Landmines and UXO Clearance Operations

in Central Lebanon

External Evaluation

DanChurchAid Project July 2013-June 2016

November 2016
Map of central Lebanon with DCA office (starred) and locations where DCA conducted clearance (flagged) within the framework of the project Landmines and UXO Clearance Operations in Central Lebanon, 1 July 2013 – 30 June 2016. The overlapping flags at the top mark four mines fields in Jeita, where land was released.

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All photos used in this report are taken by the authors.

Acknowledgements: The Consultants would like to thank Fatmira Uka, Mohamed Chour and Mira Saad for the support and care provided during the field visit in Lebanon.
Executive Summary

DanChurchAid (DCA) implemented a three-year project ‘Landmines and UXO Clearance Operations in Central Lebanon’ funded by the European Union. The project started on 1 July 2013 and was completed on 30 June 2016. This report is a product of an external evaluation of the project, which took place in October-November 2016, eight months after the end of the clearance in end-February and four months after the official closure of the project. The objective of the evaluation was to measure the achievement of the project outcome and give recommendations for future programming. Key lines of inquiry were based on the OECD/DAC evaluation criteria and UNMAS guidelines. The evaluators’ team undertook desk review of project documents and literature on mine action, conducted field visits to Central Lebanon and held interviews with DCA staff, staff of the national mine action authorities, members of affected communities, and a representative of the donor agency, and visited five project sites where land was released to the communities. Three additional sites were seen by the evaluators, one where operations were ongoing with the next phase of EU funding, and two sites completed by the project and located in the vicinity of evaluated sites.

Two manual clearance teams – Team 1 and Team 4 – worked with funding from the evaluated project. They conducted clearance and technical survey operations on 12 sites, 8 of which were completed and land was released. A total of 112,413 m² were released, out of which half was cleared, and the other half reduced through technical survey. Capacity building support was provided to DCA staff, which facilitated the nationalisation of the Quality Assurance Officer position in 2014 and the preparation for the nationalisation of the Office Support Manager position.

The evaluation established that the project was highly relevant to the National Mine Action Strategy and Plan, as well as to donor priorities. Relevance to the needs of the communities was relatively high as demonstrated by the utilisation of most of the cleared land. The project was effective in achieving its objectives of ensuring safer livelihoods to the affected population through landmine and UXO clearance and strengthening Lebanese mine action capacities, despite the fact that project targets of cleared land and beneficiary numbers were not met. The direct beneficiaries of released land were 673 individuals (2.8% of established targets), although the number would have been larger, if 2 of the 12 tasks had not been in the same area and thus benefiting the same population. Low productivity, limited number of land owners and remoteness of the tasks from significant public infrastructure also contributed to low number of beneficiaries. 256,289 people benefited indirectly – 30% of the set target.

Project efficiency was low in terms of area cleared, area released, cost per sq. meter and number of items discovered and destroyed. 4 out of 8 completed tasks proved to be free of contamination, indicating a need for DCA to more actively advocate with LMAC for the use of non-technical survey and new approached to technical survey such as sampling. Partly due to the lack of national standards on land release, which are being developed at the time of evaluation, DCA teams cleared between 50% and 100% on three of the four tasks where no items were identified, indicating an underutilisation of technical survey for land release (LMAC requires minimum 30% of the task to be technically surveyed before proceeding with land release in the absence of evidence of contamination).
The impact of the project was tangible on most of the evaluated tasks. Four of the tasks where clearance took place were located in or in the vicinity of Lebanon’s most popular tourist site with over 200,000 annual visitors. Evidence on planned construction and agricultural development was present on two of the visited tasks, while another two did not present immediate impact due to absence of or conflict among land owners.

Lastly, sustainability was ensured by the use of released land and strengthened national capacities for mine action. While sustainable results were achieved at the operational level through technical training of DCA staff and LMAC officers attendance to the EOD Level 3 course in Denmark, further efforts can focus more on capacities for use of approaches and technologies that can increase impact and efficiency.

Learning highlights issues that are not entirely in DCA’s control or mandate, though it infers a level of accountability on DCA to address these issues with those who have the mandate or can insert influence on the relevant authorities. Firstly, there is a recognised need for enhanced usage of assessment and survey prior to clearance in order to maximize impact and efficiency. Evidence collected through non-technical survey processes can and should be used to advocate for refining task dossiers and task prioritisation. Secondly, DCA could take a stronger position in providing constructive and robust feedback to LMAC to help improve prioritisation so that LMAC and DCA are making more strategic operational decisions based on fuller and more accurate data. Training for national management staff and supporting HQ-based international staff can be useful in strengthening capacities for evidence gathering, analysis and advocacy. Donors could further be engaged in advocacy efforts to capitalise on their level of influence with the national authorities. Open and honest exchange of information and analysis among operators and donors, based on collected data and relevant case studies, could be a way of engaging donors as key allies.
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<table>
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<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL</td>
<td>Community liaison</td>
</tr>
<tr>
<td>DCA</td>
<td>DanChurchAid</td>
</tr>
<tr>
<td>EOD</td>
<td>Explosive Ordnance Disposal</td>
</tr>
<tr>
<td>IMAS</td>
<td>International Mine Action Standards</td>
</tr>
<tr>
<td>INGO</td>
<td>International Non-governmental Organisation</td>
</tr>
<tr>
<td>LAF</td>
<td>Lebanese Armed Forces</td>
</tr>
<tr>
<td>LMAC</td>
<td>Lebanon Mine Action Centre</td>
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<tr>
<td>MAG</td>
<td>Mines Advisory Group</td>
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<tr>
<td>MF</td>
<td>Minefield</td>
</tr>
<tr>
<td>NMAS</td>
<td>National Mine Action Standard</td>
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<tr>
<td>QA</td>
<td>Quality Assurance</td>
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<tr>
<td>QC</td>
<td>Quality Control</td>
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<tr>
<td>SOP</td>
<td>Standard Operating Procedures</td>
</tr>
<tr>
<td>UNMAS</td>
<td>United Nations Mine Action Service</td>
</tr>
<tr>
<td>UXO</td>
<td>Unexploded Ordnance</td>
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</table>
Introduction

This external evaluation of DCA’s project ‘Landmines and UXO Clearance Operations in Central Lebanon’ aims to measure the achievement of the project outcome (impact) and give recommendations for future project development. The key lines of inquiry are based on OECD/DAC evaluation criteria and UNMAS guidelines, and focus on relevance, effectiveness, efficiency, impact and sustainability. The evaluators’ team adapted the lines of inquiry from the Terms of Reference¹ based on initial consultations with DCA and review of project documents. The evaluation was conducted between 24 October and 30 November 2016, with field visits taking place on 9, 10 and 11 November.

The evaluation report starts with a background on the context of mine action in Lebanon; the second part presents the projects, followed by a brief description of the methodology. The main section of the findings follows the main evaluation criteria; it includes visual information and case studies. Conclusions and lessons learned are presented in the end, and recommendations for future actions draw on the findings of the evaluation.

Background and context

Mine clearance as part of mine action falls under the authority of the Lebanon Mine Action Centre, the executive body coordinating all clearance. Mine clearance is conducted by the Lebanese Armed Forces Engineering Regiment and national and international NGOs. At the time of this evaluation three NGOs are active in mine clearance – DCA in Central Lebanon, Handicap International in North Lebanon and Mine Advisory Group (MAG) in South Lebanon and parts of the Bekaa. The national NGO LAMiNDA is a partner to DCA and conducts pre- and post-clearance impact assessments through its Community Liaison (CL) Team; LAMiNDA also conducts BAC clearance alongside mine risk education (MRE). The LAF mine detection dog (MDD) teams (9 pairs) and mechanical assets are deployed to assist the manual clearance conducted by NGOs.

DCA’s work in Lebanon is aimed at supporting the implementation of the Lebanon Mine Action Strategy (2011-2020). Contamination with landmines dates back to the Lebanese civil war. In July 2011, 70% of the minefields were cleared, and 679 sites (over 22 km²) remained to be cleared, excluding the Blue Line contamination². According to the Mine Action Strategy “focus is currently on releasing land for housing, areas adjacent to houses and agricultural land”³ and land is released upon the request of landowners and municipalities. The objective set in the strategy is for minefields, excluding those along the Blue Line, to be released within 10 years, i.e. by 2021. The strategy also has an objective for mine action to contribute to socio-economic use through land release, which includes “accurate and comprehensive knowledge of contamination [and its] socio-economic aspects”⁴.

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¹ For the complete ToR see Annex 1.
⁴ ibid., p.7.
As of June 2016 there were 1,348 remaining minefields covering over 14 km². This data shows a significant decrease from the estimated 28.2 km² at the end of 2014 following the start of clearance of a large tasks of approx. 12 km² by LAF’s Engineering Regiment. The National Mine Action Standards (NMAS) require mine clearance to a depth of 20 cm. The current mine action capacity and the rate of clearance would not allow for the completion of the targets outlined in the strategy. The reason is related to a significant decrease in donor funding, which has shrunk from $19 mln in 2013 to $8.7 mln in 2015. The EU, which funded the DCA project, was the leading contributor to mine action in 2015 with over $2 mln (1,887,500 Euro) contribution. The national budget for mine action has remained steady at $9 mln since 2013.

Land cancelation through non-technical survey has increased in the recent years. In 2014 LAF cancelled 808,107 m² suspected hazardous areas (SHA) through non-technical survey, a significant increase from the 34,391 m² cancelled in 2013. This increase in cancellation is likely due to new and improved information obtained through non-technical survey relating to contaminated areas refining site dimensions and allowing for cancellation of areas previously considered as SHA.

Mount Lebanon where DCA conducts mine clearance is the second most contaminated area in Lebanon (more than one third of the country’s total contamination with landmines is recorded in

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Mount Lebanon). The district with highest contamination is Nabatieh, which is affected by most of the Blue Line contamination.

**Figure 2: Minefields distribution per region**

![Minefields distribution per region](image)

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**Project description**

This three year project aimed at contributing to the global Lebanon’s ambitions to complete the clearance of contaminated land in accordance with the National Clearance Plan, release of cleared land to the population for improved socio-economic development and in support of LMAC’s implementation of the 2011-2020 National Mine Action Strategy and meeting Lebanon’s clearance targets. The project, supported by the European Union (EU) involved the deployment of two Manual Mine Clearance Teams (MMC) for manual clearance and technical survey in 12 sites in and around nine villages (Ain Al Sayde, Aley, Bsous, Dfoun, Jeita, Kmatiye, Montiverdi, Qssaibe and Zaghrine) in the Mount Lebanon region. The total budget for this project was 1,700,200 Euro.

**Overall objective:** Lebanon is able to complete clearance of contaminated land in accordance with the National Clearance Plan and release the land to the population for improved socio-economic development.

**Specific Objective:** The affected populations obtain safer livelihoods through the clearance of landmine and UXOs in their communities, and the capacities of Lebanese clearance efforts are strengthened.

**Result 1.1:** Removal and destruction of landmines and UXOs in the communities tasked by LMAC. Removal of threat from approx 150,000m² land – handed back to communities

**Result 1.2:** Continued focus on building capacities among DCA national staff as well as coordination with and support of LMAC when relevant and requested.

**Target groups:** The project was anticipated to improve the situation of 24,000 individuals in mine affected communities (direct beneficiaries), who plan to use cleared land and of 850,000 individuals who would benefit indirectly (ER1.1). 47 national staff and selected LMAC personnel have increased capacities through participating in training (ER1.2). In addition, target groups also included policy makers and key ministries (such as the MOD).
DCA operates according to IMAS, Lebanon’s National Standards and its own SOPs. National standards (for mine and cluster munition clearance) are currently under review and being updated by LMAC. Revised National Standards are due to be finalised by the end of 2016. This process is likely to see revisions in current standards and additional standards on land release, allowing national and international operators to employ land release procedures in the future.

The process followed by the DCA includes the following steps upon receipt of a task from LMAC:

- **Participation in LMAC’s non-technical survey of all tasks received.** This process includes collection of general information and exploring possibilities for cancelation. According to the national standards land can only be cancelled if it is used on a regular basis and the landowner agrees that the area is mine/UXO free (NMAS-023). Non-technical survey by DCA is done informally, while the formal process and non-technical survey report is prepared by LMAC. DCA uses the results of this process to prioritise tasks for clearance. The criteria used include reported land use as well as accessibility and required time for transportation for the DCA clearance team.

- **Clearance plan.** Developed by the Field Operations Officer and approved by the Operations Manager and LMC Operations Officer, the plan stipulates the clearance methods. In addition to using detectors and full excavation, DCA can request demining dogs and mechanical teams from LMAC.

- **Pre-clearance impact assessment.** This activity is conducted by the Quality Assurance (QA) Officer and the Reporting Officer and includes collecting information about the land owners, the current and potential use of the land, self-removal of UXO and MRE. The template does not oblige DCA to interview a landowner or triangulate information. The informants are often from the local authorities (municipality or moukhtar office). Data on potential income is collected for some projects, mostly in areas contaminated by cluster munitions where data is more easily available. Pre-clearance impact assessment has a significant potential to inform task prioritisation but there is no evidence of these assessments being used in this way during the course of the evaluated project.

- **QA and QC during the clearance is performed internally by DCA QA staff and externally by LMAC QA and QC staff. LMAC officers visit the task minimum once a week.**

- **Completion report.** Submitted to LMAC upon completion of the task.

- **Post-clearance impact assessment.** Confirms information from the pre-clearance assessment and collects additional information on land use and generated income. In practice the post-clearance report contains data on potential, and not always actual, income.

### Evaluation Aims and Methodology

This external evaluation of the ‘Landmines and UXO Clearance Operations in Central Lebanon’ project aims to measure the achievement of the project outcome (impact) and give recommendations for future project development. The specific purpose of the evaluation is:

1. To assess the extent to which the project objectives have been met
2. To examine and report on the relevance, effectiveness, efficiency, impact and sustainability of the project
3. To identify lessons learnt and draw recommendations for future programming

The key lines of inquiry are based on OECD/DAC evaluation criteria and UNMAS guidelines, and focus on relevance, effectiveness, efficiency, impact and sustainability. The evaluators’ team adapted the
lines of inquiry from the Terms of Reference\(^8\) based on initial consultations with DCA and review of project documents.

The evaluation involved:

- **Document review:** Information was collected from project documents, publicity materials, the National Mine Action Plan, reports on mine action in Lebanon and MENA.

- **Key informant interviews:** interviews were conducted with key DCA staff, LMAC, and the EU Delegation to Lebanon.

- **Field visits:** the evaluation team visited five sites cleared with support from the project and interviewed landowners and representatives of the local authorities.

- **Feedback/ wrap up session** with DCA to review an overview of initial findings and reflections from the evaluation.

The evaluation was conducted by two evaluators between 24 October and 30 November 2016, with field visits taking place on 9, 10 and 11 November.

In agreement with DCA five sites were visited in Jeita, Qsaibe, Zeghrine, Aley, Dfoun, with the addition of one active/ ongoing site in Bsous in order for the evaluation team to see clearance operations in action. Two additional sites in Jeita were seen by evaluators due to their close proximity to the evaluated sites.

**Findings**

The evaluation focused on the following OECD/DAC criteria:

- Relevance
- Effectiveness
- Efficiency
- Impact
- Sustainability

**Relevance**

**Relevance to the National Plan**

The project is relevant to the National Plan which foresees a completion of mine clearance by 2021. LMAC relies heavily on NGO operators for the clearance activities and the project has contributed to the plan with the release\(^9\) of 112,413 m\(^2\) through clearance and technical survey. Strengthening national capacities is also in line with the National Plan, which foresees “transfer of responsibilities from international to national technical and management personnel”\(^10\). DCA nationalised key posts during the implementation of the project, including the Operations Manager and the Quality Assurance (QA) Officer. DCA is the first and only operator in Lebanon with a national Operations Manager holding EOD Level 3 accreditation. The annual training of LMAC new officers in EOD Level 3 in Denmark was considered highly relevant to the needs of LMAC.

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\(^8\) For the complete ToR see Annex 1.

\(^9\) Land release reported by DCA does not include land released through non-technical survey.

\(^10\) The Lebanon Mine Action Strategic Plan 2011-2010.
Relevance to the donor priorities

The project is relevant to the European Union priorities in mine action. In accordance with the specific objectives of the call for proposals under which it was funded, the project increased possibilities for land use and alleviated mine risk. In Lebanon the EU has been supporting mine action since 2002, and in 2011-2013 demining and clearance of unexploded ordnance was one of the sub-priorities of the European Neighbourhood and Partnership Instrument (ENPI) for Lebanon. This support is also aligned with the EU assistance towards the aims of the Anti-Personnel Mine Ban Convention, to which Lebanon is not a party, but supports in principle. The Lebanon-EU Partnership Priorities 2016-2020 do not include mine action.

Relevance to affected communities

The project relevance to the needs of communities is relatively high, as demonstrated by the utilisation of most of the cleared land. From interviews with local communities in affected areas, it was clear that DCA’s work and DCA staff themselves were held in high regard. Across the board DCA was described as ‘highly professional’. For example, staff in Jeita commented on ‘very good communication’ and ‘easy daily contact’ when interviewees were asked about whether they were consulted about the level of contamination and where to prioritise clearance, and by whom they were consulted (whether DCA, LMAC, LAF or other). Responses showed a much lower level of communication and engagement. For example, in Jeita, one respondent although saying that LAF were ‘very responsive’ and came ‘immediately’ when called out after the discovery of new contamination, he was never consulted about the tasks, stating that LAF ‘must have the information’. In Zaghrine, both residents interviewed stated they had not been part of any consultation process prior to clearance (although the one official was new in post since municipal elections). In Qsaibe, the moukhtar pointed out that DCA did not find any items during the clearance, and mentioned another cleared area in the vicinity (not cleared through this project), which he thought “was not a minefield, someone had connections and requested the clearance”. This community feedback indicates that task prioritisation by LMAC which is passed on to DCA is not always in line with community (beneficiary) priorities and this reduces the potential relevance of the clearance conducted.

Increasing relevance

Whilst the project is highly relevant in terms of national and donor priorities, feedback from affected communities and beneficiaries was more mixed in terms of how the sites were prioritised for clearance, based on actual and potential usage and benefits from the sites. Prioritisation is currently done by LMAC based on non-technical survey data, which dated back to 2008 for some of the tasks

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15 See the section on impact for a detailed discussion of land utilisation.
allocated to DCA under this project. The LMAC data tends to determine priority as high or medium, including in cases where details on the potential land use are missing.

Community consultation (formal and informal), in terms of non-technical survey and pre and post impact assessment can help ensure that clearance remains relevant to community needs and priorities. This data, if collected efficiently and consistently, can be an important source of evidence equipping operators such as DCA for discussions with and advocacy towards LMAC in evaluating tasks prior to clearance.

**Effectiveness**

The specific objective of the project – “The affected population obtains safer livelihoods [...] and the capacities of national Lebanese clearance efforts are strengthened” – was achieved. Clearance and land release reassure the population that the land is free of landmines and UXO. In some, although not all, of the cases there was evidence of land use and planned land use for construction of houses, agriculture and grazing. Three of the tasks were in or at the entrance of the most popular tourist site in Lebanon, Jeita Grotto, a cave complex with 221,782 visitors in 2015.

### Table 1: Mine Fields and calculations of direct and indirect beneficiaries

<table>
<thead>
<tr>
<th>MF Number</th>
<th>Village</th>
<th>Total Direct Beneficiaries</th>
<th>Total Indirect Beneficiaries (reported by DCA)</th>
<th>Total Indirect (suggested by evaluator)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1194</td>
<td>Jeita</td>
<td>210</td>
<td>4,500</td>
<td>224,615</td>
</tr>
<tr>
<td>603</td>
<td>Jeita</td>
<td>143</td>
<td>4,500</td>
<td>4,500</td>
</tr>
<tr>
<td>1197</td>
<td>Jeita</td>
<td>84</td>
<td>4,500</td>
<td>-</td>
</tr>
<tr>
<td>20</td>
<td>Qssaibe</td>
<td>62</td>
<td>2,500</td>
<td>2,500</td>
</tr>
<tr>
<td>1196*</td>
<td>Jeita</td>
<td>143</td>
<td>4,500</td>
<td>-</td>
</tr>
<tr>
<td>32</td>
<td>Aley</td>
<td>60</td>
<td>16642</td>
<td>16642</td>
</tr>
<tr>
<td>915</td>
<td>Kmatiye</td>
<td>15</td>
<td>3,059</td>
<td>3,059</td>
</tr>
<tr>
<td>381</td>
<td>Ain Al Sayde</td>
<td>25</td>
<td>700</td>
<td>700</td>
</tr>
<tr>
<td>467</td>
<td>Zaghrine</td>
<td>32</td>
<td>505</td>
<td>505</td>
</tr>
<tr>
<td>925</td>
<td>Bsous</td>
<td>22</td>
<td>3,268</td>
<td>3,268</td>
</tr>
<tr>
<td>1174</td>
<td>Dfoun</td>
<td>20</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>461</td>
<td>Montiverdi</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>673</strong></td>
<td><strong>31,674</strong></td>
<td><strong>256,289</strong></td>
</tr>
</tbody>
</table>

*The direct beneficiaries of this site are the same as the beneficiaries of site MF603, and are therefore excluded from the calculation of the final number of direct beneficiaries.

As Table 1 shows the number of direct beneficiaries is 673 and the indirect beneficiaries are 31,674 according to DCA figures. The evaluators propose that the number of indirect beneficiaries is increased to 256,289 based on figures obtained from the management of Jeita caves relating to tourism data. The indirect beneficiaries of sites 603 and 1196 – the average number of tourists per year – are
calculated once, as are the residents of the village of Jeita who benefit indirectly from the clearance of MF1194 and 1197. Data on Montiverdi beneficiaries (MF 461) is not included because the task was ongoing at the time of the evaluation and the beneficiaries will be reported under a different project (under the new EU grant, which started in 2016).

**Result 1.1** – landmines and UXOs are removed and destroyed – has been achieved, albeit the target of 150,000 m$^2$ cleared land has not been achieved. Instead, **56,986 m$^2$ have been manually cleared** and **55,427 m$^2$ released through technical survey**. The total size of released land amounts to 112,413 m$^2$ (75% of expected target of “cleared and released” land). These figures point to the benefit of identifying targets for clearance and release separately, a change that is expected to take place with the adoption of the national standards on land release. Furthermore, in light of the challenges with steep terrain in Mount Lebanon, hard land and inaccurate information on the types of mines used, DCA can consider revising the way targets are determined in project proposals.

The targets for beneficiary numbers stated in the project proposal (24,000 direct beneficiaries, 850,000 indirect beneficiaries) were not achieved due to the nature of the tasks DCA received from LMAC. Actual beneficiary data account for 2.8% of expected direct beneficiaries and less than a third of expected indirect beneficiaries. With the exception of the tasks in Jeita Grotto where the 143 employees were all considered direct beneficiaries, land was usually owned and potentially used by a small number of families, and no major infrastructure used by a larger population was present in the area. Another reason for lower number of beneficiaries is the location of 4 out of 12 tasks within the same area – 2 within the Jeita cave complex, and 2 outside the complex, where the same employees, visitors and village residents benefited from the clearance of the tasks. In addition, there appears to be space for developing more detailed guidelines for calculating direct or indirect beneficiaries. For example areas next to small roads may consider as direct beneficiaries the owners of neighbouring plots of land, who use the road (as in MF1174 in Dfoun) and areas frequented by visitors can use average numbers of visitors per year (as in the case of MF603 and MF1196 in Jeita).

DCA is planning to move to clearance of areas with mixed contamination (mine and cluster strikes in Mount Lebanon), in an attempt to increase the productivity of the teams (in terms of number of items cleared and destroyed) and clear more tasks per project. The ownership of contaminated areas however is likely to continue to present DCA with lower beneficiary numbers. Sites in the vicinity of public infrastructure have been cleared and the remaining sites would likely have lower number of owners and users than earlier tasks.

**Result 1.2** – DCA national staff’s capacities strengthened and LMAC supported – was also achieved. DCA operational staff is all trained and accredited, including a new team set up at the beginning of this project in July 2013. Expatriate staff has been reduced from four at the time the project was designed to two at its end (the stipulated target was 3 or lower) – the Programme Manager and the Office Support Manager. The latter position is planned for nationalisation in the upcoming period according to an agreement between DCA and LMAC. The positions of the Operations Manager and the Field Operations Officers for South and Mount Lebanon were nationalised shortly before the start of the project in the first half of 2013, and the Quality Assurance Officer position became national in September 2014.

DCA has continued its meetings with LMAC and has supported LMAC officers’ attendance of the annual IMAS Level 3 EOD course in Denmark. Both DCA and LMAC recognise the need for continued support to DCA staff in decision making roles, such as Team Leaders and Site Supervisors, who need to further develop their leadership skills. DCA has initiated leadership skills training for selected staff at the time of the evaluation.

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20 Number of employees as specified by the General Manager is 120, interview, 9 November 2016, Jeita Grotto.
Increasing effectiveness

With decreasing funding for mine action, projects also need to demonstrate change in the livelihoods of the affected population. DCA has a system of conducting pre- and post-clearance impact assessments aimed to capture information on the socio-economic impact of clearance. If conducted more rigorously, these assessments have the potential to provide precise information on the generated income and at the same time they can feed into a process of prioritisation, whereby tasks with higher potential impact are selected for clearance. Within the current system, LMAC issues tasks to operators, which are usually listed as “high priority”, without the necessary data to back this priority level. For example, MF467 in Zaghrine was listed by LMAC as “high priority” due to the identification and removal of 17 mines by the LAF Engineering Regiment, but without any information in the Minefield Report on land use. DCA conducted full clearance and found no items. The evaluation interviews conducted with local administrator and shepherd in the village of Zaghrine, found that there was a high level of local understanding about the nature of threat and contamination amongst the population which could have helped in providing more precise data on the threat – potentially reducing the need for full clearance across the whole site.

Demarcation and MRE can also be used for increased effectiveness. These low-costs activities can ensure safer livelihoods for affected population in areas where the tasks are of lower priority. While demarcation is conducted solely by LMAC, and MRE activities are implemented by national NGOs, DCA is well placed to advocate for the application of these approaches in cases when it proposes de-prioritisation of certain tasks based on pre-clearance impact assessments.

Efficiency

Project efficiency is determined as the ratio between inputs and outputs, i.e. the cost per m² of released land. This ratio is quite low on the evaluated project, which can be explained by several factors:

- Mountainous areas, often with high slopes (MF1196, MF1197, MF915, MF32)\(^{21}\)
- Hard land making excavation difficult (MF915)
- High metal contamination, including contamination with parts of ordnances (MF467)
- Lack of information about the type of mines used
- Areas marked as MF, defined based on old and sometimes incomplete, sometimes inconsistent data (provided at different times by different parties), resulting in larger areas being designated hazardous, which if further evaluation prior to clearance was conducted (including non-technical survey) may be reduced through cancellation, saving need for technical survey or clearance on areas with no actual contamination.

Cost of clearance

According to DCA staff\(^{22}\), the DCA average productivity is 5m² per deminer per day, but excavation in difficult conditions sometimes decreases the productivity to as little as 1m² per deminer per day in some areas. This productivity is on the low end of the international standard of 5-8m² per person per day.

\(^{21}\) This is a non-exclusive list, the sites mentioned are among those visited by the evaluators’ team.
\(^{22}\) Interviews with Clearance Team members, Bsous and Kmatiye, 11 November 2016 and Operations Manager, Bsous, 6 December 2016.
The low productivity directly results in a high cost per sq. meter released land – \textbf{15.12 Euro per m}^2. When cost is calculated over cleared land the cost is even higher – \textbf{29.84 Euro per m}^2. While DCA cannot be held directly accountable for low efficiency as it receives tasks from LMAC, the high cost of clearance raises four questions:

- How can clearance be made more efficient through the utilisation of new technology and integrated approaches?
- How can all mine action actors (operators and authorities) work together to improve evaluation of tasks prior-to clearance?
- How can operators, such as DCA, use assessment and evaluation (desk assessment, non-technical survey etc.) to provide evidence to LMAC in order to refine the task dossier?
- How can non-technical survey be utilised more effectively for land release?

\textbf{Use of land release}

Utilisation of land release approaches can improve efficiency. Land release includes identification of hazardous area, land cancelation through non-technical survey, land reduction through technical survey, and clearance\textsuperscript{23}. Land release through land cancelation has not been reported on this project.

\textsuperscript{23} IMAS 07.11 Land Release.
The majority of the land released in this project - 50.7% - was cleared. The remaining 49.3% was released through technical survey, i.e. reduced. Technical survey as a method significantly increases efficiency and decreases operation costs in comparison with manual clearance. An analysis of data for the 12 tasks cleared under the EU-funded project reveals that overall DCA cleared a significantly larger percentage of land than the minimum required 30% for land reduction. At the time of implementation, LMAC did not have national standards on land release (although these are under review at the time of evaluation) and the LMAC QA Officers had the discretionary power to decide on land release through technical survey (land reduction) or insist on continued technical survey/clearance.

The above table demonstrates that LMAC has required technical survey of over 50% of the land in three cases where no items were found (red highlight). In one of these cases, MF467, the full task was cleared without any mines or UXOs being identified; the decision to proceed with full clearance was taken due to the presence of parts of mines. In brief, out of the four tasks where no items were found,
one was cleared fully, two were cleared at 50% or more, and one was 38% cleared before deciding on cancelation through non-technical survey (see Table 5). This indicates a practice of clearing a large part of the task, significantly above the minimum required 30%, before LMAC authorises land release through non-technical survey.

**Figure 5: Completed tasks with no items found**

![Completed tasks with no items found](image)

**Low number of found items**

Efficiency was also low with regard to the items found. On seven out of 12 tasks the DCA team did not identify any contamination. Four of these tasks were released in the lifespan of the project and clearance on the remaining three continued with funding from other donors. The 12 tasks are thus evenly split between tasks that have not been completed, tasks on which mines and UXOs were discovered, and tasks where no items were identified.

**Figure 6: Distribution of tasks based on presence of items**

![Distribution of tasks based on presence of items](image)

The reason for the high incidence of tasks with no contamination is to be found in the old and incomplete non-technical survey data provided by LMAC. Task dossiers provided by LMAC to DCA do not include coordinates of items found by LMAC Rapid Response Teams, though some Minefield Reports include drawings and pictures indicating the location of identified items. The DCA team approached each task as a new task, and conducted technical survey or full clearance. In the case of Zaghrine (MF467) where full clearance was conducted LAF destroyed 17 mines, and DCA team did not find any items.
In addition to utilising land release, which was discussed above, the use of integrated approaches and new technology can help increase efficiency. According to a 2015 report by MAG on efficiency, effectiveness and impact in mine action, “efficient and effective integration can be achieved by considering the capabilities and limitations of each asset during the clearance planning phase and then incorporating them into a rolling annual clearance plan”\textsuperscript{24}. All the 12 tasks allocated to DCA under the EU-funded project were cleared manually.\textsuperscript{25} According to DCA staff the terrain would not have allowed the use of mechanical clearance and MDD teams, which are available to operators in Mount Lebanon through LMAC. The evaluators’ team observed at least one site which could have benefited from partial mechanical and MDD clearance support, although this would not have significantly reduced the time needed for clearance. MDD and mechanical clearance are in use in Lebanon and national standards do include provision for such methodologies. Applying new and integrated techniques, as well as land release, may require further training for some DCA staff. Experience and case study sharing with other operators within Lebanon or other contexts who may be using relevant techniques can also be beneficial. Discussion and exchange with LMAC on opportunities/ feasibility of using these approaches would be a necessary first step. The current development of new/updated nation mine action standards for Lebanon by LMAC could provide the opportunity and framework for this discussion.

**Impact**

Impact of the project varies across locations. Three out of five sites visited as part of the evaluation demonstrated a tangible impact on the safety of the people working and visiting the area (Jeita), and


\textsuperscript{25} Mine detection dogs (MDD) were used on MF461 in Montiverdi. The task was ongoing at the time of the evaluation and the manual demining team is supported by the new EU grant that started in July 2016. The minefield was partially cleared within the framework of the evaluated project between 15 and 28 February 2016.
clear signs of potential impact on the livelihoods of landowners (Aley and Qsaibe). Clearance on the remaining two sites was not immediately impactful due to absence of agreement by landowners on the use of the land (Zaghrine) or landowners living outside of Lebanon (Dfoun).

Below impact is discussed for each of the visited sites.

**MF 603 Jeita**

<table>
<thead>
<tr>
<th>MF Number</th>
<th>Team</th>
<th>Village</th>
<th>Start Date</th>
<th>End Date</th>
<th>Status</th>
<th>DCA Assets (manual mine clearance)</th>
<th>Land Released through technical survey</th>
<th>Total area Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>603</td>
<td>4</td>
<td>Jeita</td>
<td>14-Aug-13</td>
<td>19-Dec-13</td>
<td>Completed</td>
<td>6,936</td>
<td>7,064</td>
<td>14,000</td>
</tr>
</tbody>
</table>

Minefield 603 is located in the Jeita Grotto cave complex. The land belongs to the government and is managed by the German company MAPAS based on an agreement with Ministry of Tourism. Jeita Grotto is the most popular tourist site in all of Lebanon and is visited by thousands of tourists annually – 221,000 in 2015, and a record high of 435,000 in 2009. The site is located next to the entrance to the lower cave and few workers use a shack located next to the boundaries of the site, where they keep instruments and rest.

According to several workers interviewed during the evaluation, they still don’t venture into the hill and warn tourists not to go despite the clearance. “The land is over the cave and not used for anything”, the General Manager of MAPAS Co. said. “We have nothing to do with the land that was cleared. We warn tourists not to go there”, confirmed a worker who drives one of the boats in the lower cave.

The importance of the clearance on this site is presented by the fact that thousands of visitors walk near the site, and the project provided safety for both workers and tourists. The effect of the clearance would have been more visible, if DCA had worked with the management to reassure the workers that the area is now completely safe and they can use it. Tourists can also be allowed to the site to rest and take pictures.

Contamination remains a general concern in the Grotto. A recent UXO discovery on the territory of the complex confirmed the continued dangerous legacy of the civil war. LAF rapid response team cleared the area. Mine risk education however would be beneficial for the employees at the Grotto to increase their safety in the face of possible remaining UXO threat in and around the complex. According to the General Manager, it is important to check the river bed at the end of the winter as rains can bring down items from the surrounding hills. “People would like to go walking and we do not allow it”, he says. DCA can potentially suggest to LMAC such checks, as they will require little efforts, while the impact can be substantial. In addition to tourists and workers, potential beneficiaries also include volunteers from the local schools and scouts organisations who clear the area every year at the end of the summer.

The DCA reporting on the task did not capture accurately the land use. The pre- and post-clearance assessments present the project impact as a socio-economic benefit from grazing. Given the nature
of the Geita complex and the topography of the site, such use is considered unlikely. Impact can be seen as increased safety for Geita Grotto’s workers and visitors.

**MF 467 Zaghrine**

<table>
<thead>
<tr>
<th>MF Number</th>
<th>Team</th>
<th>Village</th>
<th>Start Date</th>
<th>End Date</th>
<th>Status</th>
<th>DCA Assets (manual mine clearance)</th>
<th>Land Released through technical survey</th>
<th>Total area Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>467</td>
<td>4</td>
<td>Zaghrine</td>
<td>27-Aug-14</td>
<td>05-Aug-15</td>
<td>Completed</td>
<td>5,286</td>
<td>0</td>
<td>5,286</td>
</tr>
</tbody>
</table>

**Case Study 1**

Mounir is a shepherd from Zaghrine, who was a fighter during the civil war when his village was an active front line between warring parties. His brother was killed in the war. Now he is a shepherd with between 100-200 goats depending on the season (if they have been sold or sent to slaughter). He also owns an abattoir and two houses in the village, although he lives a semi-nomadic life grazing his sheep around the village. His sheep regularly graze in the site of MF 467, which forms a gully, channelling seasonal rain water. Mounir knew this area was contaminated, although he believed that all or at least the majority of contamination had been removed prior to DCA clearance and was confined to the seasonal river bed (rather than across the site). He still did not take the risk of following his herd into the mine field: “I’d rather the animal took the risk [of being involved in an incident]!” He had always let his herd graze on the site, but only now, since DCA clearance, does he follow his animals into the cleared area. As a former fighter, Mounir knows the dangers of mines and UXOs and has himself alert the LAF to the presence of UXO in his village. During DCA clearance activities, Mounir would regularly speak with the operators and referred to them as ‘friends’.

Minefield 467 is located in the outskirts of Zaghrine village in a gully next to a road. A new building on the edge of the minefield was recently built – construction started at the same time with clearance, and because of it part of the land was cancelled through non-technical survey, according to DCA staff. Construction works on another building were taking place at the time of the evaluation in an area near the minefield but not directly attached to it. A total of 8 families use the buildings near the field, according to a local official. The land of the minefield is owned by a large family and according to the official, they cannot agree on its use: “I can confirm this land won’t be used”, the representative of the moukhtar office said.

The land is used for grazing and a local shepherd uses the field for his herd of 100-200 goats. The shepherd confirmed that he would let the herd pass through the area before the clearance but he himself would go around and meet the animals on the other side.
The approximately 800 -1,000 residents\(^{26}\) of Zaghrine and approximately 60 Syrian refugee families benefit indirectly through the use of the nearby road.

The overall impact of the clearance of this tasks was relatively low due to the lack of interest in land use among the owners\(^{27}\). The use of the land for grazing is confirmed, but due to the earlier use of the plot by the local shepherd, it cannot be considered new use. An electric pole was installed on the field following the completion of the clearance. The case of this minefield demonstrates that DCA team can focus more on identifying landowners’ plans and ownership disputes, and using this information in determining the priority of the site for clearance. Such an approach can ensure that tasks with higher potential impact are prioritised.

The pre-clearance assessment correctly captures that the land would be used for bird hunting and grazing. This information however was not used to advocate with LMAC for decreasing the priority for clearance of this site. An articulation of the present dispute between the owners could have strengthened an argument that the site should be cleared at a later stage, when the owners would have reached an agreement on the use of the land. The post-clearance assessment refers to the owner of the land having started a housing project, which was not confirmed by the evaluation.

\(\text{Photos 3-5: MF467 left: gully where LAF previously found 5 mines before DCA clearance, middle: site showing new construstructure directly adjacent to the site (foundations would have been impacted by contamination) and right: the shepherd following his herd to the cleared site.}\)

\(^{26}\) Figure estimated by the official from the mouktar’s office during interview on 9/11/2016. \(^{27}\) A member of the family owing the plot was scheduled to meet with the evaluation team but did not show up at the meeting.
Minefield 32 is located in the outskirts of Aley town and the land belongs to several owners. The pre-clearance impact assessments do not clearly specify the ownership. According to one of the owners whom the evaluators’ team met, four other people beside him own parts of the plot. At least two of the owners are reported to be planning construction on or immediately next to the cleared land.

The landowner who was interviewed for the evaluation confirmed his plans to use his part of the land for agriculture. His nearby orchards confirm his ability to develop the land and profit from fruit production.

The impact of the clearance of MF32 is significant with clear indication of planned land use.
Case study 2

Orchards and new houses in the plans for cleared land in Aley

Some thirty years after he was part of the fighting, Wahid Al-Rais had his land cleared from mines by the DCA team. Lying in the outskirts of the town of Aley, the land was the site of fighting between local militias during the Lebanese civil war. The shell of Wahid’s old house still stands abandoned in the middle of the minefield as a reminder of the battles.

In 2007 workers found remnants of ammunition and Wahid called the Army. The soldiers found a whole chest of ammunition in the neighbouring land plot. Two years later, in 2009, he laid the foundations of his new house, some fifty meters below the old one.

Now the new building is half-finished, standing proudly on the top of a hill with a magnificent view towards the Mediterranean costs. The three-storey building surrounded by orchards will be used by Wahid’s family. Wahid is cultivating all the land around the house – the janerik green plum orchard alone produces 7 tonnes of fruit a year. Avocado, cactus fruits, almonds and apricots also contribute to the income of Wahid’s family. Although superstition prevents him from talking in detail about his plans for the cleared land, he readily says he will use it just like the rest of his property. His love to the land and sound knowledge of agriculture and the market back his determination to develop the newly released plot.

Four other people own parts of the cleared land, according to Wahid. “Come in six months and you will see the construction”, Wahid says. “When it gets cleared, people invest.”

The area is still not entirely safe. Wahid points to a land next to the road where another minefield waits to be cleared.
Landmines and UXO Clearance Operations in Central Lebanon – External Evaluation

**MF1174, Dfoun**

<table>
<thead>
<tr>
<th>MF Number</th>
<th>Team</th>
<th>Village</th>
<th>Start Date</th>
<th>End Date</th>
<th>Status</th>
<th>DCA Assets (manual mine clearance)</th>
<th>Land Released through technical survey</th>
<th>Total area Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>1174</td>
<td>1</td>
<td>Dfoun</td>
<td>17-Nov-15</td>
<td>12-Feb-16</td>
<td>Completed</td>
<td>1,512</td>
<td>4,000</td>
<td>5,512</td>
</tr>
</tbody>
</table>

Minefield 1174 is located in an agricultural area outside the village. The olive trees are unpicked at the end of the season, in contrast to the trees on the neighbouring plots. According to the newly elected moukhtar the owners of the land live in France and no one takes care of the grove.

The site is located on the side of a narrow road providing access to the groves. The road is likely to be used by the owners of the neighbouring plots. The village of Dfoun is home to 4,000 people according to the moukhtar but it appears deserted, and the permanent population is likely much lower.

The DCA team did not find any items on the site. According to the moukhtar, who fought in the area during the civil war, “we knew there were no mines. Dfoun is 1 mln m², all of it was walked. If there were mines, they would have exploded.” Newly elected in May 2016, this moukhtar was not in office at the time of the pre-clearance impact assessment. His statement however indicates, that such views existed in the village. If properly recorded during the pre-clearance, similar views by key members of the community can be an important part of determining priority for clearance.

The overall impact of the clearance of this minefield is relatively low, mostly due to the fact that owners live abroad and do not use the land. Contacting landowners should be an essential part of collecting pre-clearance data, and lack of owners’ plans to use or develop the land should lead to decreasing clearance priority.
Landmines and UXO Clearance Operations in Central Lebanon – External Evaluation

MF20, Qsaibe

<table>
<thead>
<tr>
<th>MF Number</th>
<th>Team</th>
<th>Village</th>
<th>Start Date</th>
<th>End Date</th>
<th>Status</th>
<th>DCA Assets (manual mine clearance)</th>
<th>Land Released through technical survey</th>
<th>Total area Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>4</td>
<td>Qsaibe</td>
<td>07-Apr-14</td>
<td>26-Aug-14</td>
<td>Completed</td>
<td>8,088</td>
<td>4,862</td>
<td>12,950</td>
</tr>
</tbody>
</table>

Minefield 20 is located in a forest area of the village of Qsaibe. The land contains pine trees, which can potentially be a lucrative business with the market price of a kilogram of pine nuts at 65,000 LBP (43 USD).

Most of the land, around 10-12,000 m² out of 14,550 m² belong to one owner. According to the village moukhtar, the owner ordered a topographic study and started cutting trees to prepare the ground for construction. The owner confirmed his plans to build a house but remained uncertain about the timeline. As a key requirement for starting construction he needs to open a road to the area, which would require getting permission or purchasing land from the owners of the nearby plots.

Although not immediately visible, the clearance has a high potential impact on the family of the main landowner, which can benefit from housing and pine nuts production. There are no signs of other use indicated in the post-clearance report: the vegetation on the plot suggests that the land has not been recently used for grazing. The site is next to a road that people used to walk to Broumana across the hill. Nowadays there are no signs that the forest paths are used, and the number of indirect beneficiaries is likely lower than the village population of 1,000 people.

At the same time, another site remains uncleared. The moukhtar is concerned that land continued to be blocked and hopes its turn will come soon. In spite of the continued threat however the village residents do not receive mine risk education.

In addition to the five tasks assessed above the evaluators familiarised themselves with three additional sites, where clearance was fully or partially conducted through the project. Impact was clearly visible on one of these sites where an orchard was used by landowners, and according to LMAC the potential impact of clearance of the other site was significant.

Overall Impact

To sum up, the impact of the project is clearly visible on three out of five tasks visited by the evaluators. Increased safety and a clearly demonstrated intention to use cleared land for housing and agriculture are results of the clearance efforts of DCA. To enhance impact of clearance, DCA could consider fully utilizing and proactively using its assessment and non-technical survey tools to inform prioritisation of tasks. An example of the use of socio-economic data for informing prioritisation is presented by MAG, which collected quantitative data of potential socio-economic gain during pre-clearance impact assessments of BAC fields in South Lebanon.28 It is important to balance needs for detailed data and operational constraints when deciding what to include in survey questionnaires, so as to not over

burden communities and staff who have a number of competing operational and administrative priorities. Once DCA has access to the right (and right amount) of data, it can make better informed operational decisions and have evidence to convince LMAC of need to change prioritisation.

Evaluation interviewees highlighted the value and importance of regular and good communications with teams on site. As stated elsewhere in this report, communities and authorities described their relationships with DCA teams as overwhelmingly positive. Whilst no formal MRE was delivered as part of this project, this regular communication did allow for information to be shared between clearance operators and communities (about the sites) but also about how to reduce risk in the future. This said, a number of interviewees believed that they (or others in their family or community) would have benefitted from more structured MRE. Additional MRE would also help sustainability, transferring knowledge to communities once DCA have left after sites are cleared.

**Sustainability**

The project has contributed to the implementation of the national strategy by releasing 112,413 m² of land in Mount Lebanon. The strengthening of national capacities – both of DCA’s own staff and LMAC officers also contributed to the achievement of national targets. At the same time, DCA’s staff recognised the overall decrease in donor funding for mine action and the need to further strengthen efficiency and seek to achieve greater impact. In this regard, LMAC development of a national standard on land release is an encouraging sign. The new NMAS is expected to be released in early 2017 and based on it DCA will develop its SOPs for land release in Lebanon.

One area in which DCA could have been more proactive is advocacy for prioritisation of tasks with greater potential impact. Pre- and post-impact assessments have a great potential to inform prioritisation, and yet they are not used for this purpose. The information that has been collected has at times omitted key information such as number of owners and their presence in country, interest/readiness to develop the land and potential benefit. Post-clearance assessments have collected not only actual data on impact but information on hypothetical gains without specifying the owners and their intentions. To increase the sustainability of its projects, DCA should seek opportunities to first improve pre- and post-clearance data collection and analysis, and second, advocate with LMAC for prioritisation of tasks with clearly identified potential impact.

Further to the sustainable use of the cleared land, DCA projects’ sustainability is pursued through strengthened national capacities. Capacity building should address both the ongoing needs of DCA staff and the national authority (resulting from staff turnover and NMAS changes) as well as specific needs arising from the need to achieve national targets with decreasing donor support. In this regard, project results are sustainable at the operational level – LMAC staff is satisfied with the annual EOD training provided to selected new staff, and DCA staff have strong skills to maintain operations. At the strategic level, capacity building needs to focus on specific knowledge and skills that can increase impact and efficiency. Examples include strengthening community liaison capacities with the objective to improve pre- and post-clearance assessment and advocate for prioritisation based on socio-economic impact, and strengthening technical capacities to plan and implement integrated clearance.

Both LMAC and DCA staff recognised the need for leadership training for team leaders and site supervisors, and strengthening staff’s decision making skills, and DCA has made plans for such trainings in 2017. While DCA’s technical trainings were praised by staff, secondments to DCA teams in other countries (i.e. staff exchanges) were requested as a way to develop staff’s knowledge of different clearance approaches. DCA team in Lebanon has hosted such staff exchanges related to database management for example, and has planned the participation of Lebanese staff in training opportunities in other countries. DCA management staff highlighted that it can be challenging to

convince donors to fund training (such as refresher training) for its operators – as it was considered part of the technical requirements to carry out their job. However, this training should be seen within the framework of developing sustainable, national capacities (knowledge and skills transfer) as well as opportunities to further improve efficiency and impact by providing mine action staff (as well as authorities) with access to skills building on new and innovative techniques to improve productivity and impact. Investment in training not only increases technical knowledge and skills but can provide operators with the tools and best practice guidelines needed to build up evidence for applying more efficient approaches in the field.

Most importantly perhaps, with the anticipated introduction of a clear national standard on land release, DCA should consider building capacities for non-technical survey and capacities to analyse and convincingly present data and recommendations to LMAC. The IMAS on land release requires that non-technical survey is “conducted by trained staff who can gather and critically analyse information from a broad range of stakeholders in affected communities and map hazardous areas as accurately as possible”.\(^{30}\) The new standards provide a window of opportunity for operators and LMAC to have frank, constructive discussions on operations and prioritisation to support Lebanon to reach its mine action targets, within an increasingly limited funding environment. Operators and authorities can use learning from past projects and tasks as case studies for discussion on how all parties can work together to enhance effectiveness, impact and efficiency in the future.

DCA’s partnership with the national operator LAMiNDA is an excellent opportunity to ensure sustainability. Although LAMiNDA did not work on the evaluated project, it is worth mentioning that DCA’s secondment of a CL team to the national operator has contributed to the capacity of the organisation and its ability to raise funds independently. LMAC praised this partnership and called it a “successful model”, which made “other operators think of partnering with national organisations”\(^{31}\).

DCA can also consider tailoring its operations to the protection needs of the displaced Syrians. According to the Lebanon Crisis Response Plan for 2017-2020\(^{32}\), mine action is one of the anticipated outputs, and donor funding released for the response in 2016 has already supported mine clearance operations. To this end, DCA can start collecting information about the numbers of displaced Syrians in Mount Lebanon municipalities and initiate discussions with LMAC about shotlisting minefields in villages hosting larger displaced populations. Such minefields can potentially be funded by donors supporting the Crisis Response.

### Conclusions

Overall, DCA’s three-year project ‘Landmines and UXO Clearance Operations in Central Lebanon’ has met its objectives and contributed to the implementation of Lebanon’s Mine Action Strategy and Strategic Plan. It was assessed by a team of external evaluators in October-November 2016, eight months after the end of the clearance operations in February 2016, and four months after the completion of the project in June 2016. The evaluators used the OECD/DAC evaluation criteria and UNMAS guidelines.

**Relevance:** The project was very relevant to the National Plan and donor priorities. In most cases it was also relevant to community needs, the exception being tasks where landowners live outside of the country or have no clear commitment to use the land and where communities cited alternative priorities for clearance.

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31 Interview with LMAC, 18 November 2016.

32 The publication of the plan is anticipated in December 2016. Mine action is included in the Protection chapter, under Outcome 3, Output 3.4.
Effectiveness: The project was effective and achieved its objectives and expected results. The affected population using the land of the 12 tasks cleared through this project acquired safer livelihoods, despite the fact that project targets for cleared land and beneficiary numbers were not achieved. The lower number of beneficiaries is due to the land ownership of selected tasks and the fact that some of the tasks benefited the same population. The project benefited directly 673 men and women, and over 256,000 persons benefited indirectly. National capacities were strengthened through training of DCA and LMAC staff, and the nationalisation of the Quality Assurance Officer position in line with the Mine Action Strategic Plan.

Efficiency: The project was not as efficient as it could have been. The cost per cleared and released land is very high due to the nature of the terrain, incomplete non-technical survey information, and under-utilisation of land release (land reduction and land cancelation). With 4 out of 8 completed tasks proving to be free of contamination, DCA needs to more actively advocate with LMAC for the use of non-technical survey and new approaches to technical survey (i.e. sampling) in order to enhance efficiency.

Impact: The project impact is tangible in most areas cleared. Three out of 5 completed sites visited by the evaluators demonstrated clear impact on safety and livelihoods. Pre- and post-clearance impact assessments were found to be underutilised both with regard to measuring impact, as well as to informing prioritisation based on anticipated impact.

Sustainability: Project sustainability is ensured by the use of released land and the national capacities for mine action. Sustainable results are achieved at the operational level, whereby DCA staff is trained and accredited and LMAC recognises the value of technical training provided. Sustainability can be further enhanced by strengthening LMAC’s and DCA national staff’s capacities for the use of approaches and technologies, which can facilitate more effective and more efficient land release.

Lessons learnt

The majority of lessons learned highlighted in evaluation findings relate to strategy and planning operational approaches, prior to clearance, rather than the clearance itself. The themes, which consistency run through this evaluation, relate to pre-clearance data collection and evaluation, task prioritisation, community consultation, and applying and advocating for innovative and/or integrated approaches. Whilst the learning captured here is not only applicable to DCA and is not always entirely in DCA’s control or its mandate, it does infer a level of accountability on DCA to address these issues with those actors who do hold the mandate or influence to respond to lessons learned. Responsibility for enhancing mine action impact is shared.

Need for improved/ enhanced usage of assessment and survey prior to clearance: Whilst pre-assessment was carried out by DCA, guidelines and templates could be better defined and questionnaires more refined towards capturing essential and most relevant issues related to impact on affected communities. Enhanced non-technical survey processes, to triangulate and validate existing data on minefields has the potential to vastly reduce the need for costly manual clearance, increasing opportunities for cancellation and release through less intensive, time consuming and costly approaches. This data can and should be used as an evidence base to advocate for refining the task dossiers and task prioritisation.

Missed opportunities for more robust advocacy towards LMAC: This point of learning most clearly relates to prioritisation of tasking and applying land release. Whilst there is no question that it is LMAC’s mandate and responsibility to manage and oversee tasking, DCA could take a stronger position in providing constructive, yet robust, feedback to assist in evaluating tasks prior to clearance and help
improve prioritisation, so that both LMAC and DCA are making more strategic operational decisions, based on fuller and more accurate data. Playing this ‘critical friend’ role towards national authorities can be a fine balance and particularly challenging for national staff, whose relationships with national authorities can be more nuanced. Training and confidence building for national management staff could help with this dynamic, as would senior international staff supporting them in this role. Finally, DCA, as operator/implementer but also as experts with technical and field experience, is in a position to influence donors (playing an advisory role and lobby them to get the best impact for their funding). Donors in turn are in a strong position to influence national authorities. Open and honest discussions and exchange, based on relevant case studies, about how operators could do things differently to improve operations in the future could be a way of achieving this.
Recommendations

Recommendations for increased impact

Building on lessons learnt from the use of non-technical survey and pre-clearance impact assessment, and drawing on in-country experience with collecting quantifiable socio-economic data ahead of clearance, ensure full utilisation of non-technical survey and pre-clearance assessment tools. Ensure that data related to the commitment and ability of landowners to develop cleared land, as well as information on the potential gains is thoroughly harvested and analysed, and informs the selection of priority tasks. Data collection should include contacting landowners in all cases, including those living abroad. Coordinate with mine action actors in Lebanon in the elaboration of pre-clearance impact assessment tools and exchange best practice. In areas assessed as lower priority, advise LMAC to strengthen the use of demarcation and mine risk education to ensure safe livelihoods, and support national operators responsible for MRE in advocating with LMAC for the development of MRE plans.

As part of the support to national capacity building, invest in building a strong community liaison team capable to both build professional relationships with LMAC and the affected community, and collect evidence of potential impact (pre-clearance) and actual impact (post-clearance). Refine and tailor existing systems for quantitative data collection and analysis. Ensure that data is regularly analysed, and informs strategic planning and project design.

Support LMAC in building its capacities to increase the use of non-technical survey for land cancelation and priority setting. Assist LMAC leadership and CL officers to learn from international best practice in land release. Engage donors in advocacy efforts targeting LMAC, and ensure transparent exchange of lessons learnt and practical challenges.

Consider increased project visibility as a means of reassuring communities of the safe use of released land.

Recommendations for increased efficiency

Strengthen the capacities of national staff to plan and manage integrated clearance approaches. Technical training, mentoring by experienced international staff and short-term secondments/staff exchanges to other programmes can be effective in consolidating the in-country know-how for integrated clearance.

Use existing evidence on cost of clearance and tasks with zero contamination to more actively advocate for the application of land release through non-technical and technical surveys.

Recommendations for fundraising and reporting

Engage more actively the local authorities in areas with significant remaining contamination and ensure that mine clearance needs are emphasised in local planning (i.e. municipal development plans and the plans of Unions of Municipalities), and in assessments of needs related to the Syrian crisis.

Use data from recent projects to set up realistic targets on direct and indirect beneficiaries with consideration of the locations of remaining minefields. Consider a more tailored approach to determining indirect beneficiaries in areas where tasks are remote from public infrastructure. Use separate indicators for cleared and released land and ensure donors understand the practical challenges faced by operators.

Recommendations for gender mainstreaming

Continue efforts to mainstream gender in all aspects of programming. Ensure that teams responsible for community liaison are mixed, and both male and female community members are interviewed during assessment and consultation processes with consideration of the different land use and priorities of women and men.