

Evaluation of GICHD Tools and Publications

Final Report

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20 December 2017

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List of Abbreviations

ADS	Animal Detection System
ASM	Ammunition Safety Management
AVM	Anti Vehicle Mine
CCM	Convention on Cluster Munitions
CCW	Convention on Certain Conventional Weapons
CEW	Characterisation of Explosive Weapons
CHA	Confirmed Hazardous Area
CHF	Swiss Franc
CMAC	Cambodian Mine Action Centre
CMAA	Cambodian Mine Action Authority
CMID	Cluster Munitions Identification Tool
CORD	Collaborative Ordnance Data Repository
DDG	Danish Demining Group
ERW	Explosive Remnants of War
Esri	Environmental Systems Research Institute
EWIPA	Explosive Weapons in Populated Areas
GICHD	Geneva International Centre for Humanitarian Demining
GPS	Global Positioning System
IATG	International Ammunition Technical Guidelines
ICRC	International Committee of the Red Cross
IED	Improvised Explosive Device
IM	Information Management
IMSMA	Information Management System for Mine Action
ISU	Implementation Support Unit
LMAC	Lebanese Mine Action Centre
MAG	Mines Advisory Group
MARS	Mine Action Reporting System
MDD	Mine Detection Dog
MINT	Mine Action Intelligence Tool
MORE	Management of Residual Explosive Remnants of War
NMAA	National Mine Action Authority
NMAC	National Mine Action Centre
NPA	Norwegian Peoples Aid
NTS	Non Technical Survey
OCHA	Office for the Coordination of Humanitarian Affairs
PSSM	Physical Security and Stockpile Management
POM	Policy and Operations Meeting
PriSMA	Priority-Setting tool for Mine Action
QA	Quality Assurance
QC	Quality Control
RBM	Results-Based Management
SHA	Suspected Hazardous Area
SIPRI	Stockholm Peace Research Institute
TMAC	Tajikistan Mine Action Centre
ToT	Training of Trainers
TS	Technical Survey
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNMAS	United Nations Mine Action Service
UNODA	United Nations Office of Disarmament Affairs
WFP	World Food Programme

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Executive Summary

In 2017, GICHD commissioned an external evaluation to review the utility, level of adoption and complementarity of six tools that it produced over the last five years (2012 to present). The six tools reviewed were the:

- Ammunition Safety Management app
- Demining Management Tool
- Mine Action Reporting System
- Mine Action Intelligence Tool
- Priority Setting in Mine Action tool
- Smart Mine Detection Dog system

In parallel, the GICHD Results Based Management (RBM) Advisor conducted an internal evaluation of six different GICHD tools and two publications, which were as follows:

- Anti-vehicle mines (AVM) incidents and impact monitoring tool
- Beyond the Battlefield Animation - Management of Residual Explosive Remnants of War (MORE) project
- Characterisation of Explosive Weapons study
- Cluster Munitions Identification (CMID) Tool
- Collaborative Ordnance Data Repository (CORD)
- e-Catalogue tool
- Guide to Mine Action (in Arabic)
- Non-Technical Survey (NTS) Animation

The specific objectives of the external and internal evaluations were to:

- Assess the relevance and use of GICHD tools and publications and whether they are 'fit for purpose'
- Identify success and failure in the processes of engaging with partners, developing tools and their introduction into and adoption by the mine action sector
- Reflect on the 'value for money' of each tool or product selected under this evaluation
- Provide clear recommendations to help steer and improve future tool or product development and optimise the utility of existing GICHD tools and publications

The evaluations reviewed GICHD tools and publications that were produced during the past five-year period, it should be noted that the GICHD has already put in place measures to improve the effectiveness and relevance of the support it provides to the mine action sector through, among other things, the implementation of Results-Based Management which is currently being implemented across the organisation.

The evaluation findings therefore point to some issues that have already been addressed through the introduction of recent RBM-related changes.

The internal and external evaluations involved a mix of desk based research and a total of 72 interviews, 41 consisting of current and former GICHD staff and contractors, and 31 consisting of GICHD partner organisations and wider mine action stakeholders. The evaluations took place from September to November 2017. The following is a summary of the main findings from both:

- Among the externally evaluated tools, the evaluation findings indicate that GICHD's ASM app, MARS, MINT and PriSMA are all fit for purpose. Both the ASM app and MINT received positive feedback from external stakeholders, while MARS and PriSMA were well received by pilot countries following pilot testing. The ASM app is being used to support stockpile destruction activities and as a training aid, MINT is being used to

support clearance operations in Tajikistan, Ukraine and the Falkland Islands, and PriSMA has helped promote greater transparency during the prioritisation processes in pilot countries.

- Among the internally evaluated tools, GICHD's Anti-Vehicle Mines incidents and monitoring impact tool, the Characterisation of Explosive Weapons study and the Guide to Mine Action in Arabic all received positive internal and external feedback. The AVM publication and tool have contributed to international debate on the issue of AVM. Internal feedback regarding the NTS animation was also positive. Similarly, positive feedback was received regarding the concept for the Beyond the Battlefield animation developed for the MORE project, although those interviewed believe that further modifications are required.
- The take-up and use of GICHD tools and publications has tended to be higher in cases where the tools and publications were integral parts of GICHD's daily programming. For example, the AVM publication and tool was part of GICHD's wider advocacy work on AVM and was used to inform a political debate, while the Guide to Mine Action in Arabic is part of GICHD's broader outreach and capacity development support in Arabic-speaking countries. Similarly the ASM app is embedded within GICHD's wider programme of support on ammunition management, and where relevant, the roll-out of PriSMA will be linked to GICHD's strategic planning support provided to affected states.
- Needs assessments and market research are not systematically conducted when developing new tools, and approaches differ according to individual Advisors.
- The extent and frequency of internal and external consultation before, during and after tools are developed varies according to individual Advisors.
- GICHD does not yet have a system in place to carefully vet ideas for new tools/products. A process has been initiated to vet new projects according to the criteria of Compliance, Coherence and Compatibility, but new tools are not yet subject to the same scrutiny.
- GICHD's financial system was previously not set up in a manner that facilitated the tracking of expenses for specific tools, making it difficult to get an accurate breakdown of the expenses involved in tool development, consultation, testing, etc. which made it challenging for project management and oversight. RBM-related changes to the financial system have recently been introduced which now make it possible to track the expenses related for new tools, products and publications.
- More time and resources are spent on the development of tools, without a commensurate or greater focus on providing sustained support to users to enable them to properly use these tools. Who uses GICHD tools, in what capacity and where is not monitored, and limited consideration is given to raising awareness, promoting buy-in and providing sustained support to help users implement the tools effectively.
- Feedback from users about tools is not systematically obtained and used to inform tool development and improvement.
- The planning of a tool development and roll out did not, until 2017 planning process, include monitoring and evaluation nor was it planned with a specific outcome in mind.

Based on the findings of the external and internal evaluations, the following recommendations are aimed at optimising the utility of existing GICHD tools/products and helping to steer and improve future tool/product development:

- **Make needs assessments and market research mandatory:** Put in place a system that requires Advisors/Project Managers to systematically conduct needs assessments and market research prior to the development of any new tools/products using either a tool development checklist, or through the SharePoint project workflow.
- **Tighten up the internal vetting process for new tools:** As part of efforts already underway to tighten up the vetting process for new projects through the 3C process whereby Advisors/Project Managers are required to demonstrate the extent to which new projects meet the criterion of Compliance, Coherence and Compatibility, Heads of Division should ensure the 3C process also applies to the vetting of proposed new tools.
- **Ensure consultation with colleagues:** In recent years, GICHD has taken major strides forward in improving cross-division collaboration and coordination for example in the form of the inter-divisional thematic working groups. Continue in this regard, and require Advisors/Project Managers to regularly consult colleagues at different stages of the tool development process. Ensure there is clarity on objectives and on responsibilities of various team members. Communicate cross-divisionally, including consultations on tool specifications, rollout plans and outreach. Exchange lessons learnt.
- **Prioritise and budget for external stakeholder consultation:** Consultation with external stakeholders before, during and after tools are developed is critical and should be mandatory in order to ensure the development of relevant and practical tools.
- **Develop clear tool/product workplans:** As part of the vetting process, require Advisors/Project Managers to develop tool workplans to improve project management and oversight of the tool development process. Make sure tools are clearly defined as outputs within a wider **theory of change** of a project. Clarify how these outputs support achievement of longer-term outcomes and plan/budget for monitoring and evaluation.
- **Prioritise the provision of sustained support to users:** Match the investment in developing tools/products with a commensurate investment in staffing to ensure users receive sustained support and derive intended benefits. To build institutional memory, establish a standardised handover and documentation management process.
- **Establish a system to track tool usage and obtain user feedback:** Put in place systems to ensure that data is collected on tool usage and feedback from users, and that this data informs tool improvement and new tool development.
- **Develop tool outreach plans at an early stage for each tool/product:** Develop clear outreach plans at the tool initiation stage to identify intended users, how best to ensure their buy-in and how to promote their sustained use of the tool.
- **Ensure Advisors track tool/product expenses:** As part of the Centre's efforts to implement Results-Based Management, GICHD has made recent adjustments to its financial system which allows for output and outcome-based budgeting, and therefore enables the tracking of expenses for specific tools, products and publications. Heads of Division should therefore ensure that budgets for new tools/products are developed in a manner that facilitates monitoring and oversight.
- **Commission an independent evaluation of GICHD's Information Management capacity development approach:** To assess impact and inform the GICHD's future four-year strategy and the development of future IM/IMSMA-based tools, commission an external evaluation of GICHD's IM capacity development approach.

Findings overview

The following tables provides an overview of the 12 tools and two publications that were evaluated, with data provided on the time taken to develop them, when they were available for use, their current status and users, the costs incurred to date, and feedback received from users. This data is presented in the form of two separate tables, Table 3 providing details for the 6 tools that were externally evaluated, and Table 4 covering the 6 tools and 2 publications that were internally evaluated. The tools in the tables and in the following sections of this report are presented in alphabetical order.

Table 3: Tool overview (external)

Tool	Development period	Available for use	Current status	Users	Costs to date (estimates)	User feedback
Ammunition Safety Management (ASM) app	2013-2017	2014 (Sections 1-3) 2016 (Accounting tool) 2017 (IATG/checklist)	2014 app available Updated periodically	No system to track usage; some users known and in contact with GICHD	576,650 CHF (plus 12K/yr. maintenance until it gets in an house a server)	Fit for purpose, useful as a field reference guide and for delivering ASM training
Demining Management Tool (DMT)	2011-2014	2011 (V1 V2 Excel) 2012 (V3 Software) 2014 (iOS)	2012 Version available on Website 2014 app available	No system to track usage; MineWolf developed adapted version of DMT	484,790 CHF	Initial Excel version was viewed as relevant but subsequent versions were not needs-based
Mine Action Reporting System (MARS)	2015-2017	2017	Deployable Rollout commenced in 2017 to complement IMSMA NG	Pilots: Chile, Cambodia Requests: Afghanistan, UNMAS and MAG Iraq, South Sudan, Ukraine, Somalia	489,000 CHF (plus 20K/yr. maintenance from 2019 -2021)	Pilot tests in Cambodia and Chile indicate it is fit for purpose, and interest within mine action sector is high.
Mine Action Intelligence Tool (MINT)	2013-2015	2015	Available for IMSMA NG countries	Tajikistan, Ukraine, UK/Falkland Islands, Armenia, Sudan	296,306 CHF (includes 19K/yr. maintenance for 3 years until 2021)	Fit for purpose and well received in pilot countries.

PriSMA	2014/5-2017	2017	Being re-coded; To be rolled out in Feb 2018, along with IMSMA Core	Pilots: Sri Lanka, Tajikistan, Colombia Planned: Thailand, Vietnam, Cambodia	287,992 CHF (plus maintenance <40K/yr. beyond 2018)	Pilot country feedback confirms it is fit for purpose and has helped promote greater transparency in the national prioritisation process.
Smart Mine Detection Dog (MDD) system	2014-2016	2016	20 sets produced, 16 distributed to NPA/APOPO Cambodia, NPA Bosnia and MAG Iraq; none in use	Planned: NPA Bosnia, NPA Cambodia, APOPO Cambodia/CMAC, MAG Kurdistan	652,853 CHF	Not in use, and pilot users indicate further modifications and testing is needed. Larger issue regarding use of MDD needs to be addressed first.

Table 4: Tool overview (internal)

Tool	Development period	Available for use	Current status	Users	Costs to date (estimates)	User feedback
Anti-Vehicle Mines (AVM) incidents and impact monitoring tool	2014-2017 2014 (pub) 2016 (tool) 2017 (simulator)	2015 – study 2015 & 2016 – additional publications 2017 – mapping tool Simulator not yet available	Publications available Interactive maps available via SIPRI website in 2017 Leaflet to be published in April 2018	Ireland, ICRC, SIPRI are currently using the tool Intended users are : wider human security sector, including partners (ICRC, SIRPI, and states, such as USA, Ireland, Germany	173,660 CHF	Very positive feedback; both the publication and the tool have highly contributed to the international debate on the topic of AVM; uptake by SIRPI, ICRC, Ireland.
Beyond the Battlefield Animation-Management of Residual Explosive Remnants of War (MORE) Project	2015	2015	Available for use (no voice over) Not used since 2016 with departure of GICHD PM	No users at the moment In 2015, used internally (Donor Seminar) and for Hammelburg training in May 2015 Viewed 1,755 times on GICHD YouTube channel	34,891 CHF	Internal feedback included: Lack of clarity on context of animation; lack of distinction between AP and AV mines; lack of gender and diversity considerations; Risk Education personnel appear in military uniforms; lack of link of to GICHD Strategy. Positive concept but

						improvement needed
Characterisation of Explosive Weapons study	2015-2016	2017	Launched in 2017 and in use. Explosive weapons effects simulator to be completed by end 2017	No system to track exact users. Intended users: stakeholders of WEIPA political process, human security organisations, MoD	197,363 CHF	Positive internal and external feedback
Cluster Munitions Identification (CMID) Tool	2011-2014	Not available Website exists but needs to be populated with data	Not in use Planned for update in 2018 Currently not funded	No system to track specific users; planned users: ammunition personnel in armed forces and relevant government ministries; also NGOs and Human Rights activists; demographics show user access from Switzerland, Germany, USA, UK (top 3 countries – 2012-14)	No data Estimates to renew the tool: 19,000 + 2000 a year for maintenance	No user feedback as not operational, but high demand
Collaborative Ordnance Data Repository (CORD)	2013-2015 Updated in 2017 as part of Operational Efficiency project	2015 (wiki version) 2015/6 not available	Open; as of 2017, in a phase of development	No system to track specific users due to MoU; Demographics show users from: USA, South Korea, Germany (current top 3 countries). Planned for the use of: MA operators for training; academia; MA programmes and as input for IMSMA	292,615 CHF (total incl. salary)	Positive feedback from some external users. Need for further data/content updates (imagery and specifications) which is currently underway. High demand.
e-catalogue tool	2011-2012 for online version 2007-2010 (printed- available data)	2012	Open, no updates and no plans to revamp the tool	No system to track specific users; In general: equipment manufacturers; operators in a wider MA sector; demographics show users	203,734 (online version) 642,090 (printed) 845,824 CHF (total cost)	Internal feedback: Need to update the catalogue on IEDs; External feedback: problems with access in field due to limited Internet access; would

				from: Switzerland, Germany, USA (2014-2017)		be beneficial to have it available for download
Guide to Mine Action in Arabic	2014-2015	2015	Completed and in use.	Users: UNDP, Jordan, Lebanon, Iraqi Kurdistan, Yemen.	13,626 CHF	Regional Cooperation Programme user survey indicated high and strategic use
Non-Technical Survey (NTS) Animation	2016 No formal launch; introduced via social media	2016	Available in English, French, Spanish and Arabic	No system to track specific users. It was used NTS training in 2016. Viewed 806 times on GICHD YouTube channel and 1,760 times on Facebook. Intended for both NTs training and for donors	42,151 CHF	No external feedback Positive internal feedback: good technical aspects presented and easy to learn from.
All publications	Since 2004, 76 publications printed: English 56 Arabic 6 French 4 Chinese 1 German 1 Lao 1 Russian 3 Spanish 2 Vietnamese 1 Electronic publications (2013-2015): 54 -2 Arabic -3 French -4 Spanish -45 English	# copies ordered 2017: 6525 copies ordered 2016: 6200 copies ordered 2015: 2930 copies ordered 2014: 5200 (available data)	- There is no system to track in stock vs. distribution. - There is no system to track the number of printed copies that are outdated and still in stock and the monetary value of wasted costs. - There are hundreds of outdated publications thrown away each year but no system to keep track of numbers and costs.	- There is no system to track specific users per publication. Below is an estimate of target group per type of publication: Leaflet, 4 pages - Examples: GICHD corporate brochure, fundraising leaflet - Audience: General public, international Geneva, Geneva government and public, media, private donors and partners Brochure, 25-50 pages - Examples: Annual report, Mine Action and Peace Mediation - Audience: mixed Guide, 200 pages	No system to track all the expenses per publication. Below is the estimate per type of publication: 1. Leaflet, 4 pages -Examples: GICHD corporate brochure, fundraising leaflet -Audience: General public, international Geneva, Geneva government and public, media, private donors and partners -Comms Manager time: 6 days of work = 2,260 CHF 2. Brochure, 25-50 pages - Examples: Annual report, Mine Action and Peace Mediation - Audience: mixed - Comms Manager time: 20 days of work = 7,520	

				<ul style="list-style-type: none"> - Examples: Guide to Mine Action, Guide to Cluster Munitions - Audience: Mine action community, human security actors, academia 	<p>CHF</p> <p>3. Guide, 200 pages</p> <ul style="list-style-type: none"> - Examples: Guide to Mine Action, Guide to Cluster Munitions - Audience: Mine action community, human security actors, academia - Comms Manager time: 30 days of work = 11,280 CHF 	
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Background

The Geneva International Centre for Humanitarian Demining (GICHD) was established in 1998 and serves as an expert organisation committed to reducing the impact of mines, cluster munitions and other explosive hazards. A key focus of the GICHD's work involves the development of tools, products and publications for use by national and international mine action stakeholders globally, with the aim of improving the efficiency, effectiveness and impact of mine action operations in order to save lives, return land to productive use and promote development.

GICHD commissioned an external evaluation to review six of its tools/products. In parallel, GICHD's RBM Advisor conducted an internal review of six GICHD tools and two publications. The overall purpose of these evaluations is to review the relevance, level of adoption and value for money of the tools and products that GICHD has produced in the past five years in order to optimise their utility and inform future tool and product development. Given the costs and time involved in conducting an external evaluation, GICHD decided at the outset to limit the external evaluation to a review of six tools. An internal evaluation, carried out by GICHD staff, was used to evaluate six tools and 2 publications in order to make use of in-house expertise, minimise costs but also generate useful feedback from internal and external stakeholders regarding tool/publication relevance, utility and value for money.

It is important to note that the evaluations involved reviewing the development of GICHD tools and publications produced over a previous five-year period (2012-2017). The evaluation findings therefore point to some issues that have already been addressed through GICHD's organisation-wide implementation of a Results-Based Management (RBM) approach, which was initiated in 2015. The Centre's introduction of RBM was partly in response to its own efforts at country level advocating for a more outcome-oriented approach, as well as guidance received from GICHD's RBM Advisor (at that time) and donors.

1.1 Purpose and Scope of the Evaluation

The specific objectives of this evaluation are as follows:

- Assess the relevance and the use of GICHD tools and whether they are 'fit for purpose'
- Identify success and failure in the processes of engaging with partners, developing tools and their introduction into and adoption by the mine action sector
- Reflect on the 'value for money' of each tool or product selected under this evaluation
- Provide clear recommendations to help steer and improve future tool or product development and optimize the utility of existing GICHD tools

The external evaluation complements an internal review of other GICHD tools, products and publications, coordinated by GICHD's RBM Advisor. The external evaluation examines the following six GICHD tools/products (in alphabetical order):

1. Ammunition Safety Management tool
2. Demining Management Tool
3. Mine Action Reporting System
4. Mine Action Intelligence Tool
5. Priority Setting Tool for Mine Action
6. Smart Mine Detection Dog system

The internal evaluation concentrates on the seven tools/publications listed below:

1. Cluster Munitions Identification (CMID) Tool;
2. e-catalogue tool;

3. Collaborative Ordnance Data Repository (CORD);
4. Animation- Management of Residual Explosive Remnants of War (MORE) project
5. Animation- Non-Technical Survey (NTS) project
6. Anti-vehicle mines (AVM) incidents and impact monitoring tool
7. Publications (two specific publications evaluated in-depth: Characterisation of Explosive Weapons study and Guide to Mine Action – Arabic translation)

Box 1 summarises the key questions that guided both evaluations and which were based on the evaluation Terms of Reference (See Annex A).

Box 1: Evaluation guiding questions

Assessment of the relevance and the use of GICHD tools and whether they are 'fit for purpose'

- How many national mine action programmes are using the tool/product?
- To what extent have the expected outcomes been met? What have been the unexpected outcomes?
- Do competing tools/products exist in the mine action sector? If yes, are they more/less relevant than the GICHD's tool?
- What is the outlook for the tool – in terms of utility and/or further use?
- Is the tool/product 'fit for purpose'? If so, why? If not, why not?
- What has been the uptake from partners and other relevant stakeholders of the tool/product?

Identification of success and failure in the processes of engaging with partners, developing tools and their introduction into and adoption by the mine action sector

- Why and on what basis was the tool/product developed?
- How was the requirement for the tool/product defined?
- Were clear end-users identified for the tool/product?
- Have relevant stakeholders (outside the GICHD) been party to the development of the tool? If so, what was the process of engaging these stakeholders?
- How long has it taken to develop the tool/product?
- How was the tool/product launched or introduced to the mine action sector?
- What was the initial feedback from partners and other stakeholders following the launch of the tool/product?

Reflection on the 'value for money' of each tool or product selected under this evaluation

- What were the costs associated with the development of the tool/product (including staff costs)?
- What were the costs associated with the launch of the tool/product (if applicable)?
- Was the budget for the development of each tool/product spent efficiently?
- How do the costs of the development and launch of the tool/product relate to the uptake and value for users/partners?
- What are the estimated costs for the maintenance and update of the tool/product?

Provision of clear recommendations to help steer and improve future tool or product development and optimize the utility of existing GICHD tools and products

- What key recommendations can be drawn from the evaluation to improve both the value and the utility of the specific tool/product?
- What are the lessons learnt (both positive and negative)?
- What aspects can be taken from this evaluation to improve the utility of existing tools/products?
- What aspects need to be taken into consideration for future tool/product development and maintenance?

1.2 Methodology

In order to answer the evaluation questions, the following methods were used:

- Phase 1: Preparatory – desk-based research, interview planning and inception report
- Phase 2: Data collection through in-person and Skype interviews
- Phase 3: Analysis and reporting

Phase 1: Preparatory

The evaluator and the RBM Advisor conducted an initial review of the documents provided by GICHD that included: project briefs, instruction manuals, presentations and background overviews for each product/tool. The following additional information was obtained directly through GICHD focal points for the 12 tools and two publications under evaluation: financial data; relevant back-to-office reports; reports and background documents of previous evaluations; and concept notes, proposals and donor narrative and financial reports. These documents were used to obtain: background information on each tool's purpose, intended impact and what led to their development; how they were designed, piloted and implemented; progress and challenges in relation to implementation thus far; and planned vs. actual costs incurred. Web-based research was also conducted to obtain additional information pertaining to the six tools under the external evaluation and related tools available for use within the mine action community. Download statistics were only available for the ASM and DMT apps under the external evaluation and for all seven tools/publications (including the two specific publications selected for a more in-depth review) but for varying time periods.

Table 1: External evaluation schedule

Phase	Dates	Deliverables
1. Preparatory	29 August – 5 September	Inception report (5 September)
	29 August – 29 September	Document review
2. Data collection	19-21 September	Interviews – Geneva
	6 September – 13 November	Skype interviews
3. Analysis and Reporting	15 November	Draft report sent to POM and relevant staff
	23 November	Draft report presented to Management Board
	8 December	Final report sent to Management Board
	15-16 January	Report findings presented to staff

Table 2. Internal Evaluation schedule

Phase	Dates	Deliverables
1. Preparatory	2-6 October	Inception report (6 October)
2. Data collection	6 October- 24 November	Interviews
3. Analysis and Reporting	24 November	Draft report send to POM
	30 November	Draft report discussed at POM
	15 December	Final report send to MB
	16 January	Presentation of results to staff
	End of January	Final merged report for publication

Phase 2: Data Collection

The evaluations focused on gathering data directly from key informants through guided interviews ranging from 20-60 minutes depending on the individual's familiarity with the tool and when the tool had last been used. The interviews were based on semi-structured interview questionnaires (developed for each key informant category, described below) in order to allow for in-depth questioning and feedback. Partners and external stakeholders interviewed for the evaluation were largely based on recommendations provided by GICHD staff. The key informant interviews were broken down according to the following categories:

1. **GICHD staff:** This refers to the GICHD Advisors designed as focal points for the tools, as well as GICHD's Policy and Operations Meeting members, and the communications finance teams. This includes any GICHD consultants that were involved in the design, piloting and rollout of the tools/products. This also includes former GICHD staff who were directly involved in tool/product conception, design and project management. In person interviews were held in Geneva in September, with additional follow-up interviews via Skype where necessary.
2. **GICHD partners:** This refers to users of the GICHD tools/products covered by this evaluation, including those involved in pilot testing. This includes representatives of national mine action authorities, UN programme managers and technical advisors, and staff from mine action organisations (national, international and commercial).
3. **GICHD stakeholders:** This included GICHD Advisory Board members and other relevant national, regional and international organizations that are considered part of the mine action community and who are familiar with the GICHD tools/products under evaluation, and/or similar tools/products currently available through other suppliers.

Phase 3: Analysis and Reporting

The results from the interviews were reviewed following the document review. The evaluator presented the preliminary findings of the evaluation to GICHD's POM members on October 5th. The initial feedback received has been incorporated into the evaluation report. In total for the external evaluation, the evaluator received feedback from 49 key informants, broken down as follows:

- 23 current and former GICHD staff
- 26 partners and external stakeholders

In total, for the internal evaluation, the RBM Advisor received feedback from 23 key informants, broken down as follows:

- 18 current and former GICHD staff
- 5 partners and external stakeholders

As some of the tools have not yet been formally launched, the number of partners/stakeholders was limited and was often restricted to the countries/organisations involved in pilot testing the tools. For a complete list of those who provided feedback, see Annex 2. The majority of the feedback received from GICHD's partners and stakeholders, was provided through Skype interviews, with the exception of six stakeholders who sent their feedback via email due either to logistical issues or language. Thirteen individuals did not respond to email requests for an interview (10 for the external evaluation and 3 for the internal evaluation), and for the internal evaluation, the contact details for approximately ten external stakeholders were not submitted on time to the RBM Advisor.

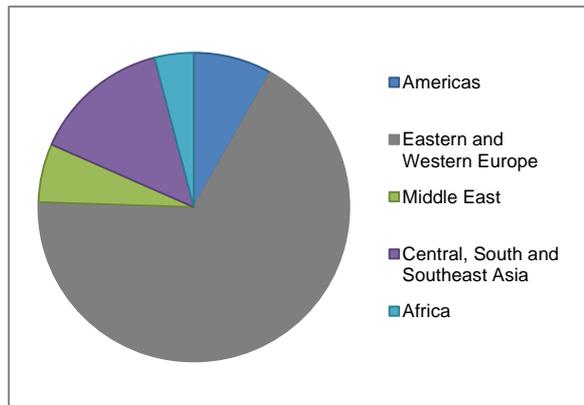
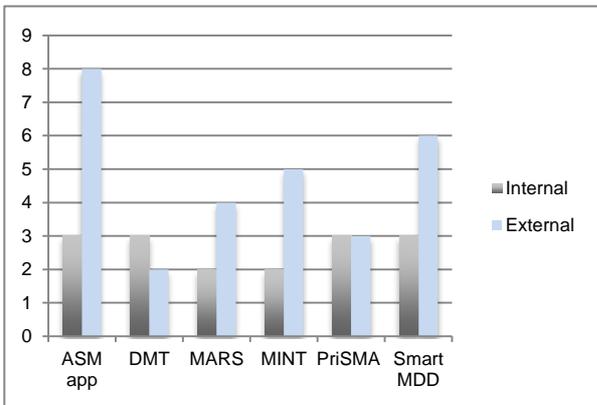
Once both the external and internal evaluations were completed, the findings from the internal evaluation were incorporated into the external evaluation report, resulting in one overall report.

External evaluation

Figure 1: Number and type of interviews by tool

Figure 2: Location of key informants

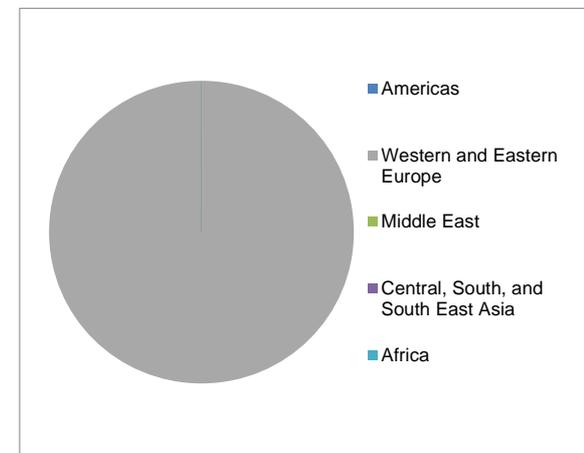
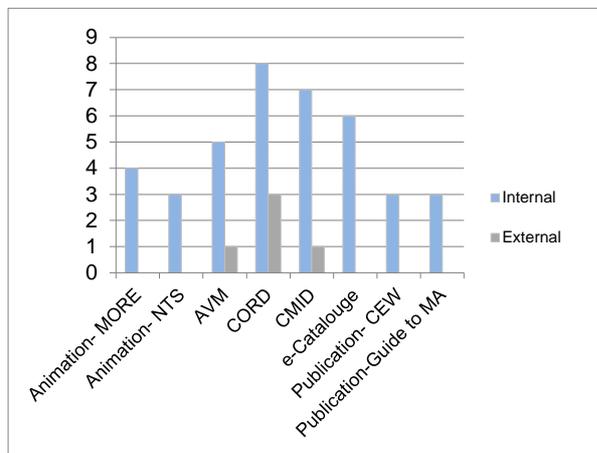
*Note: Internal refers to GICHD staff whereas external refers to GICHD partners and stakeholders



Internal evaluation

Figure 3. Number and type of interviews by tool

Figure 4. Location of key informants



Externally-evaluated tools and publications

2.1 Ammunition Safety Management Tool

In 2011, GICHD broadened its focus to look at how to develop the capacity of states to apply sound ammunition management practices when dealing with all of their ammunition stocks and facilities. GICHD developed the Ammunition Safety Management (ASM) tool to reduce the potential for accidental explosions in ammunition and explosive storage areas and reduce the risk to the population should an unplanned explosion occur. It also helps prevent the proliferation of ammunition and explosives for use by armed non-state actors as intended or as main charges and initiators for Improvised Explosive Devices (IEDs). The ASM toolset, developed by software developer company Komodo, is available in the form of an app for use on iPhones, iPads and Android tablets. The app has three specific objectives: to provide a single point of reference for all ASM related content and materials; provide a basis for ASM training, education and operations; and to act as the configuration and quality library for all components of the ASM toolset. It is intended as an operations guide and training aid for experienced and technically trained ammunition technical specialists, as well as mine action practitioners lacking ammunition management training but who are increasingly involved in the implementation of Physical Security and Stockpile Management (PSSM) programmes. Initial sections of the app were launched and available for download in 2014 with subsequent additions and updates made in 2016 and 2017. The app has recently been adapted for use as an ASM Training of Trainers (ToT) curriculum in English and French, and will be piloted in several locations including Niger, Guinea Bissau and Malawi.

Assessment of relevance and whether ‘fit for purpose’

Apart from the International Ammunition Technical Guidelines (IATG), there were and there are no comparable tools available to the ammunition management community. The ASM app is currently the only one of its kind. GICHD does not have a system in place to track the usage of any of its tools or products, and therefore the total number of users of the ASM app is unknown. Download statistics, while not an indicator of usage, indicate that the ASM app appeared 4,556 times in searches on the Apple Store, that the app was ‘purchased’ or downloaded 116 times, and that the app was used 190 times for 2 seconds or more (all during the period of 1 April 2015 to 1 September 2017).¹ Stakeholder interviews yielded examples of how and where the ASM app is being used:

- International Committee of the Red Cross (ICRC) is using it for ASM training in Southeast Asia
- Halo Trust is using it to conduct training in Jordan
- DDG Libya is using it for stockpile destruction
- MAT Kosovo has included the app in its IMAS Level 3 training

Interest in the app was initially slow to take off. However, feedback from the external stakeholders interviewed for the evaluation is largely positive. They maintain that the app is fit for purpose, user friendly and pitched at the right level, with a simple user interface. Additional positive features listed by users include: easy to download, use and access; ability to work through a problem scenario; easy to pinpoint problem areas; and has a simple graphical layout. Individuals with different levels of capacity can use it – from experienced ammunition technical officers, to others with less experience/knowledge and who have limited exposure to the IATG. It is aimed for use in the field, including for non-Ammunition Technical Officers (ATOs) such as deminers who are increasingly having to deal with ammunition related issues but don’t have the right training. It can also be used as a training aid. Only one of the external stakeholders interviewed is a field-based practitioner, who is using the app to support stockpile destruction in a conflict-affected context, and has found it

¹ The app was also available via Google Play for Android but statistics were not available.

a very useful reference in terms of transport safety distances, preparation of demolition pits, and safety of staff and distances between different types of ammunition/explosives. Others reported using it as an ASM training aid. One user noted a technical glitch – he was unable to open the app after he had updated his system to iOS 11; however this has been addressed.

Given the capacity and resource constraints in many conflict affected contexts which mitigate against security forces having easy access to smartphones and tablets, as well as stable internet connections, GICHD has adapted the contents of the app into an English-language hard copy curriculum to be used for ToT courses. The US Department of State's Weapons Removal and Abatement (WRA) programme funded the ToT curriculum. It will be used as part of an African Union project, with potential roll out to 25-30 African countries. The curriculum is in the process of being translated into French and GICHD will pilot it in Guinea Bissau, Niger and Malawi. Additional plans include the referencing of the tool to the IATG, and to include a condensed version of the IATG. Additional modules for inclusion in the app may be produced, upon request. Based on initial feedback and widening interest in GICHD's ASM expertise, GICHD's ASM team has expanded from one to three full-time Advisors to help provide support to users and to deliver training based on the app.

Partner engagement, tool development and tool outreach processes

GICHD has traditionally focused on mine action. However, in response to increasing engagement by mine action organisations in ammunition safety management, GICHD recruited an ASM Advisor, who conducted research to see what tools and support were available to field-based organisations. GICHD developed the app in response to the increasing number of Physical Security and Stockpile Management (PSSM) programmes by mine action actors, and the reality that many were being managed and implemented by mine action and small arms control personnel who were not ATOs by training. From the outset, GICHD clarified that the app would be aimed both at ammunition management specialists, as well as non-specialists involved in PSSM field-based operations.

The tool's development was initiated in March 2013 with Swiss core funding and an initial version of the app has been downloadable since January 2014. Phase 1 of development focused on developing Sections 1-2, which was completed by January 2014, and Phase 2 consisted of Section 3, which was available by mid 2016. Phase 3, which consisted of including references to the IATG and a checklist, was completed in February 2017.

When the idea of the app was first developed, some internal consultation took place within GICHD, but this was not extensive. A prototype of the app was shown at a later stage to some staff to obtain feedback and raise awareness, but at a higher level, there was initial resistance to the development of the ASM tool. It did not have full management support and buy-in, perhaps because it signalled a widening of GICHD's area of expertise and engagement. GICHD set up an external User Focus Group to consult external stakeholders engaged in ammunition management in order to solicit their feedback. Meetings were held on the margins of the National Mine Action Directors Meetings, however after a couple of initial meetings, GICHD realised that organisations were sending the 'wrong' representatives to the meetings, i.e. their mine action representatives and not their ammunition management experts. While initial feedback was positive in terms of the idea of an app, GICHD did not organise further UFG meetings as specialist input was required and resources were not available to organise periodic consultation meetings that were not linked to other Geneva mine action events. However, informal consultation was carried out with organisations such as the Organisation of American States, UN Mine Action Service (UNMAS) and ICRC, primarily during phases 1-2.

The app was launched before it was fully ready in December 2013 at the 13th Meeting of States Parties to the Anti-Personnel Mine Ban Convention due to internal pressure to

present something at the meeting. As a result, participants experienced technical glitches, prompting negative feedback, which damaged the app's credibility. In mid 2014, the tool was re-launched once it was ready with notifications made online through various ammunition and EOD groups and the GICHD website. GICHD delivered numerous presentations at different workshops and events to publicise the app. GICHD also publicised the app through the Swiss Partnership for Peace training course, which now offers a specific ASM course based on the app. During these courses, GICHD demonstrates how the app is used, and based on this, several requests for support have been received. The app includes a request for users to send feedback to the GICHD via email, and several have done so. Some interviewees noted that the launch of the app did not generate a lot of publicity and that it should have been publicised more widely within the mine action community to generate greater discussion and wider usage. Delays in the finalisation of the app took place in part due to technical problems with Komodo, the developer, as well as a health-related leave of absence by the ASM Advisor.

Value for money

It cost GICHD just under 540,000 CHF to produce the app over a period of five years, with the first version of the app available after one year. The breakdown in costing is as follows:

Expense	CHF
Production (including maintenance) – Komodo	214,750
ASM consultant (salary plus travel)	100,900
Staff salary-related expenses plus travel*	220,000
Total costs	535,650

*Salary-related costs are calculated on the basis of the ASM Advisor having spent 50% of his time on the development of the app.

As mentioned above, it took longer than anticipated to develop the app. Komodo had a problem with developing the accounting tool, leading to higher than anticipated costs. Some savings may have been possible had the ASM team consulted internally with GICHD's IM Division to discuss software development needs and find a more suitable developer or to recruit someone in-house to work on the app's development. There was no consultation in this regard, which speaks to a broader issue of internal consultation and collaboration.

The costs incurred in the development of the ASM app are high (it is the second most expensive tool under review), and it has taken approximately five years to finalise the toolset, which is substantial. This said, the app has been well received within the ammunition management and mine action communities. While it is unclear how many field-based practitioners are currently using the app due to lack of data, it is fair to say interest is increasing, and that the development of training modules and the delivery of ToT workshops based on the app, will likely lead to increased use in future. The direct linking of the app to GICHD's provision of training is a useful strategy for promoting its use.

The app has led to an increased profile for GICHD in the area of ammunition safety management. Partial cost recovery has taken place through an initial grant of USD 550,000 from the US DoS WRA for the adaption of the app into a ToT curriculum, and discussions are in progress regarding a second grant of USD 450,000 for the provision of training to security forces in different countries with ammunition management problems. GICHD is also in discussion with the Swiss Ministry of Foreign Affairs and the UN Office of Disarmament Affairs (UNODA) to see whether GICHD may be able to act as a secretariat to the IATG, in a manner similar to GICHD's role vis à vis the International Mine Action Standards. This potential opportunity has arisen due to GICHD's enhanced ammunition management profile and credibility resulting from the ASM app.

The ASM tool is an example of how the development of one tool has led to a broadened focus and wider programme of work for GICHD. While it was expensive to produce and the process involved was lengthy, it has raised GICHD's profile within the ammunition management sector, it is bringing in revenue and leading to roll out at field level, e.g. there are plans in place to assist with the development of national ASM standards. GICHD has also expanded the number of Advisors available to provide sustained support to users and is focusing on the provision of capacity development support to ensure effective use of the app.

Recommendations for optimising the utility of this tool

The following recommendations for how the utility of this tool could be improved are based on feedback from users and broader stakeholders interviewed for this evaluation, with feedback from GICHD's ASM team in brackets:

- Improve the accounting system
- Improve the link between the list of competencies and the IATG, and include hyperlinks to the IATG (planned)
- Make access to safety distances easier (IATG is incorporated so this is available)
- Include a direct link to the ammunition information system/munitions database (when CORD is finished, it will be linked)
- Include the hazard classification codes for non-NATO (North Atlantic Treaty Organisation) ammunition; as several lists are available, select and include at least one (GICHD needs to find whether a reliable one exists or go to source, i.e. manufacturers, in Russia, China, India, Pakistan etc.)
- While the app includes blank forms for ammunition, useful to also include some sample completed forms
- In the case of live ammunition, it would be useful in a training context to have guidance on which ammunition to use for different exercises (not possible as each country has access to different items)
- Add scenarios for different contexts and ways of working to reflect conflict-affected contexts such as Afghanistan, Libya, Sudan, Iraq, etc. For example, it can be difficult in some contexts to follow the guidance in the app exactly. In contexts such as Libya, it is not possible to mark trucks transporting ammunition/explosives with hazard stickers due to the conflict. Adaptations according to context are therefore required. (Already mentioned in the transport section; a guide for each country would be massive and would need to change every few weeks)
- Make the app available on Windows/PCs and Apple Mac laptops, as well as offline (planned)
- Having the option to print would be useful in cases/countries where tablets/smartphones are not available and a hard copy is needed (can be done at some stage and will be a printed guide as part of the WRA project in future)
- Provide in-depth guidance regarding permanent storage of ammunition, and not just temporary (Once RRPL1 is attained the IATG becomes the guide for permanent storage)

Lessons learned

There are five main lessons to be learned from the development of the ASM app, which are as follows:

- GICHD needs to ensure that a rigorous process is put in place for selecting suitable contractors that meet the specifications and have the requisite expertise. Internal consultation with other divisions such as Information Management should be required, particularly in the case of software-related tools in order to draw upon in-house expertise.
- When GICHD tools are developed, there is no standard process or mechanism in place for carrying out internal and external stakeholder consultation. If consultation takes place, it is entirely at the discretion of the GICHD Advisor. In order to ensure that GICHD tools and products are relevant and reflect user requirements, standardised mechanisms

need to be put in place to ensure that consultation takes place. In the case of external consultation, this requires resources, as the ASM app demonstrates, and should therefore be factored into the budget development process for new tools. Resources should be allocated to ensure that GICHD Advisors are able to establish UFGs with the correct individuals/specialists, organise consultation meetings and/or carry out user surveys.

- The time taken to develop the ASM app, and its various additions and modifications was approximately five years – factoring in developer delays and staff illness. While staff illness cannot be prevented, there needs to be tighter controls in terms of the length of time allocated for a particular tool's development, with clear red lines established regarding timeframe, deliverables and resources available, and a process for evaluating whether to continue development if deadlines are missed and/or additional resources are required.
- As was noted earlier in this section, GICHD senior management did not fully support the development of this tool. In future, if there are doubts within the management team about the potential relevance, impact and/or value for money of a future tool, this needs to be addressed before tool development proceeds to ensure that there is full management buy-in, and that the Centre commits all the necessary support and resources at its disposal to maximise the tool's eventual use and impact. GICHD management should fully support the concept and sees it as contributing to the overall strategic direction of GICHD.

2.2 Demining Management Tool

GICHD's Demining Management Tool (DMT) was developed in 2011 in response to a need for an operational management tool to improve the efficiency of mechanical operations. The tool is intended primarily for commercial and NGO operators using mechanical demining machines to help them better assess performance and downtime, and to use the data as to improve efficiency. The DMT was later modified to also record and analyse data on manual demining and animal detection systems (ADS). The initial version of the tool was called the Mechanical Demining Operations Software tool. It was developed by Ripple Design and consisted of a macro-enabled MS Office Excel spreadsheet and based on the reporting table from IMAS 9.50 on Mechanical Demining. As it became difficult to manipulate large amounts of data with Excel, GICHD adapted the tool using Visual Basic software. In 2014, it was developed for iOS as a downloadable app. The DMT is aimed at commercial and NGO operators, and National Mine Action Centres (NMACs) that use mechanical demining machines.

Assessment of relevance and whether 'fit for purpose'

According to GICHD, the initial version of the DMT was used in several programmes and was received positively. These included the national mine action programmes in Angola, Azerbaijan, Cambodia, Croatia and Iraq, as all of these programmes benefitted from GICHD mechanical demining training. However, due to GICHD staff turnover, and a lack of system in place to track tool usage, it is unknown precisely how many mine action organisations and national authorities have used the different version of the tool, and whether the tool is used today. MineWolf, the mechanical demining machine manufacturing company is one exception, as highlighted in Box 2. MineWolf developed an adapted version of the DMT for promotion with its clients as a means of improving machine use.

Box 2: MineWolf's adaptation of the DMT

Not long after the first version of the DMT was released in 2011, GICHD was invited to present the DMT to participants at a MineWolf client workshop. At that time, MineWolf was a manufacturer of mechanical demining machines, and MineWolf staff thought that the DMT might be a useful tool to help improve how MineWolf machines were being used. However, they felt that the DMT required modifications in order to suit the needs of a manufacturer. With GICHD's permission, MineWolf produced a customised version of the DMT and started to promote the use of the tool with their own training package with their clients (commercial and NGO operators, governments, militaries, international organisations, etc.) in various countries. MineWolf was the only mechanical demining machine manufacturer that provided in-country training and support, and had field offices, in order to promote machine sales and use. The tool was therefore seen as a means of helping clients and MineWolf improve efficiency. The MineWolf version of the DMT was used for a period by NPA in South Sudan and Jordan. As MineWolf worked on a 'just in time' basis, the tool helped work out what clients would require in terms of machine parts and when, etc. Over time, MineWolf found that its clients were not particularly motivated to document how they were using their machines, despite the fact that the tool was free. This mind set and overall unwillingness to enter and record data contributed to poor uptake of the tool. MineWolf concluded that the tool needed to be used systematically, and that if it wasn't, e.g. even if someone forgot to enter the data for a week, or the data was insufficient, then the tool lost its value and momentum, and it became tiresome to enter data retrospectively. MineWolf also felt the tool would be best aimed at long term demining projects, such as Shell's programme in Southern Iraq, but less useful for shorter term mechanical tasks, which is more common among NGO operators with short term funding.

As with the ASM app, download statistics are available for the iOS version of the DMT and indicate that the DMT app appeared 3,513 times in searches on the Apple Store, that the app was 'purchased' or downloaded 35 times, and the app was used 78 times for 2 seconds or more (all during the period of 1 April 2015 to 1 September 2017). However, as app downloads do not equate with usage, it is therefore difficult to conclude to what extent the tool is being used.

When the first version of the DMT was developed, few tools of this nature were widely available for free to operators. Therefore, the DMT was initially very relevant. However, its relevance declined over time, with the development of several off-the-shelf solutions and by

2012/3, most operators were using better quality tools. For example, NPA used a Microsoft Access database. Despite this, GICHD opted to expand the tool to also include manual and animal detection systems, and in 2014, decided to convert it into an iOS app. This was done without any form of needs assessment or stakeholder consultation, and as a result, it is unclear to what extent the newer versions of the DMT were used. No system was in place to track usage, and by 2014, GICHD was no longer promoting the use of the DMT through training or otherwise.

Partner engagement, tool development and tool outreach processes

GICHD first identified the need for the Demining Management Tool at the end of 2010 in response to poor data collection within the mechanical demining community. Machines were being used in a random manner by commercial and NGO operators, and GICHD identified the need to develop a tool to better capture how machines were used, in particular in relation to clearance, vegetation removal, quality control, use of dogs, etc. At the time, GICHD was regularly delivering mechanical demining training and interacting with field-based mine action operators, and it was through this interaction that the need for the tool was identified. No tools were available in 2010/11, even in Excel, for the management of mechanical assets, from productivity to consumables.

In 2011, GICHD contracted Ripple Design, an engineering services company, to develop an advanced Excel-based tool and by September 2011, Version 1 of the Excel tool and the user guide were launched. Over time, GICHD felt that modifications were needed, as Excel struggled to handle heavy amounts of data. GICHD therefore contracted Ripple Design to adapt the tool to a software format. In 2013, GICHD decided to further modify the tool and make it more comprehensive by including the management of manual demining and animal assets, and in 2014, the tool was converted into iOS format, becoming downloadable as an app for use on tablets. On behalf of GICHD, Ripple Design also conducted tests to see if it could import data from a vehicle using a GPS into the DMT in order to capture the coverage of the vehicle and populate a map. However, these tests were discontinued as operators such as NPA already had tools of this nature.

Although GICHD invested resources between 2012-2014 in modifying the DMT and eventually converting it into an iOS format, little consultation was done with external stakeholders to determine whether this would be relevant and limited consideration was given to the app's practical application, i.e. the reality that many field operators, at that time, did not use tablets. GICHD was more interested in pushing the organisation's level of technical adoption, and being one of the first mine action organisations to develop an app. Less consideration was given to what this might mean for intended users and the likelihood that the app would be used. In the end, in recognition that many operators did not use tablets, GICHD purchased some inexpensive tablets and distributed these to a limited number of target users as a means of encouraging use of the DMT app. But again, no monitoring system was in place to track usage, and no plan was put in place to support users. Once the tool was converted into iOS format, that was it in terms of support provided to users.

The first version of the DMT was launched via GICHD's website, and later, through the publication of an article in the James Madison University Journal of Conventional Weapons Destruction², a well-known journal within the mine action community. GICHD also linked the DMT's rollout to its training on mechanical demining. For example, in Angola and Croatia, the DMT was part of broader support provided by GICHD to the national authority, and in

² Pehr Lodhammar and Erik de Brun. (2012) "The GICHD Tool for Management of Mechanical Demining Operations," *Journal of Conventional Weapons Destruction*: Vol. 16 : Iss. 2 , Article 21. Available at: <http://commons.lib.jmu.edu/cisr-journal/vol16/iss2/21>.

Colombia, GICHD delivered at least three trainings for the Colombian military using the tool. GICHD's promotion of the DMT halted altogether by 2014/15 when it became clear that programmes required a mobile solution for data entry, and this led to the concept of the Mine Action Reporting System (MARS) – see Section 2.3. The drive to continue advocating for the DMT also changed with the arrival of new GICHD Advisors, who did not provide further support to users due to competing priorities as well as a lack of management guidance to ensure it was prioritised.

Given staff turnover and the lack of system in place to track usage of the DMT (and all GICHD tools more broadly), GICHD was not able to identify other users who could provide feedback on the tool. The only DMT users interviewed for this evaluation are two former MineWolf employees who provided feedback regarding the adapted version of the DMT that MineWolf developed (see Box 2).

Value for money

It took less than a year to produce the first version of the DMT. The tool was funded through Swiss Core funds and cost roughly 484,790 CHF. The following cost break down is based on estimates. Due to staff turnover and the lack of adequate records in place, the evaluator was not able to obtain confirmed figures for the precise cost breakdown, particularly in relation to staff travel and salaries, as GICHD's financial system at that time was not designed to track expenses for individual tools/products.

Expense	CHF
Development	
-- Ripple Design – Excel, Visual Basic and addition of manual demining and ADS functions (2011-2012)	160,025
-- Ripple Design – Country outreach and app development (2013)	79,550
-- Ripple Design – Research and maintenance (2014)	19,750
Staff salaries, travel, etc. (50%)*	225,465
Total	484,790

*Estimate – calculation of 50% of staff salary and travel related costs booked to project 9194 between 2011 and 2014

Despite the investment made in the DMT, it is unclear to what extent it generated results and contributed to broader outcomes for intended users. It was initially promoted through GICHD training to some national mine action programmes, but there is no data available confirming to what extent the DMT was used following the training. Based on MineWolf's experience of adapting the tool and trying to promote it with its clients, there was insufficient interest and buy-in from intended users to document how they were using machines and using this data to improve efficiency. While it is clear the initial version of the tool filled a gap in the market, in the sense of developing a tool that would help improve operational efficiency of machines, insufficient analysis was done with regards to user requirements, including the likelihood that they would use the tool, and providing them with sustained support to help them use it. Modifications were made but were not checked against user requirements.

Recommendations for optimising the utility of this tool

No recommendations were made for optimising the utility of this tool.

Lessons learned

The key lessons learned from the development of the DMT include:

- Greater stakeholder engagement at different stages of the process, a focused outreach strategy to promote tool usage and sustained and consistent support provided to intended users might have helped to improve the likelihood that the tool was used, that modifications were needs-based and that users were able to benefit from the tool. Former GICHD Advisors acknowledged that they should have established a UFG and maintained contact with at least three different mine action programmes to assess what the DMT should contain and what data was important to them. GICHD should have then worked with Operations Managers to roll out the DMT in a number of their different

programmes to generate feedback as well as promote buy-in. This lack of information about the wider context, in particular competitor tools and user needs, resulted in modifications to a tool that did not seem to be in high demand, or relevant to needs.

- Due to staff turnover within GICHD during the period when the DMT was developed and modified, several different Advisors were responsible at different periods for project managing the DMT, with varying degrees of drive in promoting the tool's usage to intended users. No guidance was provided by senior management to new Advisors to ensure that the DMT's profile and usage should continue to be prioritised, despite an investment of over 400,000 CHF, and this led to the DMT eventually 'falling off the radar' and being shelved as a GICHD tool. GICHD Heads of Division should be responsible for maintaining institutional memory and briefing new staff on which GICHD tools/products are priorities and to ensure that sustained support is provided to users. New staff should have the required skills to promote the tool, or should be trained to ensure they are capable of providing support to users.

2.3 Mine Action Reporting System (MARS)

In response to rapid growth in the use of mobile systems and increased pressure for mobile data collection solutions within the mine action sector, GICHD initiated the development of the Mine Action Reporting System (MARS) in 2015. MARS is a comprehensive digital reporting system comprised of a mobile App (MARS Mobile) for data entry in the field, a web based data management and administration portal (MARS Web), and a cloud based data warehouse (MARS Cloud). Developed by Ripple Design, MARS is a mobile data collection tool that enables real-time data sharing and analysis through the use of digital forms and sketch maps, thereby enabling mine action programmes to migrate from filling in paper forms and drawing maps by hand, to using digital forms and sketch maps. At the time of inception, MARS was the only mobile data entry tool available that could be used for comprehensive Non Technical Survey (NTS) mapping and for the drawing of digital sketch maps that result in polygons. It was designed specifically to provide IMSMA NG users with a mobile data collection solution. MARS was piloted in Chile and Cambodia and is now deployable. GICHD is gradually rolling it out to countries that require a mobile data collection add-on to IMSMA^{NG}.

Assessment of relevance and whether ‘fit for purpose’

MARS is an organisation-focused tool, in that is designed for use by organisations, and can also be used for individual projects. The data that MARS collects stays at the level of the organisation, but the organisation can also import some data into the IMSMA data repository, and can also integrate this data with MINT for advanced data analysis and report purposes.³ Some of its key features include the: ability to complete and send reports using a tablet link-points on a map; live data uploads; reduction of data entry errors; greater accuracy in geo-referencing of data; ability to create polygons and export them into IMSMA; available as a stand alone tool as well as one that can link to IMSMA^{NG}.

GICHD and Ripple Design pilot tested MARS in Cambodia and Chile in 2016, and then tested the Beta version in 2017. Feedback from both countries is positive. According to GICHD, MARS is now functional in Chile – see Box 3 for a description of the feedback received from Chile’s National Mine Action Authority on MARS. GICHD began the first round of pilot testing in Cambodia in June 2017 with the Information Management team from the Cambodian Mine Action Authority (CMAA). Following modifications, the system should be ready for deployment in Cambodia by November 2017. According to CMAA, MARS will help its field teams to fill out forms and send them in a timely manner to the CMAA head office. The system will also help avoid human error when it comes to filling in forms. MARS will enable managers to view/approve filled out data forms and manage data/users via its web portal.

Box 3: MARS beta testing – Feedback from Chile

GICHD’s MARS has been in use in Chile since August 2017. Mobile reporting systems are not new to Chile. Prior to the implementation of MARS, the Chilean National Authority for Demining (CNAD) had been using mobile systems since March 2004 for the collection of field-level data, which allowed for the geo-referencing of mined areas. CNAD first used the EOD IS Survey system, developed by GICHD and the Swedish EOD and Demining Centre (SWEDEC). This system was compatible with IMSMA Version 3. When Chile’s IMSMA system was updated in 2007, GICHD replaced this system with IMSMA mobile. GICHD tested a beta version of MARS in Chile in March 2016, which resulted in modifications to the system, and its subsequent deployment from August 2017. According to CNAD, MARS has proved very useful for daily operations. It allows for geo-referencing of perimeters in areas that are being cleared and that have been cleared, as well as the geo-referencing of each item found. This was previously done using IMSMA Mobile in Chile, but MARS also allows for more detailed cartography using satellite imagery. The mobile forms that have been created for completion in the field are based on user needs, and the method of developing the forms is dynamic. It has also been easy for CNAD to import the data from the forms into IMSMA. Based on its experience thus far, CNAD recommends MARS to other mine

³ GICHD. Project Brief – IMSMA Mobile Development, 92009, 2015.

action organisations.

In terms of competitor products, there are no other mobile reporting apps that include a sketch mapping function. Fulcrum, a mobile form builder and data collection app, which is being used in Cambodia by Halo Trust, does not allow for sketch mapping. GICHD intends to make MARS available as a standalone tool, as well as one that is compatible with IMSMA^{NG} and potentially with IMSMA Core⁴. IMSMA Core's Survey 123 tool, which is similar to MARS, has weaknesses that MARS complements, e.g. MARS is stronger on the collection of geometric and geographic locations and it can also do distance and bearing estimates. Over the next couple of years, Esri will likely develop the features that MARS offers, rendering MARS obsolete in IMSMA Core countries. However, MARS will continue to be available for countries using IMSMA^{NG} and as a standalone tool through 2021.

Box 4: GICHD Information Management: Shifting from Customisation to Configuration

GICHD's new IM strategy signals a shift in approach for the Centre with regards to its IM tools. Previously, GICHD acted as a software developer in the case of IMSMA ^{NG} , developing and customising IMSMA to user needs and being responsible for responding to break-downs, providing tech support, etc. GICHD has learned lessons from this, and is now moving to a configuration approach where GICHD works with mine action authorities to identify needs and where relevant, configures existing tools to meet user needs. For example, as the new version of IMSMA ⁵ , IMSMA Core, is based on existing Esri GIS software, Esri will be responsible for providing updates to users, not GICHD. GICHD believes this approach will free up considerable resources, which it will focus on helping users implement its tools/products and derive maximum benefit.

Partner engagement, tool development and tool outreach processes

GICHD contracted Ripple Design to develop MARS in 2015. GICHD found that in the case of the DMT, users needed a mobile reporting solution, which would allow for data manipulation and sharing. While Ripple Design did not have any previous experience in mobile technology, and GICHD was in the midst of staff turnover at the time, GICHD contracted Ripple Design to help ensure continuity. GICHD opted not to do any market research on existing mobile reporting solutions that could have been used. Ripple Design therefore developed MARS from scratch. As it was vital that MARS have a sketch map function, GICHD used Esri's Android Software Development Kit (SDK), which consists of a set of libraries that includes downloadable maps that are geo-located and allow for the displaying of points using an internal GPS. Given that GICHD was already paying for an Esri license, the use of the SDK did not cost anything extra, and Esri will be responsible for future software updates not GICHD/Ripple Design.

Interest in MARS is high. GICHD has already received several requests for MARS from mine action organisations and national authorities, including: Afghanistan, South Sudan and Somalia's NMAA. GICHD's roll-out plan is to start slow and steadily provide support on a country by country basis, training staff and putting in place country focal points, in order to get the system up and running, before moving to the next country. This will help GICHD learn what needs to be tweaked as part of rollout to future countries and organisations. MARS includes a feature which enables GICHD to track usage, and GICHD intends to ask new users to complete an online survey in order to evaluate key metrics, e.g. how many downloads, how long they have been using it and how it is being used. MARS is now part of GICHD's NTS course, which has helped to raise awareness and buy-in.

⁴ Esri (Environmental Systems Research Institute), an international supplier of Geographic Information System (GIS) software, is developing IMSMA Core for GICHD.

⁵ While IMSMA is not one of the tools included in this external evaluation, it should be noted that several internal and external stakeholders expressed concern regarding the sizeable resources invested by GICHD in IMSMA over the years and the continual introduction of newer versions, yet there has been no external evaluation to demonstrate its impact.

Reflection on the 'value for money'

It has taken three years to produce MARS, at a total cost of just under 500,000 CHF. In addition, it will cost roughly 20,000 CHF per year in maintenance costs.

Expense	CHF
Development	287,000
Deployment and testing	70,000
Maintenance (2018)	42,000
Salary-related expenses	90,000
Total costs	489,000
Annual maintenance from 2019 onwards	20,000/yr.

By GICHD's own admission, the development costs for MARS are higher than what it should have cost had GICHD done market research, used an existing mobile reporting tool, and/or selected an experienced contractor. It is too early to say to what extent MARS has delivered in terms of outcomes as the tool has not yet been launched and rolled out to the wider mine action sector. However, initial feedback from its two pilot countries is positive, and confirms that MARS is fit for purpose.

Recommendations for optimising the utility of this tool

MARS has only just completed the stage of Beta testing so no specific recommendations have been noted regarding how the tool could be improved. One thing however that pilot countries noted was the importance of having both training and technical documentation in relevant languages to support implementation.

Lessons learned

When MARS was first developed, the mobile solutions market was highly competitive and GICHD could have identified an experienced contractor that had the requisite expertise in mobile technology, helping to save time and reduce costs.

2.4 Mine Action Intelligence Tool (MINT)

The objective of GICHD's Mine Action Intelligence Tool (MINT) is to provide a comprehensive business intelligence and indicator tracking solution to mine action decision-makers through reporting, dash boarding and data analysis. MINT works by collecting and analysing data based on identified and documented reporting and mapping requirements. It is aimed at improving the effectiveness, efficiency, and inclusiveness of operational planning and land release. MINT was initiated in 2013 through the purchase of an existing 'out of the box' tool that was then customised and tested by GICHD, and launched in 2015. MINT is currently being used in several countries including Tajikistan, Ukraine and the United Kingdom to manage land release in the Falkland Islands, and is aimed at key decision makers within National Mine Action Authorities (NMAAs)/NMACs and operators. GICHD has used MINT to promote the wider principles of data visualisation, transparency and dashboarding within the mine action sector. MINT's end users are managers and operations staff within mine action programmes. The information management officers' role is to prepare and process the data as well as configure the MINT dashboards according to reporting requirements. Jaspersoft developed MINT for GICHD using an off the shelf solution.

Assessment of relevance and whether 'fit for purpose'

GICHD's decision to create MINT stemmed, in part, from a United Nations Mine Action Service (UNMAS) request in 2013 for a centralised overview of data, or dashboard, for its various country programmes. While many national mine action programmes were using IMSMA^{NG} at the time, IMSMA^{NG} is like a 'black box' in that data goes in, but there is limited visualisation. Therefore different UNMAS programmes wanted to develop their own dashboarding solutions. In response, GICHD purchased a license for an existing 'off the shelf' tool and then worked with Jaspersoft to configure the tool according to mine action needs and data, resulting in MINT.

MINT was available for use as of 2015 in IMSMA^{NG} countries. Several national mine action programmes were selected as pilot countries, including Tajikistan, Afghanistan⁶, the Falkland Islands (by Fenix Insight for the UK Government) and Ukraine. Future potential users have been identified, including several UNMAS country programmes.

GICHD is using MINT to help promote greater acceptance of the utility of data visualisation and dashboarding. Feedback from pilot users in Armenia, Tajikistan, the UK/Falkland Islands and Ukraine is very positive. All think that MINT is fit for purpose in that it is a useful tool for data visualisation and sharing, and they all intend to continue using it. Some of the features which are most appreciated by pilot users include the automatic updates, user friendliness, accessibility, and the ability to create users and roles. Whereas other data visualisation software costs a significant amount per license, GICHD's use of MINT allows for unlimited users, and GICHD provides MINT to users free of charge, which is a major advantage. Apart from cost, a key selling point is MINT's ability to connect to any database. For example, Fenix Insight is using MINT to support UK Government mine action operations in the Falkland Islands, where IMSMA is not in use and has used MINT to connect directly to Excel databases. It has potential wider application beyond mine action, but this is not a stated objective and not a strategy that GICHD is actively pursuing. GICHD's level and overall quality of support provided to the pilot countries was highly commended and appreciated.

⁶ Due to staff turnover within the Mine Action Coordination Centre of Afghanistan, efforts to pilot MINT were discontinued.

Box 5: Tajikistan's experience using MINT

The UNDP-managed Tajikistan Mine Action Centre (UNDP/TMAC) previously had a problem with weak information dissemination. Different parts of UNDP/TMAC had conflicting data, and there wasn't one source of official data, which was available to users. This was particularly confusing for implementing partners. The decision to pilot MINT in Tajikistan was based on a request from Tajikistan for tools to facilitate information dissemination. MINT has helped Tajikistan to improve the quality of its dataset and to save time through its ability to generate automatic reports. UNDP, TMAC and its implementing partners use MINT to varying degrees. At present 30 dashboards have been created, of which 10 have been shared with all implementing partners, and UNDP/TMAC receive feedback from partners when new dashboards are needed.

Partner engagement, tool development and tool outreach processes

At the time of MINT's development, other data visualisation tools were available on the market such as Tableau software and Excel. However, none were available for free, nor were they adapted to mine action needs. Tableau is a more advanced tool with greater functionality and analysis features, and more intuitive visualisation. However, MINT is available freely to the mine action community (GICHD pays an annual license fee which permits unlimited users), and comes with free GICHD user support and training.

Prior to MINT's development, GICHD's IM division obtained informal feedback from key mine action stakeholders, and also consulted internally with the Risk Management division, including through staff meetings to solicit input on stakeholder needs. A meeting was also held with UNMAS and other stakeholders in Copenhagen in 2013 to discuss information management, and at this meeting, GICHD presented the concept of dashboarding and received positive feedback. MINT was configured and tested from 2013-14, and then launched in 2015. MINT is currently being used in a handful of countries, namely Tajikistan, Ukraine, and the UK/Falkland Islands, and to a lesser extent, in Armenia and Palau. GICHD's rollout strategy for MINT has been low-key, with presentations in the plenary session of the 17th NDM-UN in April 2014, as well as through a promotional YouTube video⁷ featured on GICHD's website. GICHD has also promoted MINT through the A1 and A2 IMSMA trainings that it periodically offers, which has led to interest and requests for support, e.g. UNMAS in Mali and the Democratic Republic of the Congo. GICHD receives formal feedback on MINT via the A1 and A2 course evaluation forms, as well as informally when IM Advisors go on mission to countries where MINT has been rolled out or where countries are interested in trying it out. All Advisors within GICHD's Information Management division have been trained in the use of MINT and a training curriculum is now available.

At present, the number of MINT users is limited in part because MINT is intended for use in countries where IMSMA^{NG} is in use, and will eventually be made obsolete through GICHD's new IMSMA Core, which will come with its own, more advanced ArcGIS-based data visualisation tools (ArcGIS Insight and Operations Dashboard). GICHD is therefore not overtly promoting MINT. GICHD is examining requests carefully and deploying MINT depending on the country. Countries that plan to migrate from IMSMA^{NG} to IMSMA Core will have no need for MINT as they can use the dashboarding tools that come with IMSMA Core. This means that MINT will only be relevant for countries using IMSMA^{NG}, which is still a sizeable number – approximately 40. It will also be relevant for small programmes or operations wishing to add data visualisation tools to simple data management sets up (e.g. the excel-based experience of Fenix Insight).

When GICHD took the decision to develop MINT in 2015, the concept of IMSMA Core had not yet been developed. While data visualisation tools existed, none were freely available and customised to mine action needs. GICHD therefore developed MINT with the intention to make it freely available to the mine action community as part of efforts to promote data transparency and visualisation.

⁷ See <https://www.youtube.com/watch?v=xoWDsVDvec4&feature=youtu.be>

Box 6: Using MINT to address contamination in the Falkland Islands

Fenix Insight, a mine action and EOD consulting company, contracted by the UK Foreign and Commonwealth Office to manage mine action operations in the Falkland Islands, approached GICHD to see if it could use MINT for its data visualisation needs in 2016. Fenix Insight had previously been using Excel to monitor operational performance and was looking for ways to improve its data visualisation and monitor key operational indicators, such as square metres cleared, time taken, number of deminers, and to compare this data across sites and use it for forward planning. Fenix worked with GICHD to discuss its needs and agreed to pilot test MINT. Fenix is now using MINT to run several dashboards at a macro level indicating overall programme performance, as well as at a micro level for each clearance site. GICHD configured MINT based on Fenix's requirements, and overall the experience has been positive according to Fenix. While other dashboarding solutions exist, the fact that MINT is available for free and also includes free support from GICHD is its main added value. Additional positive features include the fact that it improves efficiency through the time saved from manipulating data for visualisation, it can link to a basic Access database and does not require IMSMA, and the fact that dashboards can be created and limited for use to specific users. Apart from its use of MINT in the Falkland Islands, Fenix intends to use MINT as part of its engagement with Janus Global in South Sudan to improve Quality Management capacity.

Value for Money

Jaspersoft configured MINT for GICHD in approximately one week, however it took time to pilot and roll it out. The costs incurred were just under 300,000 CHF. This includes the licence fees of 19K CHF/year. The costs involved in producing MINT were predictable at the outset and there have been no unanticipated expenses. No further development costs are required – GICHD just needs to pay the annual license fees for MINT. Purchasing the Tableau license would have been far more expensive. MINT was funded through Swiss core funds.

Expense	CHF
Customisation, technical training, server hosting* and MINT promo video	80,003
Staff-related salary and travel (2013-2017)	78,077
Licence fees (until June 2018)	101,226
Licence fees (July 2018 to June 2021) @ 19K/yr.	37,000
Total costs	296,306

*MINT server hosting costs are shared with other applications

The cost of producing MINT is not insignificant. Feedback from its current users is positive. However, GICHD is not aggressively marketing MINT, and with the imminent roll out of IMSMA Core, more countries will end up using the dashboarding functions that come with that package. Therefore the number of users is likely to remain limited. GICHD's IM division justifies the investment by arguing that: a significant investment has already been made in IMSMA^{NG} which MINT will support; the development of MINT has promoted the principles of data visualisation and dashboarding, as well as transparency and data sharing; and it has informed the development of IMSMA Core to some extent. Where MINT has been rolled out, the level and quality of support provided to users by GICHD has been high and well received. The tool is being used as intended and users believe the tool is fit for purpose. All things considered, value for money with regards to the development of MINT has been reasonable.

Recommendations for optimising the utility of this tool

The following recommendations were proposed by users to improve the utility of MINT:

- Include mapping tools with statistics.
- Add a Gantt chart function to make it more dynamic.
- Provide users with permission to upload their databases to the server.

GICHD intends to follow up on the second and third recommendations, but not the first as MINT is not a GIS-based tool.

Lessons learned

The main lessons learned include the following:

- Providing users with sustained follow up support over a 2-3 year period is vital to ensuring that the programme is able to use the tool properly and is deriving the intended benefits. GICHD underestimated what it takes for a programme to test and use a new tool. GICHD typically trains people to the level of administrators but this is not enough. There is need to liaise with the programme and provide mentoring support, to provide far more customer oriented support. With MINT, there has been less of a chance to push its roll out given the imminent release of IMSMA Core which is a far greater priority.
- GICHD has noticed that national mine action programmes have tended to express excitement about new tools initially, but this excitement often dissipates when it comes time to adapt and deploy the tool within their own country. There is greater willingness to test new tools than to implement them. Tool outreach strategies should therefore consider how to sustain this interest and provide support to users so that they continue using the tool.
- MINT can only be used by organisations that have a functioning database. Both DDG and MAG expressed initial interest in piloting MINT, but were ruled out as ineligible because both did not have databases at the time. However this is the case with any data visualisation tool. If there is no consolidated underlying data in an appropriate structure, then it is not possible to visualise the data properly. In these cases the organisations would first have needed to set up a structured system for collecting and storing their data (which is the case e.g. for MAG now).
- One challenge encountered was in relation to the development of in-house capacity to train and support the rollout of MINT. In-house training was held for staff, but there was a time laps in requests for training, which meant not all of those trained are fully autonomous in rolling it out.

2.5 Priority Setting in Mine Action (PriSMA) tool

In 2015, GICHD initiated the development of its Priority-Setting tool in Mine Action (PriSMA) tool as part of its on-going efforts to improve how mine action decision-makers make decisions about which areas of land and which specific tasks to prioritise for survey/clearance. PRISMA is a geo-visualisation multi-criteria analysis tool that facilitates evidence-based decision making about which areas of land and which specific tasks to prioritise for survey/clearance. It is based on multi-criteria analysis prioritisation, which uses geographic data and indicators, and provides clarity on the impact of hazards, thereby leading to more informed and effective hazard reduction decisions. PriSMA has the potential to strengthen the prioritisation process within mine affected countries, both in terms of big 'P' prioritisation, e.g. determining which geographic areas of a country are most in need, which programme components and which operators, and for small 'p' prioritisation i.e. what should be done first, e.g. impacted communities, survey and clearance tasks. PriSMA's development follows on from earlier work⁸ that GICHD conducted on priority setting in mine action, as well as discussions in 2015 regarding prioritisation with the mine action authority in Sri Lanka. GICHD realised that there were no multi-criteria analysis tools with GIS functionality available to assist with the prioritisation of land release tasks. Other tools exist e.g. Esri's GeoPlanner for ArcGIS, but these are intended for a different purpose. One of PriSMA's key strengths is its GIS functionality - it allows decision makers to visualise the prioritisation process as opposed to having data presented only in the form of statistics and charts. PriSMA has been piloted in several countries (Colombia, Sri Lanka and Tajikistan) and will be rolled out in 2018 along with IMSMA Core.

Assessment of relevance and whether 'fit for purpose'

Esri developed PriSMA from scratch for GICHD. It facilitates evidence-based decision-making, particularly in contexts where resources are limited and tasks need to be prioritised carefully. The tool is based on online GIS technology and allows input by multiple stakeholders in clearly identified prioritisation processes. The pilot model is being revised, but thus far, it has demonstrated that it is fit for purpose and doing what is intended. It is also helping to facilitate discussion about national prioritisation processes and the quality of data, and to promote dialogue among different stakeholders who would not normally come together and meet. It also allows for a more transparent discussion about prioritisation, which in some countries is not always welcome by national authorities that may make prioritisation decisions in a deliberately opaque manner.

An added value of PriSMA is that it is user friendly and requires minimal training. As it is linked to ArcGIS online, it makes using maps easy, with no additional effort needed. It results in better prioritisation, and also saves time that previously would have been spent manipulating data with ArcGIS tools. PriSMA is aimed primarily at decision-makers in NMACs and NMAAs, although initially it is IM/GIS staff that use it, in association with Operations staff, in order to configure the system.

Partner engagement, tool development and tool outreach processes

GICHD contracted Esri to develop PriSMA drawing upon Esri's ArcGIS tools in 2015. Before piloting PriSMA, the IM division demonstrated the tool internally for feedback. PriSMA was also included in the first A2 training course, which included several staff as participants, and generated useful internal and external feedback, which was used to modify PriSMA before the pilots began. The first version of PriSMA was piloted in Sri Lanka, Tajikistan and Colombia, and the feedback provided from those three countries has been used to revise and improve the tool. Esri provided remote support for the testing, which GICHD carried out

⁸ See <https://www.gichd.org/resources/publications/detail/publication/priority-setting-in-mine-action-issue-briefs/#.Wgmg8LYZPkI>

directly. Version 2 is being re-coded and will be rolled out to all pilot countries by the end of 2017 or early 2018. The official launch of PriSMA will be part of the wider launch and roll out of IMSMA Core in February 2018. In addition to the pilot countries, the national mine action authorities in Vietnam and Cambodia have expressed interest. As Thailand will be developing a new national mine action strategy, GICHD intends to also link the use of PriSMA to this process. Indeed the next phase of the PriSMA process will be to ensure that deliberate and transparent priority-setting approaches are better mainstreamed into strategic and operational planning.

Box 7: Sri Lanka's experience piloting PriSMA

In 2015, GICHD organized a workshop in Sri Lanka to facilitate the development of the new national mine action strategy. This led to a discussion regarding prioritisation and the need to develop agreed indicators. This initial work on priority setting led to the recognition that there were no tools in place based on multi-criteria analysis to support mine action decision makers. GICHD subsequently contracted Esri to develop PriSMA. It was agreed at the workshop that Sri Lanka would pilot test the tool, and now that pilot testing is complete, the Sri Lankan National Mine Action Centre is now using PriSMA. Initial feedback from Sri Lanka is that the pilot testing in Mannar and Kilinochchi districts produced good results. MAG and Halo Trust, who were tasked by the NMAC in Mannar and Kilinochchi also provided constructive feedback during the piloting process in these two districts – feedback that was taken into account by GICHD and used to modify and improve the PriSMA system. According to the NMAC, PriSMA is a useful user-friendly tool that helps identify key priorities for clearance, such as roads, schools, social infrastructure, etc. Planners and decision-makers can use the tool, not just IM staff. The level of support provided by GICHD in facilitating the use of PriSMA was highly commended, and it was strongly recommended for deployment in other mine-affected countries.

Like MINT, PriSMA has also been piloted in Tajikistan, where it is in the final testing stages. GICHD organised a priority-setting workshop in Dushanbe, bringing together key mine action stakeholders. This led to an agreement on prioritisation indicators, as well as the weighting of the various indicators. Prioritisation data generated through PriSMA will soon be shared with partner organisations, and more widely with the public. UNDP noted that GICHD provided a high level of support to Tajikistan with the use of PriSMA, including in-country consultation visits to define user requirements and indicators, and on-going remote support. Some delays have occurred but this has been due to turnover of staff in UNDP. According to UNDP, in the past, operations staff wanted to task implementing partners with the clearance of hard to reach areas, and partner organisations often challenged these tasking/prioritisation decisions. UNDP believes it will now be easier with PriSMA to identify priorities based on commonly agreed indicators, justify tasking/prioritisation decisions and help partners better understand the context in an area. UNDP intends to handover the management of PriSMA to national staff within TMAC. The only issue is the fact that the national staff speak limited English and most of the past workshops on PriSMA have been held in English. They therefore suggested that future training be organised in Russian or Persian.

Colombia was also identified as a potential pilot country for PriSMA and in November/December 2016, GICHD started working with Colombia's Directorate for Integrated Action Against Anti-Personnel Mines (DAICMA). DAICMA believes that PriSMA is fit for purpose, user friendly and highly interactive, and it has appreciated the useful and highly responsive support from the GICHD during the initial piloting process. The piloting of PriSMA in Colombia only went ahead at the administrative level however. GICHD compared PriSMA against Colombia's Excel prioritisation tool to help identify how to further improve the "Admin" part of the tool. GICHD was unable to test the whole PriSMA system in Colombia for two main reasons:

- At the national level, DAICMA is not responsible for determining which municipalities can be prioritised. Prioritisation at a larger level within Colombia is decided by several different governmental agencies, including the Ministry of Defence, who take various political and other factors into account, including the presence of armed groups. This therefore rules out the use of PriSMA in deciding on the prioritisation of municipalities.

However, it may be possible in future for the tool to be used at a local level to decide on task priorities within an already prioritised municipality. The modalities of how this would work still need to be worked out within DAICMA.

- At a more technical level, it was found that PriSMA is best suited for countries where NTS has already been done and hazard polygon data is available. This is not yet the case for Colombia. Therefore GICHD was unable to test the “Hazard” part of PriSMA (this is the main component of the tool) because no hazard polygons had been generated yet. The only hazard data Colombia provided was point data that represented where accidents had occurred; however point data is insufficient for use in the “Hazard” part of the tool to represent hazards. Based on the situation in Colombia, version 2 of PriSMA is being adapted so that it can be used in contexts where NTS hasn’t yet been carried out.

GICHD also attempted to pilot PriSMA in Bosnia-Herzegovina and started by organising a joint strategy and priority setting workshop. Unfortunately it was difficult to facilitate discussion and gain consensus on many of the key issues in relation to prioritisation, including the need for greater transparency. Plans are therefore on hold.

In terms of PriSMA’s roll out, GICHD’s A2 IMSMA training will in future include training on PriSMA, and GICHD will also publicise the tool through relevant GIS and mine action conferences and platforms. For example, GICHD is part of a *GIS for Peace* initiative, which seeks to enable peace practitioners to quickly discover GIS solutions, relevant to their particular requirements. GICHD will make PriSMA available through this platform in future. Plans are also underway to produce a priority-setting brief to feature the results of the pilots. While PriSMA has wider application beyond mine action and could be used, for example, for environmental assessments, land use, development, solar energy, etc., the current GICHD strategy is to focus on roll out within the mine action sector to ensure it is well used, is addressing needs, and is integrated within national SOPs, standards and workflows.

PriSMA has been designed to enable GICHD to track users within the pilot countries. GICHD has also included a formal feedback mechanism as part of the piloting process, requiring partners to submit reports explaining the differences in prioritisation before and after the deployment of PriSMA, including lessons learned, the models they have used, and how they will implement PriSMA in their daily workflows. Some of the challenges encountered by pilot users included:

- Generating sufficient awareness and buy-in internally within the organisation at the outset for the usage of the tool
- The ability of national mine action centres to generate buy-in from operators and get them to use it and respect the prioritisation decisions made based on the analysis
- Identifying and agreeing on the indicators for use within the system
- Ensuring overall transparency within the prioritisation system

Reflection on the ‘value for money’

It took Esri approximately three years to produce PriSMA, at a total cost of just under 300,000 CHF. Maintenance costs from 2019 onwards will likely cost less than 40,000 CHF per year. PriSMA was funded through Swiss core funds and through the US DoS WRA.

The breakdown of expenses to date is as follows:

Expense	CHF
Development costs - 2015	42,500
Salary-related costs – 2015, 2017	86,992
Salary-related costs and consultancy fees for pilots - 2016	60,000
Development/consultants - 2017	58,500
Running costs, maintenance, staff support in 2018	40,000
Total costs	287,992
Maintenance costs beyond 2019	<40,000/yr.

Given that PriSMA has not yet been rolled out and deployed for use in the field, it is difficult to assess value for money. At present, it has only been fully piloted in two countries. However, based on the positive feedback from Sri Lanka and Tajikistan, as well as initial positive feedback from Colombia, and the lack of other available tools to support multi-criteria prioritisation within the mine action sector, it is clear that PriSMA is filling an identified need.

Recommendations for optimising the utility of this tool

The following recommendations were noted for potential improvements to PriSMA:

- To make PriSMA more accessible, it would be useful if GICHD organised more region-based and language-specific trainings, for example, in Russian and Persian.
- In order to generate greater institutional buy-in and support for the eventual rollout of the tool, it would be useful if as part of the pilot process, GICHD carried out greater advocacy to senior managers within the pilot organisation to raise awareness about the tool and its value added. Only targeting the IM officer or manager within the organisation will ensure that someone internally knows how to use the tool, but it does not guarantee that the organisation as a whole is committed to using it. It is important that PriSMA is not seen as an IM tool. It is a GIS-based tool designed to help decision-makers and should not be isolated for use only by IM managers i.e. PriSMA should be used within clearly defined priority-setting processes that are defined at a strategic level.

Lessons learned

The main lessons learned include the following:

- The take up of PriSMA by intended users may encounter resistance in some countries where there is an unwillingness to promote a more transparent prioritisation process. This should be taken into account in GICHD's future outreach strategy and when considering which countries to support. Resources should not be wasted trying to implement PriSMA in countries where there is a lack of transparency regarding the prioritisation process, and unwillingness to improve transparency.
- When selecting pilot countries, ensure there is a clear capacity and willingness to pilot the tool.

2.6 Smart Mine Detection Dogs (MDD)

As part of wider efforts to enhance TS approaches, GICHD decided in 2014 to explore how to enhance the use of MDD for TS. The Smart MDD system, aimed at operators and NMACs that use MDD, consists of a harness, worn by a MDD, which has an attached Geo-Positioning System (GPS), remote control camera and radio attached to it, which can be monitored and controlled by the dog handler. The dog is able to move without a leash in vegetated areas without its handler, acting as an information-gathering platform, while the data collected is analysed and used by the MDD handler and team to facilitate the release of land in a shorter timeframe with reduced costs. MDD have tended to be used for clearance, Quality Assurance/Quality Control (QA/QC), verification and follow up after the deployment of mechanical assets, and used only to a marginal extent for TS. According to GICHD, this is due to various reasons, which include: the previous requirement of vegetation cutting when using MDD, limited search depth by the MDDs due to stringent requirements for straight search lanes, and the need to ensure safe access for MDD handlers. While the system is primarily intended for TS, it could also be used to support an NTS team. The system is aimed primarily at mine action operators and NMACs, particularly those using dogs for land release.

GICHD contracted Digger, a Swiss foundation, to develop the tool, and worked with Norwegian Peoples Aid to test the concept, using NPA's special MDD (SDD) for TS. Tests were subsequently carried out using NPA's Special Detection Dogs (SDD) in Cambodia, Bosnia-Herzegovina and Nagorno Karabakh. Digger produced 20 sets (for use on 40 dogs) of the Smart MDD system, 16 of which have been distributed to partners in Bosnia-Herzegovina, Cambodia and Iraqi Kurdistan.

Assessment of relevance and whether 'fit for purpose'

GICHD's Smart MDD system was developed based on a combination of two concepts: the use of remote control systems for operating mechanical demining machines; and the use of free running dogs for hunting in Sweden. As opposed to using a leash, as is traditionally used with MDD, the harness allows the dog to move "freely" without a leash, and enables the dog handler to monitor and direct the dog's movements using the camera and radio, while also collecting data based on the dog's movements to enable the drawing of maps. The aim is to send MDD into areas with no prior ground preparation i.e. vegetation removal, have them search for explosives, and for the dog handler to use the information management technology system for remote monitoring and control of the MDD. Not having to remove vegetation beforehand is intended to help speed up the land release process, and allows for resources to be focused instead on Confirmed Hazardous Areas (CHA), while quickly releasing areas that are safe, back to communities.

GICHD contracted the Swiss foundation, Digger, to produce 20 sets of the SMART MDD system, and subsequently distributed 16 of the 20 sets to partners based in Bosnia-Herzegovina, Cambodia and Iraq. GICHD is awaiting operational data and feedback from the use of the 16 sets before documenting the results and using these to launch the system more widely within the mine action sector. Thus far, despite the delivery of training on the Smart MDD system by Digger to NPA in Bosnia-Herzegovina (BiH), none of the 16 sets have been deployed. The 16 sets remain unused with the exception of Bosnia-Herzegovina, where Norwegian Peoples Aid (NPA) Bosnia and the military are testing the system. The national standards need to be modified in BiH before use of the system is permitted.

Similar harness and remote control systems exist and are typically used for counter-terrorism operations, but these systems do not include a GPS. In this regard, the system is potentially innovative. However, there is a broader issue here than just the functioning of the Smart MDD system and that is the fact that there is no consensus within the mine action

sector regarding the use of dogs to support land release. There has been no conclusive study on the topic and as a result, in recent years there has been declining interest in the use of dogs. Several important and respected stakeholders have doubts as to the ability of dogs to function effectively in all settings.

Partner engagement, tool development and tool outreach processes

GICHD initiated the development of the Smart MDD system in 2014 by contracting Digger to develop a prototype. In parallel, NPA had launched a research and development programme in 2014 to challenge the traditional role and use of MDD, and to develop a new method of using MDD for TS. NPA's approach involves the use of 'elite MDD' working without a leash, with their nose to the ground for 30-50m, following voice commands as part of a targeted TS role. NPA believes the term 'free-running' is a misnomer, as the dogs never run loose and are always under the command of their handler and following a TS pattern. NPA presented the concept of using MDD for TS to GICHD, and GICHD proposed the mounting of a camera and GPS on a harness to be worn by the TS dogs, to enhance their performance. This led to GICHD and NPA agreeing to collaborate as a means of testing NPA's new MDD approach, while also testing the use of GICHD's SMART MDD system.

Digger completed the first prototype at the end of 2015 and initial tests were conducted by NPA in Cambodia but the results, according to NPA, were not great. The system was expensive and complex to set up, there were issues with the GPS not working whilst the dog moved in vegetated areas, and the harness was too snug on the dogs. Further modifications were made by Digger but this took longer than anticipated due to technical issues, delaying the project. NPA also conducted tests in Ngorno Karabakh and BiH, and according to NPA, these test results were better. However, in parallel, NPA and Halo Trust conducted joint tests in Cambodia of NPA's Special Detection Dogs for TS, without using the Smart MDD system. According to several stakeholders, the tests were poorly organised and took place in a dense minefield, which is normally not suitable for TS testing. Consequently the dogs performed badly, which prompted harsh criticism from Halo Trust. While GICHD's Smart MDD system was not worn during the tests, this highlights the high level of disagreement that persists over the use of dogs.

Box 8: Feedback from NPA Bosnia on the Smart MDD system

NPA Bosnia has started to test the system with NPA's SDD, and have received training from Digger in Sarajevo. According to NPA Bosnia, the dogs are comfortable with the equipment. However, NPA has provided the following feedback to Digger, in the hope that further modifications will be made to the system:

- The range of the signal was not good, especially when in forest areas indicating a need to increase the range of the signal. Digger recently sent a new antenna in response and NPA was testing it as of November 2017.
- The tool was designed for mine-affected areas primarily in Africa and Asia where a satellite GPS signal is typically used, but it is not always accurate. If the weather is bad, the signal is bad. NPA has suggested that in European contexts, it would make more sense to use a map of a base GPS station, in order to improve the level of accuracy.
- The direction of the camera, which is on the back of the dog, typically points up to the sky when the dog is sitting down to indicate a mine is present. This means the handler cannot see the terrain/landscape, which is important. As well, when the dog moves, the signal is not good.
- The equipment is useful but it is still being tested. Accuracy is the biggest problem. The signal is not accurate to extent that you can be 1% sure the tracking is correct.

NPA is in the process of encouraging the Bosnia-Herzegovina Mine Action Centre (BHMIC) to modify the national standards, in order to permit the use of the Smart MDD system for TS. NPA Bosnia plans to order additional sets for use by NPA, the GTC and the Bosnian army.

Once the tests were completed, GICHD contracted Digger to develop 20 sets of the final system, ending a 3-year development process in 2016. GICHD distributed the 20 sets as follows:

- 7 sets – NPA Cambodia
- 5 sets – NPA Bosnia

- 4 sets – MAG Iraqi Kurdistan
- 4 sets are with Digger who still needs to identify an organisation to give them to.

Of the 16 sets that have been deployed, only the sets in Bosnia-Herzegovina are being used for further testing. APOPO has made an agreement with NPA Cambodia to use five of their sets but thus far, they have not been used because APOPO is in the process of training up TS dogs. MAG Kurdistan⁹ has experienced delays due to issues with heat and problems with the national mine action authority. However, according to GICHD, MAG intends to scale up and purchase additional dogs and sets. GICHD has received requests from different countries to test the system for TS, but not to use the system.

GICHD consulted primarily with NPA, and MAG was also shown the first prototype and provided initial positive feedback. No other mine action organisations were consulted. Internal consultation was limited, and there was no internal vetting of the Smart MDD system concept. Funds were made available and GICHD's Advisor was able to proceed with development.

GICHD has not formally launched the Smart MDD system. The Centre plans instead to first document the use of the 20 sets, and use the operational data as a basis for launching the system and rolling it out more widely within the sector. GICHD, NPA and APOPO plan to continue trials in Cambodia, as well as with the Cambodian Mine Action Centre (CMAC). GICHD and APOPO's aim is to encourage CMAC to use the system with their MDD, which they believe will help to generate greater interest. For example, GICHD and APOPO intend to conduct further pilot test in Cambodia, with a view to integrating NPA's TS dogs with the Smart MDD system within CMAC. In November 2017, GICHD organised an Animal Detection Systems workshop in the Balkans with NPA. At the workshop, NPA announced that GICHD's Smart MDD system will be deployed in NPA operations in Bosnia from January 2018 onwards and NPA Cambodia will initiate its first field tests. The workshop highlighted the lack of data available to sustain MDD efficiency in operations. All participants agreed that:

- More effort should be done to demonstrate the efficiency of MDD by systematically collecting, analysing and publishing data.
- Independent studies in countries where MDD assets were deployed in large number and over a long period should be implemented to confirm the efficiency of ADS assets.
- Pre-deployment environment evaluation in which MDD can operate should be more systematic in order to avoid deploying MDD assets in a non-appropriate environment.

GICHD maintains the system does not require further testing and is ready for deployment, and no further changes to the system are planned apart from a technology update in future, with a new GPS chip. However, feedback from both APOPO and NPA indicates further modifications and testing are necessary before the system can be deployed. NPA's Head of Mine Action believes the Smart MDD system is relevant, but that tweaks to the system are still needed and NPA remains unclear regarding how the system will be operationally deployed. APOPO's Head of Mine Action, who used to be the Head of NPA's Mine Action Department and who was responsible for driving the testing the Smart MDD system, is of the view that while the system looks good, there is need for improvement. He expressed concern that problems may be encountered in areas with significant vegetation and where there will not be sufficient signal coverage, resulting in the failure of the GPS. He therefore recommended to Digger that a beacon drop and differential GPS be used, but both were rejected for cost reasons, and APOPO acknowledges that the current price of the system even without these two features is high.

⁹ Unable to confirm with MAG – no response received from the MAG Iraq Country Director and Program Manager when contacted for a Skype interview.

Apart from NPA and APOPO, who have staff that were directly involved in the development and testing of the Smart MDD system, feedback from some within the broader mine action community is critical. This relates in part to the fact that GICHD developed the Smart MDD system to promote the use of MDD for TS at a time when the mine action sector's interest in MDD has been declining and when the use of MDD in general has not yet been proven conclusively. It is interesting to note that in 2007, GICHD commissioned an external evaluation of its MDD and MRE programmes, and the evaluation found the following:

“One major mine action implementing agent has declared, repeatedly, that it does not believe that MDD work reliably enough that they can be considered as useful under any circumstances, and some other smaller agencies have expressed serious doubts. The large agency, which commands respect in terms of its size and age, communicates this view forcefully to the same donor community that GICHD and MDD users rely on for funding. Individual donor representatives are faced with problems of asymmetric information in that they know far less about mine action than the implementing agencies or GICHD, and as a result they often rely on GICHD for impartial advice. On this issue they receive conflicting advice since the GICHD has taken the position that dogs are a useful tool and another authoritative source assures them that dogs are not useful. Operating on the implicit assumption that dogs work and hoping that critics will change and eventually agree, is not likely to resolve this debate, and it would be a real service to the donor community to provide objective evidence to assist in resolving the debate. Dog proponents have commented that resolution of this issue would help them make the case for greater investments in dog projects. Support (possibly: facilitate or conduct) rigorous (probably double blind) testing on MDD, involving critical agencies, to definitively resolve at a scientific level the on-going controversy about MDD effectiveness.”¹⁰

Given GICHD's role within the sector in terms of providing expert advice and guidance, it is highly recommended that GICHD commission the above-mentioned study to help settle, in an independent and conclusive manner, this contentious issue. Not only would this serve the interests of the wider mine action community, it would also help to promote the eventual use of GICHD's Smart MDD system, assuming the study findings were to demonstrate the effectiveness of MDD. The system, if proven to work with MDD, has potential application beyond mine action and could be used to support search and rescue services, respond to earthquakes, and to support military forces. GICHD has not however conducted any systematic outreach to a wider target audience, and has no plans to do so.

Value for Money

GICHD's Smart MDD system was developed with funds from GICHD's Swiss core funds, as well as contributions from the Swiss foundation Welt Ohne Minen (100,000 CHF), the Digger foundation (64,000 CHF in-kind donation) and a Swiss insurance company (2,000 CHF). One Smart MDD system costs approximately 6,000 CHF, with each coming with equipment for use on two dogs. It took GICHD three years to develop the SMART MDD system at a cost of 652,853 CHF, with a breakdown of costs as follows:

Expense	CHF
Development – Digger (plus Digger in-kind contribution of 64K)	293,719
Testing - NPA	171,400
Staff salary-related expenses plus travel*	187,734
Total costs	652,853

*Estimated salary-related costs calculated as 30% of staff-related salary and travel in project 9194 from 2014-2017

¹⁰ Dr Russell Gasser (Humanitarian Technology Consulting Ltd). Evaluation of the Geneva International Centre for Humanitarian Demining (GICHD) 2007. Mine Detecting Dogs and Mine Risk Education, Final Report, June 2007.

Given the lack of consensus within the mine action community regarding the use of MDD, and feedback from NPA and APOPO that further modifications and testing are required, it is unlikely that there will be widespread take up of the system in the near future. Thus far, this tool has not delivered value for money in terms of improving the efficiency and effectiveness of technical survey in mine action. Given the significant amount of money invested in the system thus far, it is strongly recommended that GICHD commission a study on the role of MDD in order to settle this matter conclusively. Only then, depending on the findings of the study, will GICHD be in a strong position to potentially advocate for the use of MDD and the Smart MDD system to strengthen TS.

Recommendations for optimising the utility of Smart MDD

The following are the main recommendations proposed by interviewees for how to improve the Smart MDD system:

- Improve the system's signal to improve accuracy, by using a map of a base GPS station, in European contexts.
- Change the direction of the camera on the dog's back to enable the dog handler to see the terrain/landscape.
- Include of a beacon drop and differential GPS to improve accuracy
- Before GICHD invests resources into improving the utility of the Smart MDD, it is strongly recommended that the Centre commission a conclusive study regarding the use of MDD.

Lessons learned

The main lessons learned from the development of the Smart MDD system include the following:

- Before taking the decision to invest in the development of the Smart MDD system, GICHD should have commissioned a study that proves conclusively the effectiveness of MDD. This would have helped to settle the debate within the mine action community, and then served as a basis for promoting the Smart MDD system.
- GICHD should have conducted a much wider stakeholder consultation before developing the system in order to assess the level of need within the sector, and determine the likelihood that the system would be used. A needs assessment would have helped to identify the wider issue concerning the use of MDD, (although GICHD was already well aware of the differing opinions), and GICHD could have then initiated a comprehensive study. Based on the results of the study, it could have then been assessed whether it would be worthwhile to develop tools that enhance the role of MDD in TS.
- The overall process for the way this tool was initially conceived, developed and tested illustrates the need for the implementation of systematic internal vetting and external stakeholder consultation processes, in order to fully scrutinise proposed new tools, and ensure that they are based on clear and identified needs from the field. Needs assessments for new tools must demonstrate how the tools will be used in the field, if there are any potential risks/challenges and how they will be mitigated, and what intended outcomes they will have. If these processes had been carried out for the Smart MDD system, with consultations with a range of different mine action operators and national authorities, it would have become clear from the outset that the larger issue of the use of MDD needed to be clarified, before the relevance and utility of a potential Smart MDD system could be determined. The lack of an internal vetting system meant that at no point during the development process were questions asked internally about whether tool testing and subsequent modifications should continue, despite delays and feedback from the testing of the initial prototype, as well as general views regarding the use of dogs. Similarly, no red lines were drawn in terms of the maximum of amount of time allowed for tool development and testing, and the maximum amount of resources available. A much tighter process is needed for vetting and scrutinising new ideas, and for ensuring tool development processes stay on track.

Internally-evaluated tools and publications

2.7 Anti-Vehicle Mines (AVM) incidents and impact monitoring tool

GICHD's AVM mapping project has two medium-term outcomes: i) political discussions and decisions on AVMs are better informed through more evidence on AVM impact; and ii) strengthened partnerships between mine action and human security actors that address AVM impact. The AVM tool also allows for the testing of new GIS tools internal to the GICHD that are then used for other projects and outreach. The tool consists of two elements: interactive online maps and annual brochures that analyse the displayed data. GICHD released the initial AVM study in 2014, and launched the AVM mapping tool in August 2015 with yearly analytical publications released in April 2016 and May 2017.

Assessment of relevance and whether 'fit for purpose'

The AVM study of 2014 (initial work on the topic) has been recognised as a source of evidence on the humanitarian and developmental impact of explosive weapons and a number of States have asked that follow-up work be carried out. As a result, the GICHD and the Stockholm International Peace Research Institute (SIPRI) strengthened cooperation and started to gather data in order to strengthen the evidence base on AVM impact so as to inform political decisions accordingly. A side rationale was to engage the international community through innovative tools.

As a result of the development of the tool, evidence on the impact of anti-vehicle mines (AVMs) in recent years has been strengthened. This is thanks in part to GICHD's partnership with SIPRI. In 2014, both organisations carried out a study on the humanitarian and developmental impact of AVM, which prepared the ground for follow-on research on AVM incidents. Both organisations collect and analyse data on the direct humanitarian impact in terms of accidents and casualties. GICHD-SIPRI research has become the reference source of evidence and has widely been quoted during political discussions, including during meetings of the Convention on Certain Conventional Weapons (CCW), and in public debate (newspapers). GICHD's partnership with SIPRI has deepened further and become of great importance for GICHD research, including with regards to the GIS for Peace initiative – an area in which SIPRI has expertise. As a result, the GICHD organised two sessions on this topic at the Stockholm Forum on Security and Development in 2016 and 2017 respectively.

For 2018, SIPRI and the GICHD will issue latest findings on AVM incidents that happened in 2017. In addition, both organisations intend to expand data collection to include improvised AVMs. In many environments such as Afghanistan or Somalia, improvised items functioning such as AVMs are widespread. It is also clear that the indirect humanitarian consequences from AVMs are of a much larger scale; yet, systematic evidence for it remains insufficient. Contaminated road infrastructure has a significant human, logistical and financial impact on the response to humanitarian crises and displacement in current protracted conflicts. The implications for the delivery of critical humanitarian assistance or the resettlement of the displaced, for instance, must inform any future discussion on AVMs more prominently. For this to happen, these consequences must be documented and analysed thoroughly and these two critical activities can only be done if additional support is secured.

Box 9: Views and Recommendations from the Fifth CCW Review Conference¹¹

"Yet, AV mines continue to pose significant problems in humanitarian terms. The database of AV mine incidents, managed by Geneva International Centre for Humanitarian Demining (GICHD) shows that nearly

¹¹ Working Paper submitted by the International Committee of the Red Cross, UN Doc. CCW/CONF.V/WP.3

600 people were killed or injured by AV mines in 2015, of which 60% were civilians. Direct casualties, however, are only a fraction of the humanitarian impact. AV mines can significantly hinder the efforts of humanitarian organizations to deliver much needed assistance and support to vulnerable populations. They can also hinder the return of displaced civilians, the cultivation of valuable farmland and reconstruction once the fighting is over. These consequences in countries such as Afghanistan, Cambodia and South Sudan are detailed in reports on the humanitarian and developmental impacts of AV mines prepared by the GICHD and the Stockholm International Peace Research Institute (SIPRI).

Partner engagement, tool development and tool outreach processes

The tool was developed based on requests from the US and Irish governments, following GICHD's 2014 study on AVM. Since then, the development has been conducted in partnership with SIPRI with whom the GICHD conducted the initial study. A clear timeline has been established including a needs assessment from September to December 2014; consultations on requirements definitions between January and June 2015; development phase starting in June 2015, but continuing until today with constant improvements, yearly leaflets and analysis publications, and the development of maps; and an initial launch in August 2015. No field-testing however was performed. Any launch of new data or report is planned in conjuncture with GICHD/SIPRI Communications so that the most diverse human security actors are reached, including:

- SIPRI website: 1.7 million unique page views (data from 2014)
- Social media channels: 15'000 Facebook likes and 25,000 Twitter followers
- SIPRI newsletter: 26'000 are followers
- GICHD website/social channels
- Genève internationale newsletter
- Reliefweb: 91'500 Twitter Followers
- Irinnews: 70'500 Twitter Followers
- Presentation of data in international diplomatic fora in 2015-2017 (CCW MSP and Review Conference; informal CCW expert meetings)

For 2017, data collection and analysis will be pursued leading to a yearly analytical report in Q2 2018. The maps will be further enhanced in 2017 and a new story map tested (which could potentially serve as a model for other GICHD projects in the future). In 2018, the plan is to eventually merge the AVM tool into a broader contamination mapping tool (GAMA project, led by Head of IM division). GICHD developed the following indicators to measure the effectiveness of the AVM mapping tool:

1. Number of references to AVM research in communications by states and attendees in international fora
2. Partnerships between mine action and human security actors to address AVM impact are strengthened
3. Number of hits of AVM maps and AVM research on human security platforms

Since 2015, regular monitoring and data reporting have been conducted and targets reached and exceeded. What can be improved is the handover process, as is the case for other tools and products. The handover process has not been properly performed and the new Project Manager in place of 2015 has had to dig out documents relating to the past and establish a new management structure and planning. There is also no clear reason for a change of PM other than the project being moved to a different division. However, the division change has not been very clearly evaluated either.

Reflection on the 'value for money'

The AVM project is funded by Switzerland, through 2017 and 2018 core funds as well as funds from Italy in 2016. It is unclear what costs were incurred to produce the study in 2014. The breakdown of expenses is as follows:

Expense	CHF
Development costs	
2014 study	?
2015 data gathering	56,000
2016 analysis costs	59,178
2017 analysis costs to date	58,482
Salary-related costs:	
2017 estimated Nov-Dec (consultants)	13,452
Total costs	187,112

Given the positive uptake on the study as well as on the maps developed as a result of the initial project phase, the costs have not been too high. Compared with the scope and expenditures for similar GICHD projects, the results demonstrate value for money.

Recommendations for optimising the utility of this tool

As this project has been very well managed, the process and best practices could be used for standardising the project management for similar developments, including the monitoring and evaluation part of project management, strong communication and consultations, partner engagement and outreach activities.

Lessons learned

- A key lesson learnt in 2017 was the need to adapt the scope of the project. Instead of focusing on industrial-made AVMs, it is important to also take account the incidents also caused by improvised AVMs. The evolving nature of conflict makes improvised AVMs weapons of choice, particularly for armed non-state actors in current conflict. Hence, the methodology was refined with the aim to use it for the medium term. A key lesson was as well to undertake outreach more pro-actively (blogs, story maps, etc.).
- From these lessons results a number of opportunities: A more comprehensive and accurate understanding of AVM impact, new partnerships, and new channels for communication purposes.
- The greatest risk is associated with the changed methodology, namely partial incomparability with past dataset.

There are several options for how GICHD should proceed with its work on AVMs, including:

- Closing the project: The political window may have closed after the Review Conference and resources to scale the project up to deliver more impact cannot be secured
- Pursuing minimal involvement: Limiting the AVM project to industrial AVM incident data (status quo)
- Including data on improvised AVMs to complement incidents of industrial AVMs (possible new partnership: Action on Armed Violence (AOAV)/the IED community)
- Replacing AVM incident data collection with research on the consequence of AVM contamination on aid delivery and/or the return of the displaced (possible new partnerships: UN High Commissioner for Refugees (UNHCR), World Food Programme (WFP))
- Replacing AVM incident data collection with further research on the developmental impact of AVM contamination (possible new partnership: London Business School)
- Adding research on aid delivery/developmental impact to AVM incident data collection
- Facilitating military-to-military dialogue
- Concentrating on technical measures that could be taken (possible partnership: ICRC)

2.8 Beyond the Battlefield Animation - Management of Residual Explosive Remnants of War (MORE) project

GICHD developed the “Beyond the Battlefield” animation following a request from Vietnam based on interest in developing a documentary about the topic of residual contamination by mines and explosive remnants of war (ERW) and its management. It was the first time that the GICHD had developed such a tool. GICHD used the animation for training and presentations. It was the first animation developed by GICHD, and has informed subsequent GICHD animations. The animation, however, is not being currently used, which is linked to the departure of the Project Manager and a lack of institutionalisation of the tool.

Assessment of relevance and whether ‘fit for purpose’

Expected outcomes were not specified during the development process of the animation. However, the development of this animation highlighted a lot of good practices as well as lessons learnt that fed into a worksheet with Terms of Reference being developed for subsequent animations that the GICHD has produced. The fact that the use of the animation stalled with the departure of the project manager that managed its development illustrates that institutional memory with regards to the tool was limited. The animation has been viewed 1,755 times on GICHD’s YouTube channel and GICHD has used it in several presentations (e.g. the GICHD’s Donor Seminar) as well as in trainings (such as the Hammelburg training in May 2015). It was designed without any voiceover in an attempt to allow a non-native English-speaking audience to access the information with little difficulty. The format of the animation has mostly been used as an animated presentation. Since the departure in September 2016 of the project manager that took the lead on the development of the animation and who primarily narrated and contextualised the animation during presentations, the animation has not been used again. GICHD does not have any concrete information about whether partners have used the animation in presentations, workshops or meetings. It is also not clear to what extent a request from a single country warrants a development of a tool without a further needs assessment.

Partner engagement, tool development and tool outreach processes

GICHD developed the “Beyond the Battlefield” animation following a request from Vietnam. GICHD opted to use an animation format following the successful production of a Land Release animation produced by Norwegian People’s Aid. GICHD launched the animation in 2015 via social media (e.g. Facebook and Twitter) as well as through a pop-up window on GICHD’s website. The animation was subsequently used for the first time in training during the Hammelburg NTS training in May 2015.

GICHD did not share the animation internally with a wider group of technical staff before it was launched. Initial feedback included: lack of clarity of the context of the animation, lack of distinction between anti-personnel and anti-vehicle mines, lack of gender and diversity considerations, mine risk education personnel appearing in military uniforms, and lack of link of the animation to GICHD’s strategy. A discussion and commentary session was subsequently organised for all GICHD operational and programmatic staff later in 2015, where the animation was shown and staff members were able to comment on the animation. In order to address the need for contextualisation, following this meeting, the title was re-branded to make a stronger link to the topic of management of residual ERW (MORE) instead of the broader field of mine action. In addition, it was put up on the GICHD website’s particular section on residual contamination and a description was added to the animation’s video on GICHD’s YouTube channel.

Reflection on the value for money

The costs associated with the development of the animation amount to approximately 34,891 CHF, including the production costs of around 20,000 CHF and staff costs of the

project manager (content conceptualisation) and a communications officer. Since this animation was the first one that the GICHD developed, initial costs were higher as the visual identity of the background and the landscape had to be created. Further last-minute changes based on donor agency feedback that had to be incorporated increased the production costs.

Expense	CHF
Development	20,261
Salary-related costs: GED (20 days): 9,100 CHF BIS (10 days): 5,530 CHF	14,630
Total costs	34,891

It is unclear to what extent the animation has been used by partners and other stakeholders since YouTube statistics cannot provide a full picture. In this regard, it would be necessary to conduct further research into the uptake and value for users and partners.

Recommendations for optimising the utility of this tool

- Ensure that the animation is mainstreamed into the GICHD tool library and is institutionalised, so that various managers and staff members can use it.
- Collect further feedback and make improvements accordingly, including a voice-over in several languages for the use by external partners without a technical expert.
- Create an outreach plan and make it a compulsory and standardised part of a curriculum to a specific target group.

Lessons learned

The development process of the animation “Beyond the Battlefield” was a learning process since it was the first animation produced by the GICHD. The staff involved collected several good practices and lessons learnt which include the following:

- Good cooperation between the project manager, the communications department and the production company (4AM).
- The tool is appealing overall, received positive feedback and proved to be helpful in explaining a complex matter.
- Even though this animation was primarily intended for presentation purposes, animations as a product can become focused on trainings and serve to educate the audience.

The lessons below were learnt from the present animation production and were able to be put to use when developing the second animation on non-technical survey:

- It is important to share early versions of the animation with relevant colleagues inside (and possibly outside) the GICHD to collect feedback early on to ensure a more inclusive and consultative process, and to enable the incorporation of changes at an early stage. As the animation was not shown to GICHD staff before the launch, the feedback collected afterwards could no longer be incorporated.
- It was unclear during this first production process which persons had to be involved at what stage. Therefore, the project manager and the communications officer developed an approval procedure for animation development highlighting the key points to define and staff to approve throughout the process.
- This animation was designed and has been used as an animated presentation without voiceover in order to be able to use it in different linguistic settings. However, a voiceover allows for more flexibility of use, which was incorporated when developing the animation on NTS.
- This animation shows persons in an ethno-centric rather than ethnically diverse fashion. This point of criticism was taken into account in the development of the subsequent animation.

2.9 Characterisation of Explosive Weapons Study

The GICHD published the Characterisation of Explosive Weapons (CEW) study in 2017 following a needs assessment conducted with the UN Office for the Coordination of Humanitarian Affairs (OCHA) in 2015. The aim of the study is to contribute to ongoing international discussions by providing a technical perspective concerning explosive weapons, their use and their impact. The GICHD set up an expert group for the study, comprised of experts dealing with policy, humanitarian, technical and legal dimensions of explosive weapons use in populated areas. Currently, the GICHD is completing work on the explosive weapons' effects simulator due by the end of 2017. GICHD released a separate CEW website in 2017, devoted to the topic and which has been used as a reference point by dozens of organisations and several thousand individuals.

Assessment of relevance and whether 'fit for purpose'

The publication was developed following a request from OCHA's Head of Policy to conduct research on explosive weapons characteristics and their immediate, destructive effects on humans and structures in order to contribute to ongoing, international debate and provide a technical perspective. This publication achieved its aim of becoming a focal point of information for explosive weapons frequently used in populated areas. The CEW publication and website have been used as a reference point by several thousand individuals, plus a dozen organisations.¹² Communications outreach is ongoing and was taken up again more specifically with the launch of the explosive weapons simulator, currently manufactured by Fraunhofer-EMI in Germany (during the CCW Meeting of High Contracting Parties at the UN Geneva, in November 2017). This project is a particular communications effort for a specific project stemming from another division. Several things are unique about this project, hence its selection for this evaluation:

- New topic for GICHD
- Example of inter-divisional cooperation (Risk Management and Communications)
- Example of thorough planning and execution of communications plan (planning, editing, launch event, launch promotion, social media distribution etc.)
- Example of collaboration with other organisations (see: partners)
- Development of new virtual tool: simulator

Partner engagement, tool development and tool outreach processes

GICHD discussed the need for the publication in Nov 2015 with OCHA. The selection of experts to steer the project and set the scope for the research was carried out in Nov 2015 - Jan 2016. A first meeting of experts was held in January 2016 to discuss and agree on the scope of the research and the selection criteria for explosive weapons. The requirements were established and fine-tuned during 5 meetings of experts held in 2016-17, involving 20 specialists from policy, legal, technical, humanitarian and military fields related to explosive weapons and their use in populated areas. The publication's development directly involved the GICHD Communications Team, and included a peer review by an expert group and selected external reviewers. An internal review board discussed the review process and an external editor conducted criteria and final proofreading of the final report. The study went for layout and printing in January 2017. The final report of the project and its five annexes were reviewed by 15 experts and the preliminary research findings and conclusion concerning the studied weapons and their use was presented at an ICRC expert round table (Jun 2016), UNIDIR meeting (Aug 2016), Chatham House meeting (Oct 2016), as well as Article 36 EWIPA (Explosive Weapons in Populated Areas) workshop in London (May 2017). The publication was launched in February 2017. The launch event (round-table, press

¹² This includes ICRC, Chatham House, UNICEF, UNIDIR, UNOCHA, UNODA, INEW, Article 36, Fraunhofer-EMI, Austrian Ministry of Foreign Affairs, Small Arms Survey, Action on Armed Violence, JMU Journal of Conventional Weapons Destruction, etc.)

conference) was accompanied by promotion with contributing and non-contributing human security organisations, opinion leaders and experts.

Box 10: Characterisation of Explosive Weapons Study Statistics¹³

In July 2016, communications met with the project manager to help him launch the simulator and publications. During this discussion, a plan was made to give this topic a specific importance as well as to create a standalone website. A communications plan was established, detailing the target audience, goals of the project, the initial timeline, the partners/experts as well as the launch. GICHD plans to integrate the Explosive Weapons' Effects Simulator into the website. Communications for this launch are yet to be planned in detail.

Reflection on the 'value for money'

The total cost to date including salary costs, website development, publications equals 861,110 CHF. The cost break down is incomplete due to a lack of available data from 2014.

Expense	CHF
Product development: 2014- 2017: including: salary costs (2016-2017): 236,193 - Editing and printing of reports 29'000 - Website development: 15,000	280,193
Total costs	280,193
Running costs (beyond completion): Website running costs-annual Explosive Weapons effects simulator (contract with Fraunhofer-EMI, Germany)	2,800 94,000 EUR

Given the results of the uptake in the political arena and the contribution the publication made to international debate, GICHD received value for money. Nonetheless, apart from the momentum and planned outcomes from the website and the simulator, no concrete needs

¹³ Genève Internationale: Nouvelles du Jour

assessment was conducted for these two developments and it is too soon to assess these steps.

Recommendations for optimising the utility of this tool

Since the website and a simulator are planned as a way of optimising the utility of the tool already, GICHD should closely monitor the usability of the two, regularly collect feedback, field test the simulator and then decide on roll out. Conduct consultation on a pilot product, prepare a relevant communications and outreach process as planned, and monitor expenditures to keep in line with the budget.

Lessons learned

The development of complex software from scratch through the work of an expert institution in another country, unfamiliar with the EWIPA context, as well as managing the partners' expectations for this simulator tool has been a challenge at times. This, together with the contractor having personnel changes has resulted in a 7-month delay in completing and releasing the Beta version of the simulator software. The lesson learnt is to either plan for a modest time-frame for similar products in the future, or then allow for more Advisor's time on a single project, to enable full-time management of the products, and flexibility to change contractors, or re-assign components of the products to other contractor(s).

2.10 Cluster Munitions Identification (CMID) Tool

GICHD developed the CMID tool to differentiate between cluster and sub-munitions from other ammunition and to inform personnel storing ammunition on whether their stocks include items falling under the definition and scope of the Convention on Cluster Munitions (CCM). In the absence of a CCM Implementation Support Unit (ISU) at that time, GICHD took on itself a task to develop a tool for the CCM in 2011 to provide self-help to countries attempting to verify whether certain munitions in their stockpiles fall under the definition and scope of the Convention. The CMID software application was launched in 2012, however, the launched version is short of 158 technical images and approx. 200 items of data on cluster munitions. For that reason, it was taken offline for 1.5 years in 2015-16, and although recently back online at the request of ISU CCM, it is currently not in use and needs updating as it is missing one third of its dataset.

Assessment of relevance and whether ‘fit for purpose’

While GICHD did not carry out a needs assessment, at the start of the CCM in 2008, GICHD received several requests including from the Norwegian Ministry of Foreign Affairs and the UNDP (the acting secretariat for the CCM convention at the time), as well as from a handful of other countries, to help in defining which cluster and sub-munitions fall and do not fall under the Convention. The CCM ISU also confirmed that it receives a number of requests to confirm which cluster munitions fall under the convention, which has made the tool increasingly relevant for many stakeholders. There are no other free-of-charge, public online tools in this category. Whereas CORD shares certain data and functions with the CMID, these tools complement each other while having different user requirements and target end users. GICHD aims to complete the CMID and restore it as a reliable online reference for those 80+ countries that have not yet acceded to the CCM, as the primary and free reference source for cluster and sub-munitions. Once complete and with appropriate attention raised at CCM meetings, the CMID tool can also become the one-stop-shop for journalists, NGOs and human rights activists for basic identification and delivery methods of these weapons. Multiple cross-references between the CMID tool and CORD have been planned to mutually promote the tools.

Partner engagement, tool development and tool outreach processes

GICHD developed the tool in collaboration with Fenix Insight in 2011, and in 2015, GICHD selected ARES to improve the tool given that the CMID software application then emerged and was launched in 2012. The launched version is short of 158 technical images and approx. 200 items of data on cluster munitions, making the launch premature. Also the inbuilt hyperlinks need updating, and cross-references to CORD are missing. In brief, the CMID tool is currently incomplete. More specifically:

1. Field-testing is not applicable. GICHD conducted an internal assessment of contents and functions of the CMID tool in 2014, in collaboration with Fenix Insight. The assessment confirmed the suspected shortfalls and identified outdated functions and links, resulting in GICHD taking the CMID offline in 2015 for further development and completion.
2. It does not appear that a formal ‘requirements definition & development process’ for CMID existed. However from 2008-11, CCM Chairing countries such as Norway put pressure on GICHD in the absence of a competent CCM Secretariat or ISU, to provide technical assistance to States in commencing the implementation of activities within the CCM.
3. Soon after its launch in 2012, the project manager responsible for the CMID tool left the organisation. No success indicators were set, only a 2-pager of admin instructions.

GICHD announced the development of the CMID tool in 2011 at the 2nd CCM Meeting of States Parties (2nd MSP), and presented the tool at the 3rd MSP in 2012. At the time of the launch however, the CMID was not fully populated with data and thus could not be used

right away, making it premature. In 2015, GICHD developed a CMID tool Improvement Plan with a concept of work for improvements, specifying 5 development phases (see Box 11) to be implemented by an external technical company (see box 9). The plan was never implemented due to the project's completion not being prioritised and no funding, as well as a conflict of interest with the initially selected contractor. The CMID was put back online in 2016 at the request of the ISU/CCM Director, but it will be taken down again to allow for updates. This will require 10-12 weeks short-term contract with a specialised firm, which has been identified.

Box 11: Concept of Work 5 Phases Improvement Plan

Concept of Work	
ARES experts will undertake a 5-phase operation for the improvement of the database.	
Phase 1 - Analysis of Current CMID Database	
The current CMID database will be examined to collect data on the completeness of the database. The team will review entries in the database for missing information, pictures, and references.	
Phase 2 – Addition of New Material	
After considering the current completeness of the CMID database, additional munitions will be added to the database during this phase. Researchers will include all available information during this phase to verify during Phase 3.	
Phase 3 - Research Source Documents	
All deficiencies and additions noted in the Phase 1 and 2 analyses will be verified against open and protected sources of information. Citations and verification information will be included where available.	
Phase 4 - Input Data into CMID Database	
Data will be entered into an import compatible file format for upload to the CMID Database.	
Phase 5 - Quality Assurance and Delivery	
Data entered is checked by ARES munition experts and researchers for errors, completeness, and reference citations.	

Reflection on the 'value for money'

The original development costs are not known. Updating the CMID tool will cost 19,000 CHF, and approx. 2,000 CHF per year (starting 2018) to maintain it.

Expense	CHF
Development costs for the future	19,000
Maintenance costs- annual (incl. salary costs)	2000
Total costs (future)	21,000

Recommendations for optimising the utility of this tool

- Provided that the plans envisage linking the CMID and CORD, it would be more cost efficient to include CMID (which has a low number of items) into CORD and make it one database with a possibility of selecting categories of items for a quicker identification.
- Given high interest in the tool, especially by the CCM ISU and the low costs associated with populating the tool and maintaining it, prioritise the tool for relevant funding and promote it to relevant users via the CCM ISU, existing users, stakeholders and the GICHD website.

Lessons learned

Despite the 5-phase plan being put in place, relevant information about the selected company for implementation was the reason not to pursue the contract. In view of a possible conflict of interests, this was a positive action. A new contractor should be sought to take up the existing plan and implement it.

2.7 Collaborative ORDNance Data Repository (CORD) tool

CORD is an ordnance identification guide, which enables web-based research on mines and other ordnance data to assist humanitarian demining operations. CORD was formerly known as ORDATA, a US military ordnance guide that was passed to the Centre for International Stabilization and Recovery (CISR) at James Madison University. The guide is meant to be open source and available to all.

The CISR has been the sole owner of CORD until March 2017, when an MOU confirmed joint ownership with GICHD. Since then, CORD has been part of a GICHD Operational Risk Management project within the Risk Management division. A revamp of the tool took place in 2017. Improvements will continue into 2018 and beyond.

Assessment of relevance and whether ‘fit for purpose’

The primary role of ORDATA and then CORD has always been to serve as a free open source ordnance guide. In addition, the tool may be used in a secondary role to aid data input into IMSMA systems.

In 2013 the GICHD Information Management Division started a project with Ripple Design to develop a new user interface for ORDATA and utilize an ontology for the database. (This has sometimes been referred to as a Wiki, although the terminology is not strictly correct). It was hoped that this would either allow individual users to contribute updates to the data or that the database would automatically link with other databases to gather new data. It was hoped that other ordnance data resources (also structured in a semantic taxonomy or ontology) would integrate with ORDATA in order to provide a global collaborative ordnance data repository. The ontology would be a mechanism for semantically aggregating information originated from multiple ordnance databases. It was hoped this approach would save money since the humanitarian mine action community would collectively improve CORD in the same way that the web based encyclopaedia benefits. This approach was controversial and was deemed by some to be ill advised. The GICHD Risk Management Division chose not to be involved in the project until late 2017.

In 2015 the new CORD was launched. The new User Interface was a significant and necessary improvement on the previous ORDATA. However no links with other databases took place between 2015-17 and no users provided updates to CORD. The content of CORD needed significant checking and improvement – unfortunately this never happened under the ontology system. The quality of CORD content was such that the decision was taken not to allow GICHD’s logo to be displayed on the CORD user interface. Furthermore the ontology format made the database extremely slow regardless of the quality of internet connection. The CORD Ontology used Simple Protocol and Resource Description Framework Query Language (SPARQL). Often this led to CORD searches being inconsistent. Identical searches would result in different results, frustrating users. All this time CORD was owned by CISR with GICHD having varying levels of engagement. By 2017 it was clear that significant improvements were required to make CORD fit for purpose.

In October 2016 the Risk Management Division became involved in CORD. A budget for improving content and revising the format was set for 2017. In March 2017 a Memorandum of Understanding was signed with CISR where GICHD would take joint ownership and operational control. Initial functionality improvements (involving a change to a simple relational database) were complete by August 2017. CISR then re-established the link from their website to CORD. (The actual user interface had always been available at <https://ordata.info/>). Since late August 2017, 4331 separate users have accessed CORD. CORD has regained its role as a functional free open access database. To this end CORD may now fairly be said to be, to some degree, fit for purpose. In order to further make it so GICHD will need to improve content. Some progress has already been made in this respect.

Since mid-October 2017 the CORD team have made 2828 separate edits to CORD content of 423 ordnance entries. Such efforts will continue into 2018 and beyond.

It is currently problematic to monitor who is using CORD and for what purpose. The only way to monitor users would be to require registration to access the tool. This option would need to be carefully discussed with the CISR as the main partner of the project. This option would likely involve a reduction in the numbers of users accessing CORD. Registration would also possibly be contrary to CISR requirements for CORD to remain open access. Article 2.1c of the MOU clearly states that “general access to CORD will be open as it is at present”.

CORD is a sizeable open source database that is fully relevant to Humanitarian Mine Action and others. The task is now to improve and expand relevant content so that CORD's utility grows rather than diminishes. GICHD plans to restore CORD to a credible position as the primary free online Ordnance Recognition Guide, by rationalising the database, making access more reliable and improving the accuracy of content. Content from CMID is already shared and this will continue. The imagery associated with entries will slowly improve. Country usage lists will improve to allow, in time, bespoke guides to be produced on request. For example should UNMAS desire an AP Mines Guide for Syria, CORD could very quickly produce such a guide with relatively few resources expended, assuming the content is already in place.

Partner engagement, tool development and tool outreach processes

CORD was developed from a US Ordnance Guide called ORDATA. ORDATA is a U.S. government database of mines and other ordnance, developed to assist humanitarian demining work. The original version of ORDATA, released in 1997, was CD-ROM based, and incorporated material from an earlier program called Minefacts. ORDATA 2.0 was distributed on a CD-ROM and on the Internet, and became known as the Collaborative ORDNance Data Repository (CORD). The database was hosted on the Centre for International Stabilization and Recovery website, a part of James Madison University. In October 2016 the GICHD RM Division decided to take on the substantial task revitalising CORD and maintaining it over the long term.

Initial GICHD redevelopment of CORD started in March 2013 and lasted until December 2015. GICHD's IM Division together with Ripple Design and JMU defined the original requirements and specified the user consultation for CORD. Partners included GICHD, Ripple Design and JMU under HDTC funding. CORD was initially developed and managed by using PRINCE2 project cycle management methodology (2013-2015). It is believed that a timeline, budget and milestones were defined. It also seems that GICHD attempted to establish a communication consortium, comprising GICHD, JMU, and the US Humanitarian Demining Training Centre to ensure internal and external team communication plans and processes. It seems the consortium never really formed and its intended work was not started.

A conceptual desk study was conducted in 2013 as part of an initial needs assessment:

- To review existing ordnance systems;
- To select a set of existing characteristics for each ordnance category;
- To evaluate current systems, in terms of modularity and reusability;
- To spot commonalities and differences between ordnance systems, in order to assist creating a mechanism for combining concepts with the aid of the Ontology and to provide re-usable fragments.

Unfortunately this assessment wasn't able to identify the databases CORD was meant to be linked with or the users who might edit and improve content for free. No quality assurance

process for this revised content was ever identified. It was unclear how time would be saved since quality assurance of content would take as much time as if those conducting the QA had updated the content themselves. No projection of how many of the 5000+ CORD entries would be upgraded in what timeframe was made. Different methods of categorising ordnance between databases, a problem for an ontology such as this, were never adequately addressed. The assessment never convincingly identified how the content of CORD, which contained a number of errors, could be improved. For this reason it appears the RM Division avoided involvement at this early stage.

In its latest 2017 iteration, GICHD's RM Division specified CORD requirements with Ripple Design. Clear aims and work plans were established with Ripple with CISR being constantly briefed as to changes. The main requirement was to revert to a simple 2D relational database, far more suitable for a database of 5000 plus entries than a complex ontology. In addition, much new functionality was added in 2017. Analytics became part of the admin interface and included not just enhanced site usage data figures but also Item and Search data and Edits data so that the work done by the CORD team can be easily measured in a way not done with other GICHD tools. The security of the database was also enhanced. The organisation of the entries was changed with the number of ordnance types being expanded from 11 to 19.

2018 Output indicators:

- Number of CORD Page Views.
- Number of CORD Sessions.
- Number of CORD Users.

Reflection on the 'value for money'

The initial tool development was budgeted at 246,338 CHF (2013-2015), including salary, which is in line with the expenditures. The 2017 development cost was 46,277 CHF, which adds up to a total of 292'615 CHF.

Expense	CHF
Development costs	
2013-2015	USD* 115,000
2017	46,277
Salary-related costs	
2013-2015	131,338
2017	2,918
Total costs	292'615
Estimated Annual maintenance costs beyond 2017	50,000

*One-to-one exchange rate based on 2015 December exchange rate (exact date of invoice not known)

After the 2 year break, the GICHD has now committed itself to maintaining CORD as a tool for external use. On-going CORD content enhancements will have a yearly cost. In 2018 56'543 CHF is budgeted for CORD – this includes a modest amount of salaried time of an Advisor and Project Officer. Given the size of CORD, basic upkeep of a database of this size is a significant commitment and could easily take 100% of an appropriate individual's time along with assistance from others. Databases half the size of CORD have two subject matters experts and two interns working on them. Current GICHD expenditure on CORD is certainly excellent value for money when compared with the databases such as Fenix Online.

GICHD has committed itself to CORD. If GICHD wishes to fulfil that commitment it should accept that Advisor and Project Officer time, along with a modest budget to access imagery,

is the minimum required. If such resources are unavailable GICHD should discontinue its involvement with CORD.

Recommendations for optimising the utility of this tool

- To continue to improve CORD content through the addition of improved imagery, checking of specifications and addition of new entries from new explosive hazards found in the field. CORD should also fill in gaps by adding existing ordnance that is not currently listed in the database. As content improves GICHD should add its logo to the CORD user interface.
- To continue to share the content between CORD with CMID, taking in account that the two systems cannot be fully merged for technical reasons.
- To continue the liaison with GICHD's Communications Team to strengthen the existing outreach and promotion plan already in place (Article in JCWD, Twitter, Instagram, Facebook, CORD e-mail account, promotion through EOD schools already exists).
- To continue to improve GICHD's institutional memory of CORD. It appears the Risk Management Division received a very limited handover for CORD. Many of the old CORD documents were unavailable. Documentation since 2017 is available on the RM Division G-Drive. The evaluator obtained contradictory information from different GICHD staff interviews about this project's start, objectives, purposes, etc. It is important to put in place and maintain solid and updated project documentation and to conduct a proper handover when staff depart/arrive.
- To identify and access the project plans and the project management documents which were designed in the first phase of CORD, to ensure consistency in the development of the tool.

Lessons learned

Skills and expertise from across the GICHD were not maximised in the initial development of CORD. For some reason that remains unclear, the Risk Management Division was not fully involved with this project at the start in 2013 or in 2015. The resulting wiki-style ontology database proved to be unsuccessful. No databases that could be linked with it were identified and no databases were ever connected to it. Content quality was never adequately addressed in the initial plan with the result that by 2015 when CORD was launched GICHD would not put its logo on the user interface despite having invested significantly in the tool. In future complex projects that require a range of skills need to be staffed accordingly with all relevant sections of the GICHD being involved and taking ownership.

CORD is as good as its content. In order for GICHD to successfully field CORD, time and effort must be put into improving the content.

Continuity of CORD project management was not always consistent. In future long term projects such as CORD should be subject to long term planning that maximises continuity in spite of any staff turnover. A formal project file should be established to capture all relevant information and serve as a reference point for future project managers. A minimum handover format could be established so that key information is passed on as a matter of course.

2.12 e-Catalogue Tool

GICHD developed the e-Catalogue tool, and previous paper versions of the catalogue, in response to a request by the German government. A German military secondee to the GICHD initially managed it. Its purpose is to provide information about available equipment for demining, in order to make the market place transparent and apply quality assurance (QA). It had been in place for the past 20 years and changed from a printed catalogue to an e-catalogue in 2014. Manufacturers use the e-Catalogue to reach operators, and operators use it to compare available equipment and ensure selection based on international standards. Currently, there are fewer and fewer manufacturers and the database has not been updated with IED Disposal (IEDD) equipment. It is not being improved or monitored, and continues to have a static number of users.

Assessment of relevance and whether ‘fit for purpose’

Given the GICHD’s strategic ambition to be a pioneer in developing mine action tools, the e-Catalogue as a concept is a relevant tool. However, the fact that it is not updated with the most relevant developments in the sector (e.g. IEDs) makes it less fit for purpose. The monitoring of the tool, and tracking of its use and demand is ad-hoc. The assessment of whether or not to continue with the tool indicates that this has been due to the availability of resources, and not based on needs. It is nevertheless the only available independent and neutral source for identifying demining equipment that has undergone a QA process. Only those items that are tested by facilities and according to the international standards are included. However, without the needed updates as well as with the tool relying solely on Internet access and not being downloadable, it makes it less accessible by target users. There are requests from the field for a printed version of the catalogue because of this. As no other tool of this nature exists for non-military actors, GICHD should improve the e-Catalogue to make it more fit for purpose.

In terms of current users, GICHD web statistics indicate that the top three countries visiting the e-Catalogue pages are: Germany, USA, UK (2014-2015); Switzerland, USA, Germany (2015-2016); and Switzerland, UK (2016-2017)

GICHD’s web statistics also indicate that while the years 2016-2017 showed an increase in entries, this is attributed to Switzerland with an average stay on page time of 2 seconds, indicating an unintentional entry to website. The spike in year 2014/2015 could potentially be due to an update on underwater explosives during that same time. The average number of website unique views however, excluding Switzerland is between 20 in 2014 to 200 in 2017, of those who remain on the site for longer than one minute. This indicates an increasing interest in the tool, but with no variation in the range of countries. The number of manufacturers has decreased as no new equipment is needed given that the number of suspected areas has been decreasing. There is a constant change in terms of items but no increase in the number of manufacturers.

Partner engagement, tool development and tool outreach processes

GICHD converted the catalogue to an online tool in 2011 to keep up with trends and technical/digital developments. Since then the costs from printing has transferred to maintenance, which allowed for cost efficiency gains. There is no documentation on the process and project and no institutional memory. There was no needs assessment or field test done prior to release, no users’ feedback is being regularly collected, and no partners were involved in development. Manufacturers are key as data suppliers, however no outreach or communications campaigns were planned and thus outreach relies on previous users of the printed version, mostly operators.

Reflection on the 'value for money'

Since the introduction of the e-Catalogue, costs from printing were transferred to maintenance of the website which allowed for costs efficiency gains.

Expense	CHF
Printed (2007-2010)	642,090
On-line:	
Development costs	?
Maintenance costs (2011-2017)	203,734
Total costs	845,824
Average maintenance cost (cobweb)- annual (beyond 2017)	10,000
Average salary cost- annual (beyond 2017)	<u>18,700</u>
Total maintenance costs	28,700

Based on average and estimated calculations, an average annual upkeep of a printed version was 160,500 CHF while of an online version equals to 28,700 CHF. The efficiency gain is roughly 131,800 CHF a year (very high estimates). The cost of the catalogue was very high in its first phase due to printing costs. The tool is currently online with a considerable decrease of the cost.

Recommendations for optimising the utility of this tool

- Provided that the initial request for the tool came from Germany and so the German secondee was selected to work on the tool, increase the time allocated to the maintenance, improvement and promotion of the tool to at least 25-30%, as it currently stands at 5-10%.
- Ensure a proper tool management plan is put in place, with a usability tracking system, to ensure regular monitoring and evaluation of most recent and relevant needs, both from manufacturers as well as users.
- Increase the time and budget to update the catalogue with relevant IED items, implement a QA process on facility tests to validate the items, and make the e-Catalogue downloadable for access in field with no Internet.

Lessons learned

- No systematic reviews or evaluations have been carried out despite it existing for 20 years.
- Moving from a printed to online version indicated following up on technical developments, which should be the case as well now. However, the recent suggestion to develop an app should first be evaluated to assess if there is a clear need and whether this would address field realities.
- On the positive side, GICHD has plans to expand the e-Catalogue to include IEDs, as was the case in 2014 with an update on underwater explosives, in order to make it more widely applicable.

2.13 Guide to Mine Action in Arabic

GICHD published the latest English version of Guide to Mine Action in 2014. In response to a request from the Lebanese Mine Action Centre (LMAC), GICHD published the Arabic digital version in 2014, and the printed version in 2015. The translation of the guide was provided free of charge by LMAC. The Guide in Mine Action in Arabic is widely used and viewed very useful by the five partners who took part in the 2016 survey: Jordan, Lebanon, Iraqi Kurdistan, Yemen as well as UNDP.

Assessment of relevance and whether ‘fit for purpose’

The translation was done at the request of the LMAC, which expressed a need for GICHD’s main publication to be available in Arabic and offered to translate it. The goal was to make crucial mine action knowledge accessible in the predominant language of countries in the MENA region which has a great need for it. The user survey, conducted in 2016 with relevant countries and institutions, indicates a positive uptake of the translated document. Several things are unique about this project, hence its selection for this evaluation:

- First physical product of the collaboration between LMAC and the GICHD
- Example of inter-divisional cooperation (Regional Cooperation Programme and Communications)
- Example of partnerships: LMAC (in-kind contribution of translation) with the support of UNDP; Arab Fund (financial contribution for printing).

Box 12: Guide to Mine Action Statistics

- Number of copies printed: 500 (in 2015). 300 were distributed so far (November 2017).
- Number of visits of publication’s page on GICHD website since its publication <https://www.gichd.org/resources/publications/detail/publication/guide-to-mine-action/#.WiARdVWnFhE> : 179
- Number of mentions by other organisations since launch: N/A

Partner engagement, tool development and tool outreach processes

Since the translation was requested by the LMAC, GICHD did not conduct a needs assessment. Such needs emerged from the LMAC and other programmes in the MENA region, which expressed interests and needs for the use of the Guide to Mine Action in the Arabic language. The development involved direct involvement of the GICHD’s Communications Department and the translation was provided for free by LMAC. It was laid out and available digitally at first (March 2014), then in printed format (Oct. 2015). GICHD’s next steps include the development of a new edition (2018/2019) following the re-edition of the Guide to Mine Action in English. There was no real communications outreach plan made related to this publication back in 2014 when it was translated. However, it was decided to print the publication (which was only available digitally on GICHD’s website prior to that) in September 2015 prior to the Annual Conference of the Arab Cooperation Programme in Beirut as well as prior to important liaison visits to the Middle East (United Arab Emirates, Kuwait, Oman, Qatar).

Distribution of the publication was made via:

- GICHD liaison visits: state level, national authorities
- International conferences, meetings and events (such as National Directors Meetings, Meetings of States Parties to Conventions, etc.)
- Through LMAC which received 200 printed copies

Reflection on the 'value for money'

There were no costs of the translation as the service was provided free of charge by LMAC. Other costs incurred are associated with printing and layout/design of the publication, as well as staff time spent on coordinating the task.

Expense	CHF
Product development:	
- Layout/design of the publication	4,878
- Printing of 500 ex:	8,748
Total costs	13,627

Given the requests received from Arab countries for an Arabic translation of the Guide, the free translation provided by LMAC, and a well-received final product, and the fact that it is the only GICHD publication featuring Arabic translation, GICHD has received good value for money. Even if the translation costs were to be added, it would still be recommended to facilitate language-based regional cooperation.

Recommendations for optimising the utility of this tool

The publication has already been used to a high extent by various Arabic-speaking national mine action programmes who use it regularly. Further improvements could be made in terms of distribution to better reach intended target users, which are the deminers/team leaders in the field (think about distribution of physical copies to partner organisations, at workshops etc.). Additionally, more publications should be translated into local languages especially for the Arabic speaking region such as the forthcoming GICHD Guide to Cluster Munitions (planned for 2018), and the Characterisation of Explosive Weapons study (not planned yet).

Lessons learned

The main challenge was that it was a slow process, and there is need to monitor the quality of translations especially if provided as an in-kind contribution.

2.14 Non-Technical Survey Animation: The Foundation to getting Land Release right

GICHD released the NTS animation following a video produced by NPA on land release, with the aim of using it in NTS training sessions, and as part of outreach to donors and other mine action actors. The content was supposed to be balanced between convincing donors of the need for both time and space to do proper NTS and contain enough technical information to educate people attending workshops. GICHD launched it through social media (particularly through Facebook) linking to the GICHD's YouTube channel. At this stage, the GICHD lacks data regarding the extent to which partners have used it, given that YouTube statistics do not provide a full picture. However, the initial feedback has been widely positive in that it clearly depicts the non-technical survey process and its benefits.

Assessment of relevance and whether fit for purpose

In workshops where GICHD used the NTS animation, it succeeded in providing trainees with in-depth, technical insight into the NTS process. GICHD also used it in several mine-affected countries, underlining its reach with a variety of viewers. The NTS animation has been viewed 806 times on GICHD's YouTube channel to date, with Switzerland, Colombia and Iraq being the top 3 countries where the animation was viewed the most number of times. While YouTube statistics are the main source of information to assess the extent to which the animation has been used, however these statistics are unreliable. For example, there is a risk of missing exactly how many people have viewed it (e.g. the animation may be shown only once in a training, counting as one view, but 30 trainees may be watching). In addition, these statistics are not able to draw an exact picture of which partners took up the animation themselves and used it themselves.

Given that the video had many purposes and was directed at three different target groups, it is not clear how fit for purpose it is. The approach of trying to make it detailed enough for a technical training, and at the same time simple enough for donors, is confusing, and has not proved effective in reaching the goal of the tool. Currently, the tool is used for training and has been assessed positively as a complementary tool to the training curriculum with expanded technical details to the NPA's video that gives a high level explanation of the topic. There is however no information as to its effectiveness as an outreach tool for donors.

Partner engagement, tool development and tool outreach processes

Following the lessons learnt from the Beyond the Battlefield animation (see Section 2.8), which has mostly been used as an animated presentation by the then project manager, the NTS animation was designed with a voiceover. Currently, this animation is available in English, French, Spanish and Arabic, thereby facilitating its use by in-country partners and stakeholders. The GICHD team that worked on the development of the animation identified the following stakeholders as the primary audience for reasons below:

- Donors: Need to know why NTS is important and therefore why it should be funded; good NTS saves lots of money in the long run
- National Mine Action Centres: All people working in these Centres are part of the target audience, not merely the directors
- Workshop participants at NTS courses
- Clearance organisations: Often, these groups think they know the fundamentals, but they are often missing pieces of the picture or need a refresher.

GICHD introduced the NTS animation to the mine action sector through social media (particularly through Facebook), linking to the GICHD's YouTube channel. Despite not having had a formal launch and without extensive promotion, the animation is the GICHD's most viewed video to date. GICHD staff used it during NTS training in 2016, and initial internal feedback has been widely positive in that it clearly depicts the non-technical survey process and its benefits. One view is that even though this animation goes into further

technical depth than the NPA animation on land release, it may come across as duplication rather than as a complementary tool.

Reflection on the ‘value for money’

The costs associated with the development of the animation amount to approximately 42,151 CHF, including the production costs of 20,304 CHF and staff costs of the project manager (content conceptualisation) and a communications officer. Against the assumption that the first animation was more costly as the visual identity of the background and the landscape had to be created, the production costs of the NTS animation were around the same (20,261 CHF compared to 20,304 CHF). As per the Terms of Reference Worksheet for animations, the GICHD estimates the production costs of each new animation to amount to approximately 12,000 CHF. However, based on the financial analysis of the first two animations, this expectation does not seem realistic and should be adapted accordingly – as this is not only related to production costs but also reflecting staff costs for time invested.

Expense	CHF
Development	20,304
Salary-related costs:	21,847
GRH (20 days): 16,317 CHF	
BIS (10 days): 5,530 CHF	
Total costs	42,151

At this stage, the GICHD lacks a proper overview of the uptake of the NTS animation by partners since YouTube statistics do not provide a full picture. In addition, the production costs for the NTS animation, which was the second one the GICHD produced, were at a very similar level than the first one (instead of an envisaged 12,000 CHF as per the worksheet). Consequently, it could be stated that the costs for development and production are not (yet) outweighed by the educational benefits, use and uptake of the animation by relevant stakeholders and partners.

Recommendations for optimising the utility of this tool

- It would be beneficial to have one clear target audience identified for the NTS animation rather than targeting many. Once the target audience is specified, an outreach and communication plan should be developed to promote the video in a more active way. Since the first uptake has been in trainings, run a further test at trainings as to the usability of the animation, collect user feedback and improve accordingly, perhaps making it even more technical for the training purposes.
- Make the tool a compulsory part of a standardised training on NTS, not only by the GICHD, but also by making it available to partners and ensuring it forms part of other NTS-related courses by partner organisations or national programmes.
- Adapt the animation for donors with less technical details but more impact-related consequences. Prepare a strategy to reach donors with the animation as part of a wider donor outreach strategy, in coordination with director of Operations who leads this effort and private fundraising manager.
- Adjust the Terms of Reference worksheet in terms of estimated budget according to the expenditures.

Lessons learned

Throughout the development process of this animation as well as in reflection exercises afterwards, the team involved in creating this animation collected several good practices and lessons learnt. Among the good practices were:

- Early starting and continuous constructive collaboration between the divisions at GICHD (i.e. operational and communications). Such cooperation further allowed striking a balance between technical details and simplification of complex matters.

- Input and feedback from relevant staff was collected and incorporated in early stages of the animation development process.
- Setting the target audience at the outset of the process allowed for more targeted use of the NTS animation (in comparison to the animation “Beyond the battlefield”) and provided clarity.
- The Terms of Reference Worksheet and the Approval Procedure for Animation Development proved to serve as useful and necessary documents.
- These shall continue to be used for future animation development because they clearly depict the need and background for an animation and define the key elements before work is even started.

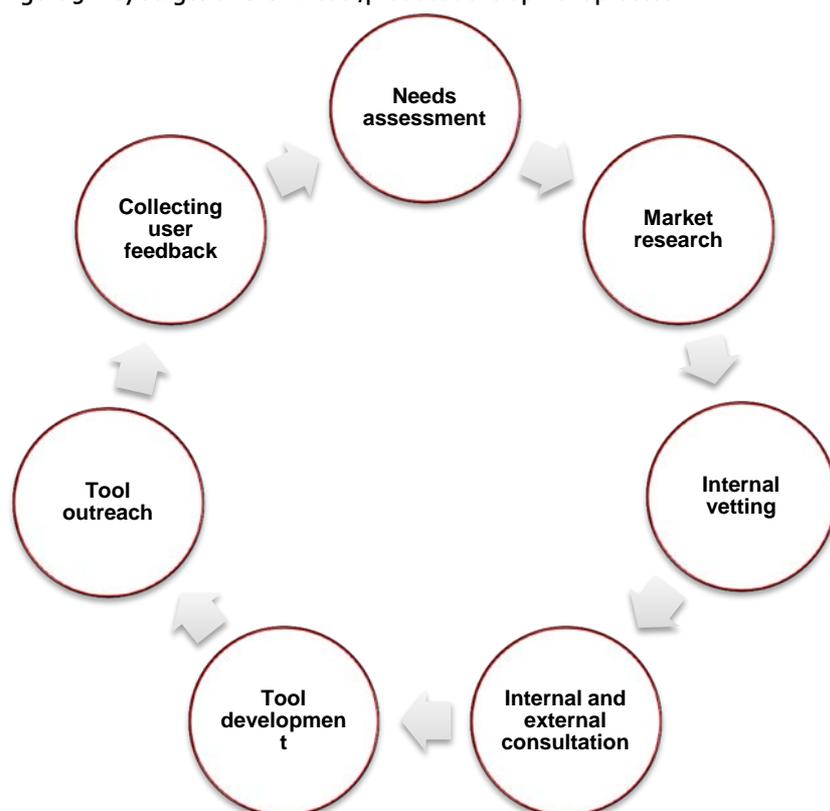
Lessons that were learnt included:

- Following the development of the animation “Beyond the battlefield”, which was not very inclusive and where feedback could no longer be incorporated as it was collected too late in the process, the GICHD team paid close attention to inclusivity in the present animation development process. However, the team got the impression that the pendulum swung towards another extreme of the spectrum and such inclusivity and feedback loops created a very lengthy process.
- The first two GICHD animations operated on an exact set budget. Any unforeseen changes therefore had to be added. For the third animation on technical survey, the GICHD team included a budget buffer in the contract with the production company to be able to have these changes incorporated swiftly, easily and flexibly.
- The YouTube statistics provide insights into the top five countries from where the video was accessed, the number of views, the watch time, the average view duration and the gender of the viewers. However, these statistics do not show how many people have watched the animation (e.g. classroom scenario where one view can count for 30 training participants). Furthermore, these statistics are not able to clearly show the uptake of use of the animation by in-country partners.

Summary of Main Findings regarding GICHD's Tool Development Process

Based on the findings of the external and internal evaluations, the following is an overview of broader findings and issues in relation to the processes used by GICHD to develop and roll out its tools and products to its target users. The following figure illustrates roughly the process that GICHD uses, to varying degrees, for developing and rolling-out new tools, breaking it down into several key steps:

Figure 5: Key stages of GICHD tool/product development process



Interviews conducted with GICHD staff, partners and stakeholders indicate that the extent to which GICHD carries out all of these steps in a systematic manner varies considerably, as explained below:

Needs assessment

At present, there is no system in place that requires GICHD Advisors/Project Managers to systematically conduct a needs assessment with intended users of GICHD tools/products. While some Advisors conduct needs assessments, others do not, and the methods and depth vary. As a result, some tools are produced without a sufficiently detailed and rigorous analysis of user requirements. While staff and external stakeholders acknowledge that GICHD has for the most part become increasingly needs based with regards to tool development, some stakeholders expressed the view that there are GICHD staff that continue to pursue the development of projects and tools based on concepts, which are not sufficiently grounded in practical field realities and user requirements.

Market research

Conducting market research is essential and should be made a mandatory requirement in order to avoid duplication and the wastage of resources. Yet GICHD does not systematically require Advisors/Project Managers to conduct market research as part of the process of developing new tools/products. As with needs assessments, this is entirely dependent on individuals. As a result, situations can arise where tools are developed from scratch when there may be existing tools available that could be configured to user specifications, requiring less time and resources.

Vetting process

GICHD had no internal system in place to ensure a rigorous vetting of ideas for new tools. At the moment, while new project ideas are subject to a vetting process involving the Heads of Division, proposed new tools if they fall within an existing project, are only subject to the approval of a Head of Division. In some cases, Advisors have been able to easily access Swiss core funds to develop new tools with limited questioning about the utility and relevance of the tool for intended users and GICHD's mandate, the costs required, and the potential impact it might have. Senior managers, by their own admission, recognise the need for a more systematic approach to vetting and validating (or not) ideas for new tools, products and publications.

Developing tool budgets and tracking expenses

When budgets are developed for specific tools/products, GICHD's Finance Team is typically not consulted or involved, despite having information about the availability of funding and the items that might be necessary to include in the budgets to ensure they are realistic. Advisors tend to rely on the expectation that there are sufficient Swiss core funds available to cover the necessary costs, and as there is no process in place to vet the budgets for a proposed tool/product, or any discussion regarding red lines for spending on tool development, testing, outreach and maintenance, there is limited scrutiny even in situations where budgets are overspent. Both the ASM app and the Smart MDD systems are tools that cost over 600,000 CHF each to produce, yet at no stage were questions asked internally regarding spending. As well, when the 12 tools and two publications under review were developed, GICHD's financial system was not set up to track expenses for specific tools. It was therefore difficult to track the expenses incurred for each tool, and some Advisors were better than others in monitoring and keeping track of what had been spent. The lack of ease in tracking expenses for tools/products made it difficult for Advisors to monitor over/under spending, and to ensure efficient spending. GICHD's financial system has since been modified to enable Advisors to track expenses for specific tools, products and publications.

Internal collaboration, consultation and information flow

In recent years, GICHD has taken major strides forward in improving cross-division collaboration and coordination. As opposed to earlier years when GICHD's work was thematic-based and different divisions tended to work in isolation from each other, GICHD has sought to increase information flow and collaboration across divisions. For example, internal GICHD planning is now structured according to priority countries, with inter-divisional working sessions facilitated to discuss how best the Centre can support individual priority countries with the different types of expertise and tools/products available in-house. In September 2017, GICHD organised its bi-annual staff planning event which involved planning sessions organised within divisions, across division, based on priority countries, and also based on specific themes, e.g. IEDs, GIS, urban environments, etc. This has improved information flow and cooperation between the Risk Management, Strategies and Standards and Information Management divisions, particularly in comparison to say 10 years ago. This said, when interviewed, some staff noted that more could be done to strengthen coordination and collaboration across divisions. When it comes to tool development in particular, the extent to which staff consult internally with colleagues depends on the individual, as it is not a mandatory requirement. This also applies to GICHD's

Communications Team, which has the potential to play an important role in promoting tool usage. Yet the Communications Team is not involved in tool development discussions until very late in the process, if at all, and therefore has limited understanding of different GICHD tools/products.

Furthermore, in terms of communication during the handover process, this should be properly established and standardised as it is not currently the case. It would be advisable to not only strengthen the documentation management process throughout the project management cycle with relevant templates and progress reports, but to also ensure in-person handover takes place when project managers (PMs) change. This is as relevant for internal handovers as it is for a handover to newcomers, for which a recruitment process needs to be improved to ensure a possibility of at least one day overlap. Additionally, institutional memory and ownership should be enhanced to ensure other staff members are capable of providing the necessary information about a tool should a PM leave the organisation. This would mean that the PM in charge not only manages the project, but also creates a team who is equally responsible and involved in building ownership. An appropriate competency framework for the recruitment process is therefore needed, which is planned for 2018 as part of the gap analysis performed when establishing GICHD's Key Performance Indicators and review process.

Stakeholder consultation

There is no policy or guidance provided to Advisors requiring them to consult externally. While some Advisors are proactive in ensuring widespread consultation with stakeholders before, during and after tools have been developed, others have taken a far more minimalist approach. As consultation with external stakeholders regarding new tools has tended to be adhoc, this has perpetuated the perception that GICHD is supply-driven, developing tools based on concepts, without considering their practical application, and whether the tools actually respond to user needs.

Outreach support to tool users

A key finding of this evaluation is that some GICHD Advisors typically spend more time and resources in developing tools, but far less consideration is given to raising awareness about the tools, promoting buy-in among intended users and providing sustained support to ensure users are able to use the tool and derive the intended benefits – though this varies according to division. Some staff explained that due to workload and shifting priorities, there is a constant pressure to complete one task/tool and move on to the next, without taking sufficient time to ensure that tools are being used as intended, and that they are having the intended impact. While GICHD has an overarching strategy, considerable autonomy and flexibility is accorded to Advisors/Project Managers with regards to the development of new tools, products and publications, without sufficient guidance and prioritisation provided by senior managers to ensure that the level of support provided to end users for existing tools/products is maintained. However, when Advisors leave the Centre, because certain tools are individually-led, they typically become deprioritised and fall to the way side as new Advisors end up initiating new projects and tools, with little consideration given to what was done previously. Some tools are therefore not connected to or part of GICHD's overall strategic direction and Heads of Division do not provide sufficient guidance to new Advisors/Project Managers on what should continue to be prioritised and supported. With the inevitable turnover of staff, institutional memory is often lost, and continuity in terms of the roll out, visibility and support given to the field for certain tools is lost.

Monitoring tool usage

The fact that there is no GICHD-wide system in place to track tool usage further illustrates the limited focus on the use of tools by users. While some of the IM tools have built in systems for this, this does not apply across the board for all GICHD tools. No one within the GICHD systematically tracks the usage of its tools, products and publications. Statistics

related to views and downloads from the website are available upon request from the Communications team for some tools and publications, but downloads are not an accurate indicator of usage, and it is not the function of the Communications team to monitor tool/product usage. GICHD invests significant resources into the development of its tools but often is unable to confirm how many users use each tool, and for what purposes. Within the IM and RM divisions, in the case of tools still in development and testing stages, Advisors know which countries are currently using the tools, and will likely have an idea of which countries/organisations will use the tool when it is initially rolled out as they will require GICHD support. Newer tools like MARS include features that enables the responsible Advisor to track usage. However, there is no system in place organisation-wide to log which countries and organisations are using which tools, which is potentially important data that provides insight into which tools are being used and which are not, which can help inform tool improvement, as well as GICHD's overall tool development processes.

Tool outreach

When new tools are being developed, it is up to individual GICHD Advisors/Project Managers to decide and plan how the tools will be launched and marketed to their intended users. While GICHD has an in-house Communications Team, their focus is largely on corporate communications, e.g. management of GICHD website and social media, development of GICHD Annual Reports, etc., as opposed to working with GICHD Advisors to put in place outreach plans for specific tools. In some cases, the Communications Team is called upon for support, but this is often only once tools are ready for roll out, and not early enough in the tool development stage to develop an outreach plan that can help to promote buy-in and tool usage among target users. In addition to the promotional side of tool outreach, the findings of the evaluation reveal that not enough is being done to think through the type of support that users may require to make effective use of the tools, and to ensure sustained support is prioritised and provided by GICHD Advisors in this regard. For example, GICHD Advisors have noted that while national mine action programmes tend to express excitement about new tools initially, this excitement often dissipates when it comes time to adapt and deploy the tool within their own country. Tool outreach strategies should therefore consider how to sustain interest and provide support to users in a manner that ensures they continue using the tool.

Feedback mechanisms

GICHD does not have a standard mechanism or method through which it solicits feedback from users and wider mine action stakeholders about its tools and products. Again, this is typically individual-led. Some Advisors have proactively carried out online user surveys, circulated their name/email address with the relevant tool to encourage users to send feedback, and have informally solicited input at key meetings and when on mission. Others do not actively solicit feedback. There is no GICHD policy in place which makes this mandatory, and as a result, this is a missed opportunity for GICHD to obtain feedback in a systematic manner about the relevance and utility of its tools, to channel this information back into the tool improvement process, and to demonstrate to users that their opinions and feedback matter.

3. Key Recommendations

One key aspect of GICHD's role is to provide support and expert guidance to the mine action community, and that should entail sitting with mine-affected countries and mine action organisations to understand their needs and context, and then identifying various solutions. The solution in some cases may be a GICHD tool/product, and in other cases, it might not be. The role of GICHD is not to try and impose its tools/products on intended users, but to help them find and use solutions that are most appropriate. Bearing this in mind, the following recommendations focus on how GICHD can strengthen the relevance and utility of existing and future tools, and ensure that they are based on the needs and realities of mine affected countries and organisations, while also adding value and promoting innovation within the sector. It should also be noted that the GICHD has already taken changes to improve the effectiveness and relevance of the support it provides to the mine action sector through, among other things, the implementation of Results-Based Management which is currently being implemented across the organisation.

3.1 Make needs assessments and market research mandatory

To ensure that GICHD tools and products are innovative yet also relevant and needs based, needs assessments must be required. A single request from one national mine action programme or INGO operator should not be sufficient justification for the investment of sizeable resources in the development of a tool. A broad-based consultation amongst intended users should be required in order to: demonstrate that the proposed tool is identified as a need among many potential end users; explain how the proposed tool will be used and the value it will add to operations; and clarify the resources required to develop the tool and ensure its sustained use. If there isn't enough confirmed interest, then development should not be allowed to continue. The usage and maintenance of tools should be sustainable and practical, given field conditions. GICHD should also seriously question whether tools need to be developed from scratch, by conducting thorough market research beforehand to assess what existing off the shelf solutions could be adapted to meet user needs.

In terms of the type of mechanisms that GICHD could put in place to ensure that needs assessments and market research are conducted on a systematic basis, two options are proposed:

- Option 1: Develop a checklist, which Heads of Division are responsible for going through with each Advisor/Project Manager when new ideas for tools are discussed. The checklist would include required steps such as: needs assessment, market research, internal consultation, external stakeholder consultation, etc. It would then be up to the relevant Head of Division to ensure compliance.
- Option 2: Make these requirements part of the GICHD project workflow in SharePoint. Evidence of having conducted needs assessments, market research and stakeholder consultation for example, would need to be provided by the Advisor/Project Manager in order to advance in the workflow. The release of funding could be made conditional upon completion of some of these steps.

3.2 Tighten up the internal vetting process for new tools

GICHD is in the process of tightening up the vetting process for new projects. Projects are now subject to a '3C' process where they need to be justified on grounds of Compliance, Coherence and Compatibility. This has not yet been applied to the level of tools – but should. When GICHD Advisors/Project Managers propose the development of new tools/products, there should be a system in place that ensures that these proposals are

scrutinised carefully and rigorously.¹⁴ If there isn't sufficient confirmed interest and relevance for GICHD's broader mandate and strategic direction, GICHD should not invest resources. A major change in the initial project plan (such as the potential development of a new tool that was not initially intended) should 'reset' the vetting process of the whole project itself. Major variations from this in the form of new deliverables and/or new expenses should be subject to standard project executive board review. For tools/products with budgets over a certain threshold amount, say 250,000 CHF, the tool should be subject to a more widespread vetting process for example with all Heads of Division or with Policy and Operations Meeting (POM) members. There should also be clear red lines with regards to the maximum time allowed for research and development, and clear deadlines by which the tools must be ready for roll out, in order to avoid situations where considerable time and resources are invested in lengthy development processes.

3.3 Ensure systematic consultation with colleagues

Important progress has been made to improve internal collaboration and cross-divisional working, for example in the form of the inter-divisional thematic working groups. Continue in this regard by organising regular staff meetings as well as 'brown bag' lunches to facilitate greater sharing of information, consultation and collaboration on new tools/products. Given how critical it is to build internal awareness, capacity and buy-in for new tools/products, require GICHD Advisors/Project Managers to systematically solicit internal input at an early stage and periodically during the tool development process. When ideas for new tools are proposed, Heads of Division should ensure that other divisions are systematically consulted. This should be included as part of the checklist or workflow milestone put in place along with needs assessments and market research.

3.4 Prioritise and budget for external stakeholder consultation

Require Advisors/Project Managers to carry out broad-based external stakeholder consultation prior to, during and after the development of new tools, to ensure they are needs based and respond to user requirements. Include stakeholder consultation in the standard checklist developed for new tool development, making it mandatory (see Recommendation 3.1 above). Specific methods for ensuring relevant stakeholders are consulted will depend on the specificities of the tool/product being considered but may include: stakeholder consultation meetings/workshops, interviews, user focus groups, online surveys/forums and collaboration with specific organisations/national mine action programmes who will be involved in the testing and potentially in the roll-out of the eventual tool. Consultation processes will also help to raise awareness about the tool, and potentially generate demand and eventual use. Pilot testing a new tool/product with specific countries and organisations is one way of obtaining feedback, which can be used to modify and finalise the tool/product before launching it to a wider audience. When selecting pilot countries/organisations, it is important that GICHD put in place clear criteria, as resources can be wasted on piloting a tool in a country where the country or organisation has no real interest or commitment to eventually using it. Where possible, pilot countries should be among those that are part of GICHD's wider strategy of engagement to maximise synergies and complementarity with other GICHD support.

3.5 Develop clear tool/product workplans

Given the resources invested in developing new tools/products, Heads of Division should require Advisors/Project Managers to develop clear workplans, which should be submitted as part of the vetting process (see Recommendation 3.2 above) and which will help to ensure effective project management and oversight of the tool development process. These workplans should provide details regarding:

- Intended users

¹⁴ GICHD is currently exploring ISO qualification. As part of the qualification process, the issue of internal vetting of new tool and project ideas was raised as something that needs strengthening.

- Needs assessment and market research processes
- Internal and external stakeholder consultation methods
- Initial suggestions on how the tool/product should be launched for promoting its use (to be later developed with the Communications Team into an outreach plan if the tool/product is given the green light)
- Anticipated risks/challenges and mitigation measures
- Resources required broken down by key stages (for example consultation, development, testing, outreach, feedback, etc.)
- Timeframe for the overall process, with clearly identified milestones and deadlines

The take-up and use of GICHD tools and publications has tended to be higher in cases where the tools and publications were integral parts of GICHD's daily programming. For example, the AVM publication and tool was part of GICHD's wider advocacy work on AVM and was used to inform a political debate, while the Guide to Mine Action in Arabic is part of GICHD's broader outreach and capacity development support in Arabic-speaking countries. Similarly the ASM app is embedded within GICHD's wider programme of support on ammunition management, and where relevant, the roll-out of PriSMA will be linked to GICHD's strategic planning support provided to affected states. Therefore, ensure that planning of the product/tool is part of a wider project where the tool development is an output in a Theory of Change (ToC). Make sure it is well understood how this output contributes towards a longer-term outcome of a project so that the evaluation can be based on such a ToC and therefore conducted more efficiently. If a tool is developed for the sector, make sure the follow-up is performed once the tool has been used for a period of time (6 months, 1 year, 2 years) to validate the assumptions of the tool supporting a longer-term outcome. In the case of the tool being used directly by national mine action programmes as part of a wider support package, ensure a Memorandum of Understanding (MoU) is in place to evaluate, not only its usability, but an outcome resulting from it at a country level after a longer period of time (1-2 years). This could already be done with Colombia, which will be a pilot country for 2018 to test a country approach and a country comprehensive support package.

3.6 Prioritise the provision of sustained support to users

In addition to becoming more rigorous about deciding which tools to develop, there should also be an equal if not larger investment in ensuring GICHD has sufficient Advisors (or local partners) in place to help partners make the tools work and to achieve the results the tools are intended to deliver. If GICHD takes a decision to invest time and other resources into the development of a tool which will benefit mine action stakeholders, it goes without saying that the Centre should ensure that intended users have the support needed to use the tool as intended. This requires that GICHD prioritise the provision of support and ensure adequate human resources are in place to support tool usage. In situations where there is staff turnover, Heads of Division should ensure new Advisors/Project Managers are provided systematically with guidance and direction on what tools/products are strategic priorities for GICHD, and which need to continue to be prioritised and rolled-out. GICHD management should also ensure that support for the rollout and deployment of different tools/products is made available in relevant working languages. An enhanced focus on supporting tool users may require the streamlining the number of tools/products that GICHD produces. However, producing fewer tools/products but providing greater quality support to users would enable GICHD to achieve greater impact, as opposed to producing a wide variety of tools/products but providing insufficient or inconsistent support to users.

3.7 Establish a system to track tool usage and obtain user feedback

Put in place a system to track usage of tools. In the case of publications, it is understandable that it is virtually impossible to track who might read and use a publication downloaded from the GICHD website. However, in the case of a tool which is likely to require some level of

support to use it effectively, GICHD should develop a straight-forward system to track users, in order to generate data about usage, and user needs and requirements. Data on usage could be gathered at the level of Advisors, and then collated and circulated on a periodic basis by the Communications Team or through a Junior Professional Officer. Some of the newer IM tools already enable the tracking of tool usage. GICHD should also ensure that feedback is solicited from users on a systematic basis for all tools/products. Methods will need to vary depending on the tool/product in question but several options are possible, e.g. online user surveys, feedback forms/reports, in-person interviews/Skype calls, etc. Given the investment that GICHD makes in tool/product development, a commensurate investment should be made to obtain data about who uses these tools, how they are used and whether users have suggestions for improvement or problems with usage. This data should be used to help improve the utility and relevance of existing tools/products, and ensure quality support to users. Heads of Division should include feedback mechanisms in the checklist recommended in Recommendation 3.1 above, making it a mandatory step required for all Advisors/Project Managers for all new tools/products.

3.8 Develop tool outreach plans at an early stage for each tool/product

Given the investment made by GICHD in the development its different tools/products (for example, all of the tools under review cost between 285,000 CHF and 650,000 CHF), a commensurate investment is needed to ensure target users are aware of and have the support needed to use them effectively. Heads of Division should require Advisors/Project managers to develop clear outreach plans at the tool initiation stage. The Communications Team should put in place an outreach coordinator who is responsible for working with Advisors to develop outreach plans that identify, among other things:

- Intended users
- How the tool will eventually be used
- Most appropriate methods for informing intending users about the new tool and soliciting their input during the development and piloting phases, and once the tool has been launched
- The form, level and frequency of support that intended users will likely need in order to effectively use the tool

Outreach plans should identify where there is need to carry out higher-level advocacy with senior decision-makers within target organisations to ensure they are aware of new tools/products and in order to secure their buy-in and support for implementation. Tool outreach plans also need to consider how to sustain the interest of national authorities and organisations in a given tool and ensure they not only pilot it, but continue to use it. In some cases, building stakeholder awareness and buy-in can and should take place during the tool development process, for example through user focus groups and consultation meetings/workshops. Identify and create opportunities to partner with specific operators to pilot test tools and then roll them out to other country programmes. If target users feel they are part of the process, and have provided feedback, then they are likely to be more supportive of and willing to use the eventual tool/product.

3.9 Ensure Advisors/Project Managers track tool/product expenses

The Centre is in the process of working towards a system of output and outcome based budgeting. GICHD's financial system now facilitates the tracking of expenses for specific tools, which enables Advisors/Project Managers to ensure more efficient spending of tool budgets, and facilitates budget oversight by Heads of Division. At the stage when new tool ideas have been vetted and given the green light, Heads of Division should ensure that Advisors/Project Managers set up tool/product budgets in a matter that enables their specific costs to be tracked.

3.10 Commission external study on the use of MDD

As recommended in the 2007 GICHD evaluation of MDD and MRE, GICHD should commission a rigorous and independent study to test the use of MDD and definitively resolve at a scientific level the continued controversy about MDD effectiveness.¹⁵ Given GICHD's role within the mine action sector, the Centre can play a pivotal role in helping resolve, in an independent and evidence-based manner, an issue which continues to plague the sector. Depending on the findings of the study, GICHD and other organisations would be in a much better position to explore innovative tools and methodologies that enhance the use of MDD in land release.

3.11 Commission external evaluation of GICHD's Information Management Capacity Development approach

IMSMA was not included in the scope of this evaluation. However, as three of the 12 tools under review are IM tools that are either IMSMA^{NG} or IMSMA Core compatible, IMSMA and GICHD's approach to information management came up for discussion in several of the internal and external stakeholder interviews. Given GICHD's longstanding and continued investment in information management over the years, it is recommended that GICHD commission an external evaluation of its IM capacity development approach to assess its impact thus far, and to use the findings to inform GICHD's future strategic direction, especially as GICHD prepares for its next four year strategy period. As noted earlier in the report, GICHD has adjusted its IM strategy, moving from a customisation to configuration approach, which will mean reduced costs in terms of software development and a far greater investment in supporting users with tool implementation. An independent evaluation could prove useful in validating this new approach.

¹⁵ Dr Russell Gasser (Humanitarian Technology Consulting Ltd). Evaluation of the Geneva International Centre for Humanitarian Demining (GICHD) 2007. Mine Detecting Dogs and Mine Risk Education, Final Report, June 2007.

Summary of specific recommendations per tool

The following are the recommendations for each of the different tools and publications that are presented in Sub-Sections 2.1-2.14. They are summarised below for ease of reference.

External evaluation

Tool/product	Recommendations
ASM	<ul style="list-style-type: none"> • Improve the accounting system • Improve the link between the list of competencies and the IATG, and include hyperlinks to the IATG • Make access to safety distances easier • Include a direct link to the ammunition information system/munitions database • Include the hazard classification codes for non-NATO ammunition (as several lists are available, select and include at least one) • While the app includes blank forms for ammunition, useful to also include some sample completed forms • In the case of live ammunition, it would be useful in a training context to have guidance on which ammunition to use for different exercises • Add scenarios for different contexts and ways of working to reflect conflict-affected contexts such as Afghanistan, Libya, Sudan, Iraq, etc. • Make the app available on Windows/PCs and Apple Mac laptops, as well as offline • Having the option to print would be useful in cases/countries where tablets/smartphones are not available and a hard copy is needed • Provide more in-depth guidance regarding permanent storage of ammunition, and not just temporary
DMT	/
MARS	<ul style="list-style-type: none"> • Ensure training and technical documentation is available in relevant languages to support implementation
MINT	<ul style="list-style-type: none"> • Include mapping tools with statistics. • Add a Gantt chart function to make it more dynamic. • Provide users with permission to upload their databases to the server.
PriSMA	<ul style="list-style-type: none"> • Organise region-based and language-specific trainings. • In order to generate greater institutional buy-in and support for the eventual rollout of the tool, GICHD should carry out greater advocacy to senior managers in pilot/roll-out organisations to raise awareness about the tool and its value added.
Smart MDD	<ul style="list-style-type: none"> • Improve the system's signal to improve accuracy, by using a map of a base GPS station, in European contexts. • Change the direction of the camera on the dog's back to enable the dog handler to see the terrain/landscape. • Inclusion of a beacon drop and differential GPS to improve accuracy

Internal evaluation

Tool/product	Recommendations
AVM	<ul style="list-style-type: none"> Use the project management process and best practices developed under this project to inform the discussion on standardising PCM, including a well-established monitoring and evaluation part, communication and consultation part and outreach activities
Beyond the Battlefield Animation	<ul style="list-style-type: none"> Adapt according to feedback collected Include voice-over in various languages Ensure it is mainstreamed into the GICHD tool library Institutionalise it so that other staff member know about it and can use it for training Create an outreach plan and promote the tool Review expenditures and adjust an estimate per animation production in the Terms of Reference worksheet
Characterisation of Explosive Weapons study	<ul style="list-style-type: none"> Use the project management process and best practice developed under this project to inform the discussion on standardising the PCM, including a well-established communication and consultation part and outreach activities Regularly monitor the development of the simulator and the website; collect user feedback, ensure field tests of the simulator before a full roll out and incorporate lessons learned into the next steps
CMID	<ul style="list-style-type: none"> Merge CORD with CMID with possibilities of different views per category Re-evaluate which contractor to use for the implementation of the 5 phase plan Prioritise and fund the implementation in view of needs and demand for the tool Ensure a stable ownership and mitigate many hand-overs
CORD	<ul style="list-style-type: none"> Merge CORD with CMID with possibilities of different views per category Review and re-analyse, including a cost benefit analysis, the wiki-based open source approach versus manual maintenance Continue QA improvements Collect internal and external feedback to inform further development Plan and budget for monitoring and regular evaluations Liaise with Communications to define an outreach plan Improve internal communications on requests coming from GICHD "info" email Develop documentation and a workplan for a full year with specific milestones Review the purpose and a rationale for the project and its divisional affiliation including the team and ensure its clarity Review and ensure a clear target group for the tool purpose
e-Catalogue	<ul style="list-style-type: none"> Commission a more in depth evaluation since the tool has been in place for 20 years in both printed and online versions and has never been evaluated Make it a core task for the secondee as initially planned, increasing the time spent on the improvement and maintenance from 5-10% to 50% Budget for website improvements: make it a downloadable version Work on IED test facilities to include IED-related items in the catalogue Plan regular monitoring and increase outreach activities
Guide to MA in Arabic	<ul style="list-style-type: none"> Distribute the print copies of the publication directly to deminers and field staff Work on translations of other publications: CEW as planned, and others.
NTS Animation	<ul style="list-style-type: none"> Specify the purpose and target audience for each animation Adapt the level of detail depending on whether it is for training or donor outreach Prepare an outreach plan and promote further the use of the video If for training, make it compulsory part of the curriculum for GICHD/partner training If for donors, make it a part of GICHD's donor outreach strategy and identify channels to include it in donor-related events Review expenditure and adjust estimate per animation production in ToR worksheet
Publications (all)	<ul style="list-style-type: none"> Develop a tracking system for publications distribution to specified target groups; tracking system for number of used publications and for what purpose; number and costs of distributed versus in stock out-dated publications; and costs of not distributed but ordered publications

Annex 1: Terms of Reference (extract)

Objectives of the evaluation

External evaluations were once a regular feature to support and assist GICHD internal reflection and the validation of its work. Since 2012, the GICHD has not commissioned an external evaluation of a specific project (s) or a thematic area.

One key area of the GICHD's work evolves around the development of tools and products that can be used by various stakeholders in the mine action sector to enhance their work. The purpose of the envisaged evaluation is therefore to review the utility, level of adoption and complementarity of the available tools and products (including GICHD publications) that the GICHD has produced over the last five years (2012 to present).

The sectoral evaluation of GICHD tools, products and publications shall be centred on formative as well as summative objectives. These specific objectives can be summarized as follows:

1. Assess the relevance and the use of GICHD tools and whether they are 'fit for purpose'
2. Identify success and failure in the processes of engaging with partners, developing tools and their introduction into and adoption by the mine action sector
3. Reflect on the 'value for money' of each tool or product selected under this evaluation
4. Provide clear recommendations to help steer and improve future tool or product development and optimize the utility of existing GICHD tools

The evaluation report will be addressed to the management of the GICHD.

Scope of the evaluation

Within the timeframe and budget available, there are limits to the extent and depth into which the envisaged evaluation of GICHD tools, products and publications can go. In this regard, an evaluation at field level of the tools' and products' outcomes is feasible only to a certain degree. The below list illustrates the GICHD tools, products and publications to be reviewed in the sectoral evaluation. The tools and products are split between those suggested for external (through a consultant) vs. internal (coordinated by the GICHD RBM Systems Advisor) evaluation.

Tools / products for external evaluation by a consultant

	Tool/product	Division	Focal point	Notes
1	SMART MDD System	Risk Management	BOM	Dog Harness with camera, GPS, Wi-Fi System for TS
2	Ammunition Safety Management (ASM) Tool	Risk Management	RAJ	Ammunition Safety Management tool
3	Demining Management Tool	Risk Management	BRP (with input from BOM)	Management tool for demining operations
4	Mine Action Reporting System (MARS)	Information Management	MUS	Mine Action Reporting System esp. for mobile solutions
5	Mine Action Intelligence Tool (MINT)	Information Management	VIE	Web-based data analysis & indicator tracking tool
6	PRISMA	Information Management	PEW	Priority-Setting Tool for Mine Action

Tools / products for internal evaluation at GICHD (outside the scope of this evaluation)

	Tool/product	Division	Focal point	Notes
1	Animation - MORE	Strategies & Standards	WHR	Animation illustrating the residual contamination
2	Animation - NTS	Risk Management	BRP	Animation illustrating the NTS process
3	Cluster Munitions Identification (CMID) Tool	Risk Management	PAS	Reporting, Analysis & Prevention of Incidents in Demining
4	e-catalogue	Risk Management	LOJ	Catalogue on demining equipment (PPE, detectors, mechanical systems and underwater survey technology)
5	Collaborative Ordnance Data Repository (CORD)	Information Management / Risk Management	EVR (with input from COO)	Ordnance identification system enabling web-based search of landmine and other unexploded ordnance data
6	Anti-vehicle mines (AVM) incidents and impact monitoring	Policy	HOU	Interactive, quarterly updated map of AVM casualties
7	Publications	Communications	CHF	Involve a statistical analysis of publications

Tool assessed separately (outside the scope of this evaluation)

1	RAPID	Strategies & Standards	BOM	Deminer accident database
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In this selection, tools and products have been prioritised that are finalised, that have been put to use or that are in a 'Beta' phase¹⁶ of development. Therefore, the ones highlighted in dark grey below will not be considered within the scope of this evaluation.

1	Animation - TS	Risk Management		Still under development
2	TS Simulation	Risk Management		Small project to assist TS training
3	IMSMA Legacy/NG	Information Management		Subject of an earlier evaluation resulting in CORE development.
4	IMSMA Core	Information Management		IM solution addressing needs

¹⁶ A phase of initial field-setting tests to inform future development and finalisation

Annex 2: List of Key Informants

External evaluation

Key Informant Category	Tool/product	Name	Organisation	Job title
Current staff	General	Andrea Von Siebenthal	GICHD	Communications Manager
Current staff	General	Fanny Chavaz de Kalbermatten	GICHD	Communications Officer
Current staff	General	Guy Rhodes	GICHD	Director of Operations
Current staff	General	Pascal Rapillard	GICHD	Head - External Relations, Policy, Communications
Current staff	General	Stefano Toscano	GICHD	Director
Current staff	General	Stephane Decaillet	GICHD	Financial Controller
Current staff	ASM	John Rawson	GICHD	Advisor - Ammunition Safety Management
Current staff	ASM	Samuel Paunila	GICHD	Advisor - Ammunition Operations
Current staff	ASM	Andrew Grantham	GICHD	Advisor - Ammunition Operations
Current staff	MARS	Sulaiman Mukahhal	GICHD	Advisor - Information Management
Current staff	MINT	Elisabeth Vinek	GICHD	Information Management Support Coordinator
Current staff	MINT, MARS, PriSMA	Olivier Cottray	GICHD	Head - Information Management
Current staff	PriSMA	Wendi Pedersen	GICHD	GIS Solutions Advisor
Current staff	Smart MDD, ASM, DMT	Marc Bonnet	GICHD	Head - Risk Management
Current staff	General	Tammy Hall	GICHD	Head - Strategies and Standards
Current staff	PriSMA	Asa Massleberg	GICHD	Advisor - Strategies
Current staff	Smart MDD, DMT, MARS	Mikael Bold	GICHD	Advisor - Standards, Compliance and Legal Efficiency
Former GICHD staff	DMT	Pehr Lodhammar	UNMAS Iraq	Programme Manager
Former GICHD staff	DMT	Per Breivik	GICHD	Advisor - Land Release and Operational Efficiency
Contractor	Smart MDD	Frederic Guerne	Digger	General Manager and Founder
Contractor	DMT /MARS	Erik de Brun	Ripple Design	Principal Engineer and Partner
Contractor	PriSMA	Richard Holzmeier	Esri	Professional Services
Contractor	MARS	Sam Libby	Esri	Professional Services
Partner	Smart MDD	Havard Bach	APOPO/Former NPA	Head of Mine Action
Partner	Smart MDD	Zlatko Vezilic	NPA	Humanitarian Demining Programme Manager, Cambodia

Partner	Smart MDD	Hans Risser	NPA	Director of Operations
Stakeholder	Smart MDD/ASM	Richard Boulter	UNOPS	Global PSSM Advisor
Stakeholder	Smart MDD	Bob Keeley	DDG	Mine Action Global Specialist Lead
Partner	Smart MDD	Darvin Lisca	NPA Bosnia GTC	Operations Manager
Partner	ASM	Andy Hoole	UAE MoD	Technical Advisor
Partner	ASM	Nick Bray	Janus Iraq	Compliance and Coordination Supervisor
Partner	ASM	Bekim Kusari	DDG Libya	Explosive Ordnance Disposal Technician
Partner	ASM	Johnny Thomsen	ICRC	Regional Weapon Contamination Advisor for Asia
Partner	ASM	Ken Cross	Independent	Consultant Advisor
Partner	ASM	Jovana Carapic	Small Arms Survey	Associate Researcher
Partner	ASM	Peter Le Sueur	MAT Mondial	ASM Instructor
Partner	DMT	Leslie Levik	UNOPS (former Minewolf)	Vehicle Fleet & Workshop Manager
Partner	DMT	Marty Steel	RPS Energy -Turkey (former Minewolf)	Logistics Manager/Mechanical QA/QC Specialist
Partner	MARS	Carlos Bugueno Rivera	Chile CNAD	Head of IM
Partner	MARS	Sara	CMAA	Head of IM
Partner	MINT/PriSMA	Erkin Huseinov	UNDP Tajikistan	Information Management Advisor
Partner	MINT	David Hewitson	Fenix Insight	Head
Partner	MINT	Behruz Miralibekov	ICRC Tajikistan	Cooperation Officer
Partner	MINT	Evgen Grigorenko	Ukraine MoD and/or State Emergency Services	State Emergency Service of Ukraine
Partner	MINT	Armen Smbatyeva	Armenia	Armenian Centre for Humanitarian Demining and Expertise
Partner	PriSMA	Sri Mallikarachchi	Sri Lanka MA programme	Ran pilot; no longer with NMAC
Partner	PriSMA	Yesid Ramirez	DAICMA Colombia	IM Officer
Stakeholder	General	Roger Fasth	Danish Demining Group	Operations Director
Stakeholder	General	Ariana Calza-Bini	GMAP	Director

Internal evaluation

Key Informant Category	Tool/product	Name	Organisation
Current staff	All	Andrea Von Siebenthal	GICHD
Current staff	All	Fanny Chavaz de Kalbermatten	GICHD
Current staff	All	Guy Rhodes	GICHD
Current staff	All	Pascal Rapillard	GICHD
Current staff	All	Stephane Decaillet	GICHD
Current staff	CMID	Samuel Paunila	GICHD
Current staff	CMID	Marc Bonnet	GICHD
Current staff	CMID	Roland Evans	GICHD
Current staff	CMID	Helen Gray	GICHD
Current staff	CMID	Guy Rhodes	GICHD
Current staff	CMID	Erik Tollefsen	GICHD
Current staff	CMID	Havard Bach	GICHD
Current staff	CMID	Pehr Lodhammar	GICHD
Current staff	e-catalogue	Jorg Lobert	GICHD
Current staff	e-catalogue	Marc Bonnet	GICHD
Current staff	e-catalogue	Roland Evans	GICHD
Current staff	e-catalogue	Helen Gray	GICHD
Current staff	CORD	Roland Evans	GICHD
Current staff	CORD	Olivier Cottray	GICHD
Current staff	CORD	Daniel Erikson	GICHD
Current staff	CORD	Dionysia Kontotasiau	GICHD
Current staff	CORD	Elisabeth/Wendi	GICHD
Current staff	NTS Animation	Marc Bonnet	GICHD
Current staff	NTS Animation	Helen Gray	GICHD
Current staff	MORE Animation	Tammy Hall	GICHD
Current staff	MORE Animation	Rob White	GICHD
Current staff	MORE Animation	Rory Logan	GICHD
Current staff	MORE Animation	David G.	GICHD
Partner	CMID	Sheila Mweemba	ISU CCM
User	CMID	n/a	
Donor	CMID	n/a	
Consultant	CMID	n/a	
Partner	e-catalogue	Not provided	
User	e-catalogue	Not provided	
Donor	e-catalogue	Not provided	
Consultant	e-catalogue	Not provided	
Partner	CORD	JMU/not reached	
User	CORD	James Jackson	New York State Police / Special Ordnance

			Disposal
User	CORD	Mike van Zyl	Detech Global
Donor	CORD	n/a	
Consultant	CORD	n/a	
Partner	AVM	Email SIPRI	SIPRI
User	AVM	Rosie Keane (in writing)	Department of Foreign Affairs and International Trade, Ireland
User	AVM	Lou Maresca (in writing)	ICRC