April 2019 and email 24 September 2022.

165 LMAC, "Annual Report 2021", p. 50.

166 Email from Nahed Al-Khlouf, HI, 6 August 2022.

167 Email from Lt.-Col. Fadi Wazen, LMAC, 24 September 2022.

168 Emails from Hiba Ghandour, MAG, 7 April and 16 August 2022.

169 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022.

170 Lt.-Col. (CHN) Dongjie Zhang, UNIFIL Force HQ, 4 August 2022.

LMAC has said that lessons learned from demining accidents are shared with all implementing agencies. Clearance operators were not aware of any accident reports having been shared by LMAC in the last three years,¹⁷¹ but said that LMAC shared lessons learned in bilateral meetings and technical workshops.¹⁷²

LAND RELEASE OUTPUTS AND PROGRESS TOWARDS COMPLETION

LAND RELEASE OUTPUTS IN 2021

A total of 682,453m² of mined area (i.e. area suspected or confirmed to contain anti-personnel mines) was released in 2021, of which 246,817m² was cleared, 169,288m² was reduced through technical survey, and 266,348m² was cancelled through non-technical survey. A total of 17,881 anti-personnel mines were destroyed in 2021, including 43 during EOD spot tasks.

A total of 26,211m² of unrecorded anti-personnel mined area was added to the database in 2021.¹⁷³

SURVEY IN 2021

In 2021, 266,348m² of mined area was cancelled through non-technical survey and 169,288m² was reduced through technical survey (see Tables 3 and 4).¹⁷⁴ This is an increase compared to the 99,778m² of mined area cancelled through non-technical survey in 2020 (due to the shift in focus of non-technical survey teams to minefields, having completed non-technical survey of all CMR tasks in 2020) and a decrease on the 226,562m² reduced through technical survey in 2020.¹⁷⁵

Table 3: Cancellation through non-technical survey in 2021¹⁷⁶

Province	Operator	Area cancelled (m ²)
Bekaa and South Lebanon	MAG	102,222
Mount Lebanon	DCA	36,906
Mount Lebanon and North Lebanon	HI	86,615
North Lebanon	LMAC	40,605
Total		266,348

Table 4: Reduction through technical survey in 2021¹⁷⁷

Operator	Area reduced (m ²)
DCA	12,842
HI	53,410
MAG	86,046
NPA	16,990
Total	169,288

A total of 26,211m² of previously unrecorded legacy anti-personnel mine contamination was identified by non-technical survey teams across seven sites and was added to the database in 2021.¹⁷⁸

171 Emails from Southern Craib, NPA, 12 April 2022; Mouhamed Chour, DCA, 17 August 2022; Nahed Al-Khlouf, HI, 12 August 2022; and Hiba Ghandour, MAG, 16 August 2022.

172 Email from Nahed Al-Khlouf, HI, 12 August 2022.

173 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022. DCA reported discovering 1,704m² of previously unknown mined area during non-technical survey in 2021 (email from Mouhamed Chour, DCA, 2 June 2022); and MAG reported discovering one area of previously unknown mined area in Rob Tlatine village, Marjaoun district, which totalled 1,670m² (email from Hiba Ghandour, MAG, 7 April 2022).

174 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022. In Lebanon, the term "Mined Area" is used to denote dangerous areas entered into the database when the first impact survey was executed, which were not accessible, and where the type of hazard was not identified. However, for the purposes of this report, mined area refers to areas suspected or confirmed to contain anti-personnel mines.

175 Email from Lt.-Col. Fadi Wazen, LMAC, 15 March 2021.

176 LMAC, "Annual Report 2021", p. 18; and email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022.

177 LMAC, "Annual Report 2021", p. 17; and emails from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022; Mouhamed Chour, DCA, 2 June 2022; Nahed Al-Khlouf, HI, 12 August 2022; and Southern Craib, NPA, 12 April 2022. There was a discrepancy between data reported by LMAC and what was reported by MAG. MAG reported reducing 104,733m² of mined area on the Blue Line and 4,542m² in north-east Lebanon in 2021. The differences are believed to be due to LMAC only reporting land release after full completion and hand over (emails from Hiba Ghandour, MAG, 7 April and 16 August 2022).

178 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022. DCA reported discovering 1,704m² of previously unknown mined area during non-technical survey in 2021 (email from Mouhamed Chour, DCA, 2 June 2022); HI reported discovering 15,616m² of previously unknown mined areas during non-technical survey in 2021 (email from Nahed Al-Khlouf, HI, 6 August 2022); and MAG reported discovering one previously unknown mined area in Rob Tlatine village, Marjaoun district, which totalled 1,670m² (email from Hiba Ghandour, MAG, 7 April 2022).

CLEARANCE IN 2021

A total of 246,817m² of mined area was cleared in Lebanon in 2021 (219,470m² by demining NGOs and UNIFIL, and 27,347m² by LAF), destroying in the process a total of 17,838 anti-personnel mines (16,998 by demining NGOs and UNIFIL; and 840 by the LAF), 5 anti-vehicle mines, and 1,303 items of other UXO (see Table 5).¹⁷⁹ In addition, during EOD spot tasks in 2021, MAG destroyed 1 anti-personnel mine and the LAF destroyed 42 anti-personnel mines and 32 anti-vehicles mines.¹⁸⁰

Total clearance in 2021 was a decrease on the nearly 0.35km² of mined area cleared in 2020 (0.21km² by demining NGOs and 0.14km² by LAF).¹⁸¹

LMAC has its own category for IED tasks and they are not registered as mine clearance. However, any victim-activated IEDs discovered are included in the total of anti-personnel mines destroyed.¹⁸² None of the anti-personnel mines destroyed in 2021 was of an improvised nature.¹⁸³

Table 5: Mine clearance in 2021¹⁸⁴

Operator	Area cleared (m ²)	AP mines destroyed	AV mines destroyed	UXO destroyed
DCA	28,075	2,606	0	14
HI	67,117	42	0	32
MAG	69,030	6,813	5	1,250
NPA	26,245	3,658	0	7
LAF	27,347	840	Not reported	Not reported
UNIFIL	29,003	3,879	0	0
Totals	246,817	17,838	5	1,303

AP = Anti-personnel AV = Anti-vehicle

The CHAs tasked by LMAC to clearance operators do not include obligatory fade-out distances, which can considerably increase the overall size of the task.¹⁸⁵

HI reported that it cleared nine tasks totalling 35,200m² suspected to contain anti-personnel mines in 2021 but which proved to contain none.¹⁸⁶ This represents more than half of the total area cleared by HI in 2021, highlighting the importance of technical survey prior to clearance. MAG reported that in 2021 it cleared one mined area in the south (35,966m²) and one mined area in the north-east (130m²) which were found not to contain anti-personnel mines.¹⁸⁷

The amount of mined area cleared by DCA in 2021, was an increase on the previous year, due to reduced impact of COVID lockdowns and of protests and roadblocks in 2021; an agreed reduction in the percentage of the area requiring technical survey; and the 2021 clearance tasks being suitable for deployment of several types of detectors, including large loop detectors.¹⁸⁸

179 Emails from Lt.-Col. Fadi Wazen, LMAC, 1 June and 24 September 2022; and LMAC, "Annual Report 2021", p. 13.

180 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022; and LMAC, "Annual Report 2021", p. 15. MAG itself reported that it did not destroy any anti-personnel mines during EOD spot tasks in 2021, although it did destroy an anti-personnel mine in late 2020 which may account for the discrepancy (emails from Hiba Ghandour, MAG, 7 April and 16 August 2022). DCA reported destroying one anti-personnel mine during an EOD spot task in south Lebanon (email from Mouhamed Chour, DCA, 2 June 2022), however, this was not included in the EOD spot task data reported by LMAC.

181 Emails from Lt.-Col. Fadi Wazen, LMAC, 19 March 2020; and LMAC, "Annual Report 2019", p. 7.

182 Email from Lt.-Col. Fadi Wazen, LMAC, 1 June 2022.

183 Ibid. HI reported that of the 42 anti-personnel mines it cleared in 2021, one was of an improvised nature (email from Nahed Al-Khlouf, HI, 6 August 2022).

184 LMAC, "Annual Report 2021", pp. 13 and 15; and emails from Lt.-Col. Fadi Wazen, LMAC, 1 June and 24 September 2022. There were some discrepancies between data reported by LMAC and what was reported by DCA, HI, MAG, NPA, and UNIFIL. DCA reported that it cleared a total of 55,501m² in 2021 in south Lebanon and in Mount Lebanon, with the destruction of a total of 2,557 anti-personnel mines and 15 items of UXO. The discrepancy is believed to be because DCA includes confirmation and mechanical asset data, whereas LMAC does not (emails from Mouhamed Chour, DCA, 2 June and 17 August 2022). HI reported that it cleared 67,714m² of mined area in 2021 across 18 tasks in the north, with the destruction of 42 anti-personnel mines (including one improvised mine) and 32 items of UXO (email from Nahed Al-Khlouf, HI, 6 August 2022). MAG reported that it cleared a total of 111,501m² in 2021 in the south and in north-east, with the destruction of a total of 6,823 anti-personnel mines, 3 anti-vehicle mines, and 1,259 other items of UXO (email from Hiba Ghandour, MAG, 7 April 2022). NPA reported that it cleared 25,925m² in the south in 2021, with the destruction of 3,617 anti-personnel mines and 7 UXO (email from Southern Craib, NPA, 12 April 2022). UNIFIL reported that it cleared 28,269m² in 2021, with the destruction of 4,075 anti-personnel mines and 1 UXO (email from Lt.-Col. (CHN) Dongjie Zhang, UNIFIL Force HQ, 4 August 2022).

185 Interview with Chris Chenavier, HI, Toulou, 18 April 2016.

186 Email from Nahed Al-Khlouf, HI, 6 August 2022.

187 Email from Hiba Ghandour, MAG, 7 April 2022.

188 Email from Mouhamed Chour, DCA, 2 June 2022.

In 2020, LMAC developed new guidelines and safety measures with respect to COVID-19, which allowed implementing partners to remain fully operational.¹⁸⁹ The SOP for safe behaviour continued to be applied and monitored by QA officers in 2021, but COVID-19 cases continued to result in the need for self-isolate, reducing operational output.¹⁹⁰ DCA said COVID-19 impacted its land release operations due to operations personnel being off work sick or in quarantine awaiting negative test results.¹⁹¹ HI said COVID-19 had no major effect on its survey or clearance operations in 2021, and only 15 working days were lost due to the pandemic. All HI teams were accommodated in the Toula base during working days; movements outside the base were limited to a minimum and no visitors were allowed. HI said that all precautionary measures were applied according to its internal SOP.¹⁹² According to MAG, there were 86 positive cases of COVID-19 among its deminers during 2021, resulting

in the loss of 272 working days.¹⁹³ NPA lost 17 operational days during the countrywide COVID-19 lockdown in January–February 2021. In addition, further operational days were lost due to NPA personnel testing positive to COVID-19 or precautionary isolation prior to testing following direct exposure.¹⁹⁴ According to UNIFIL's preventive measures for COVID-19, all units deployed and rotated are required to quarantine for 7 days, during which time all demining activities are suspended. In 2021, UNIFIL's Cambodian Unit had a significant number of COVID-19 infections and requested two weeks' group quarantine, during which no demining was conducted.¹⁹⁵

As in the previous year, roadblocks due to civil unrest prevented or delayed DCA teams from getting to their site on some instances in 2021, although the disruption was less than in 2020.¹⁹⁶

PROGRESS TOWARDS COMPLETION

According to Lebanon's Statement as an observer at the Fourth Review Conference of the APMBC in Oslo in November 2019, Lebanon's national mine action policy affirms its aspiration to become a State Party to the APMBC. The Minister of Defence, who also heads the LMAA, sent a letter to the Ministry of Foreign Affairs stating that the Ministry of Defence has no objections to Lebanon acceding to the Treaty. LMAC will work in the spirit of the APMBC and LMAC also asserts that it will implement the Oslo Action Plan, adopted at the Fourth Review Conference of the APMBC.¹⁹⁷ In Lebanon's National Mine Action Strategy 2020–25, the LMAA says that it works within the spirit of the APMBC and that it will continue to promote an accession to the Convention.¹⁹⁸

Clearance of mined areas was originally expected to be completed by the end of 2020, in accordance with the 2011–20 national strategy, but actual mine clearance capacity was far lower and progress against the strategy fell well behind schedule. Lebanon's new National Mine Action Strategy 2020–25 sets out annual targets for the next six years. LMAC expects Lebanon to be free from known mined areas in ten years, with the application of efficient land release methodology and subject to securing the necessary funding.¹⁹⁹ However, this looks to be very ambitious,

considering the extent of the remaining mined area (17.5km²) and annual mine clearance rates of considerably less than 1km² per year, with a total of less than 2km² of mined area cleared in the last five years (see Table 6).

It will take at least a decade for Lebanon to become mine-free. However, progress in land release is expected to be accelerated by adoption of better land release procedures in recent years. Crucially, LMAC's demonstrated commitment to enhance the use of non-technical and technical survey should help to cancel or reduce areas more efficiently.²⁰⁰

Table 6: Five-year summary of anti-personnel mine clearance

Year	Area cleared (km ²)
2021	0.25
2020	0.35
2019	0.48
2018	0.39
2017	0.51
Total	1.98

189 Emails from Lt.-Col. Fadi Wazen, LMAC, 22 July 2022; Sylvain Lefort, MAG, 23 June 2020; and Brig.-Gen. (ret.) Badwi El Sakkal, LAMINDA, 22 June 2020.

190 Emails from Lt.-Col. Fadi Wazen, LMAC, 15 March 2021 and 1 June 2022.

191 Email from Mouhamed Chour, DCA, 4 April 2022.

192 Email from Nahed Al-Khlouf, HI, 6 August 2022.

193 Email from Hiba Ghandour, MAG, 7 April 2022.

194 Email from Southern Craib, NPA, 12 April 2022.

195 Lt.-Col. (CHN) Dongjie Zhang, UNIFIL Force HQ, 4 August 2022.

196 Emails from Mouhamed Chour, DCA, 4 April and 2 June 2022.

197 LMAC, Lebanon Mine Action Strategy 2020–25, signed June 2020, p. 4; and LMAC, "Plan for the Implementation and Monitoring of the LMAP Strategy (2020–2025)", p. 5.

198 LMAC, "Lebanon Mine Action Strategy 2020–2025", pp. 1 and 4.

199 Emails from Lt.-Col. Fadi Wazen, LMAC, 19 March and 22 July 2020; and 15 March 2021; LMAC, "Annual Report 2020", p. 31; and LMAC, "Plan for the Implementation and Monitoring of the LMAP Strategy (2020–2025)", p. 9.

200 Email from Brig.-Gen. Ziad Nasr, LMAC, 27 April 2018; and emails from Craig McDiarmid, NPA, 17 April 2018; and Dave Wiley, MAG, 27 April 2018.

Rocky and forested terrain continued to pose a challenge to demining operations, in addition to lack of minefield records for much of the contamination (especially in the North).²⁰¹

The economic and political crises have led to hyper-inflation, currency collapse, and problems with already strict and reducing budgets. This has resulted in supplies being more expensive, fuel being harder to come by, and protests and roadblocks hampering the security situation. The impact of this is particularly challenging in respect to funding from some donors which do not fund the full cost of operations.²⁰² Funding shortfalls are significantly affecting LMAC's ability to meet the annual targets. Inflation has meant that the salaries of LMAC staff have dropped to almost 5% of their original purchasing power, significantly impacting on morale.²⁰³

PLANNING FOR MANAGEMENT OF RESIDUAL CONTAMINATION

According to LMAC, the strategic implementation plan, which will support the National Mine Action Strategy 2020–25, will address an exit strategy and long-term risk management.²⁰⁴

LMAC provided summary information on its plans regarding an exit strategy with respect to addressing residual risk after Convention on Cluster Munitions (CCM) Article 4 fulfilment,²⁰⁵ but details have yet to be provided on an exit strategy and long-term risk management strategy for mined areas.

201 Email from Brig.-Gen. Ziad Nasr, LMAC, 27 April 2018.

202 Email from Matthew Benson, DCA, 24 May 2021.

203 LMAC, "Annual Report 2021" p. 34.

204 Email from Lt.-Col. Fadi Wazen, LMAC, 19 March 2020.

205 LMAC, "Annual Report 2020", p. 31.