



NATIONAL CAPACITIES AND RESIDUAL CONTAMINATION

CROATIA



GENEVA INTERNATIONAL CENTRE FOR HUMANITARIAN DEMINING

The Geneva International Centre for Humanitarian Demining (GICHD) works towards reducing risks to communities stemming from explosive ordnance, with particular focus on mines, cluster munitions, other explosive remnants of war and ammunition storage.

The Centre helps develop and professionalise the sector for the benefits of its partners: National and local authorities, donors, the United Nations, other international and regional organisations, non-governmental organisations, commercial companies and academia. It does so by combining three distinct lines of service: field support focused on capacity development and advice, multilateral work focused on norms and standards, and research and development focused on cutting-edge solutions.

Based at the Maison de la paix in Geneva, the GICHD employs around 70 staff members from 23 different countries. This makes the GICHD a unique and international centre of expertise and knowledge. Our work is made possible by core contributions, project funding and in-kind support from more than 30 governments and organisations.

National Capacities and Residual Contamination | Croatia, GICHD, August 2019

The designation employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the GICHD concerning the legal status of any country, territory or armed groups, or concerning the delimitation of its frontiers or boundaries.

Contents

Abbreviations and acronyms	4
Executive summary	5
Key findings: good practices, main challenges and lessons learnt	6
Good practices	6
Main challenges and lessons learnt	6
Introduction.....	7
Background to the study	7
Overview of country context	7
Origin, nature and scope of the mine/explosive remnants of war contamination problem	8
Institutional structures	11
History of the process of developing and transitioning to national capacities	11
The Croatian Mine Action Center (CROMAC)	12
The Government Office for Mine Action (GOMA) and the Ministry of Defence	12
International cooperation and the Center for Testing, Development and Training (HCR-CTRO) ..	13
Strategic planning.....	14
Legislation and standards	15
Mine risk education	16
Quality management	17
Operators and partner institutions	17
Addressing residual contamination	19
What is residual contamination?.....	19
Nature and extent of residual contamination in Croatia.....	19
Existing national institutions and capacity to address residual contamination	19
Information and data management.....	20
The future of CROMAC and the GOMA	21
Demobilisation of deminers and future of commercial companies	21
Sustainability of funding	22
Concluding remarks	24
Annex I: People interviewed	25
Annex II: Terms of Reference – National capacities and residual contamination country case study Croatia	26

Abbreviations and acronyms

APMBC	Anti-Personnel Mine Ban Convention
BHMAC	Bosnia and Herzegovina Mine Action Centre
CCM	Convention on Cluster Munitions
CHA	Confirmed hazardous area
CROMAC	Croatian Mine Action Center
EO	Explosive ordnance
EOD	Explosive ordnance disposal
EU	European Union
ERW	Explosive remnants of war
GICHD	Geneva International Centre for Humanitarian Demining
GOMA	Government Office for Mine Action
HCR-CTRO	Croatian Mine Action Centre for Testing, Development and Training
IMAS	International Mine Action Standards
MDD	Mine detection dogs
MIS	Mine information system
MoD	Ministry of Defence
MoI	Ministry of the Interior
MRE	Mine risk education
NGO	Non-governmental organisation
NATO	North Atlantic Treaty Organisation
NMAS	National mine action standards
NPA	Norwegian People's Aid
PM/WRA	U.S. Department of State Bureau of Political-Military Affairs, Office of Weapons Removal and Abatement
QA	Quality assurance
QC	Quality control
SHA	Suspected hazardous area
SOP	Standard Operating Procedure
UN	United Nations
UNDP	United Nations Development Programme
UXO	Unexploded ordnance

Executive summary

The objective of this case study is to document Croatia's experience of developing national systems and capacities to address residual contamination and to identify and present good practices and lessons learnt.

Croatia is affected by explosive ordnance (EO) contamination that consists of mines and, to a lesser extent, explosive remnants of war (ERW), including cluster munition remnants, caused by the legacy of four years of armed conflict associated with the break-up of the former Socialist Federal Republic of Yugoslavia in the early 1990s.¹ During these four years, mines were laid by all warring parties along frequently moving front lines. Items of EO was placed in strategically important areas such as railway lines, power stations, gas and oil pipelines and military installations.²

In December 1997, Croatia signed the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (APMBC) which was ratified by the Croatian parliament on 28 May 1998. In the same year, the Croatian Mine Action Center (CROMAC) was established, marking the beginning of an integrated and systematic approach to the issue of EO hazard contamination. Over the past 20 years, Croatia has developed an internationally recognised mine action programme and cooperated internationally to share its knowledge and expertise with other EO-affected countries. On 30 November 2018, the Croatian government passed a legislative amendment to dissolve CROMAC and to integrate it into the Ministry of the Interior (Mol). On 1 January 2019 CROMAC was disbanded as an independent government agency and integrated into the newly established civil defence authority within the Mol. However, CROMAC kept its name under the new structure of government agencies.

Shortly afterwards, the government decided to also merge the Government Office for Mine Action (GOMA) with the Ministry of the Interior. While the structural and institutional measures prescribed within these legislative amendments are still in progress, the Mol has announced that it took over all responsibilities and tasks as well as the staff of both organisations from 1 January 2019.

By engaging in discussions on the future management of mine action activities well ahead of the completion deadline, Croatia has demonstrated that planning for a scenario of residual contamination forms part of a long-term vision for the mine action programme and includes the provision of social safety nets through pension schemes or new employment opportunities for deminers. Croatia has established various mechanisms to manage the reactive phase of survey and clearance operations. Such activities have been undertaken in close cooperation between police explosive ordnance disposal (EOD) teams, the Ministry of the Interior and CROMAC.

As of December 2018, the remaining suspected and confirmed contaminated areas in Croatia covered an area of 365 km.^{2,3} EO continues to be found in 55 municipalities, in 8 out of 21 Croatian counties, and a total of 11.3% of the population of Croatia lives in the vicinity of suspected hazardous areas (SHAs) and confirmed hazardous areas (CHAs).^{4,5} In its second Article 5 extension request, approved at the 17th Meeting of States Parties of the APMBC in November 2018, Croatia reaffirmed its commitment to fulfilling its obligations under the APMBC and stated that it has sufficient mine action capacity to address the remaining contaminated land by 2026.⁶

The inclusion of CROMAC and the GOMA into the Mol as part of the restructuring of government agencies for cost-saving and streamlining purposes will require careful and transparent planning and

¹ Clearing the Mines 2018: Mine Action Review, p. 85.

² Second APMBC Article 5 deadline extension request, 29 March 2018, p. 9.

³ The Croatian Mine Action Center (2018): Mine Situation. <https://www.hcr.hr/en/kapaciteti.asp> (accessed 13 December 2018).

⁴ The Mol uses the terms suspected and confirmed contamination. For the purpose of this study however, the IMAS terms SHA and CHA are used.

⁵ Presentation by CROMAC at the 17th Meeting of States Parties of the APMBC, 26-30 November 2018.

⁶ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 39.

management, particularly given the short timeline involved. Care should be taken to ensure that the programme does not lose momentum at a time when completion is in sight. The Croatian mine action programme has a finite mandate (with a completion date of 2026) and is developing a national mine action programme to guide progress towards this goal. In this context, continuity, stability and political commitment are the prerequisites to achieving completion. In addition, the maintenance of a consolidated and up-to-date information management system is key to ensuring a sustainable and effective risk management structure after the proactive clearance effort has been completed.

Besides documenting the past and present of Croatia's mine action programme, this case study highlights the importance of a participatory and transparent long-term strategic planning process, including a comprehensive and properly implemented exit strategy.

Key findings: good practices, main challenges and lessons learnt

Good practices

- Planning ahead: discussions regarding the future of the Croatian mine action programme have started several years before the new APMBC Article 5 completion deadline.
- Special provisions for retirement: social security and alternative employment options for current and former deminers have been introduced.
- Mine risk education activities include former war veterans and will be continued even after proactive clearance efforts have been completed.
- National capacity: EOD callouts and spot tasks are already being managed by the Croatian police, in cooperation with CROMAC and the MoI in the case of items that are found in former hazardous areas.
- Minefields.info application: educational tool for the Croatian public, detailed mapping and immediate referral to the Croatian police in case EO is encountered by a member of the community.
- Research and development: strong collaboration with the Croatian Mine Action Center for Testing, Development and Training (HCR-CTRO) and international exchange of best practice.
- Role model for national long-term risk management strategies in the region: the Croatian mine action programme/strategies can be an example to neighbouring countries in developing their long-term risk management of explosive ordnance.
- The Croatian mine action programme has been able to successfully mobilise external support by understanding respective partner priorities, requirements and constraints and has tailored its resource mobilisation interventions accordingly.

Main challenges and lessons learnt

- The ongoing institutionalisation of CROMAC and the GOMA into government structures is an important initiative that requires the right amount of time and effort. There is a risk that this development could adversely affect the current momentum to achieve the set timeline for completion, if relevant stakeholders are not adequately consulted.
- The sustainability of project teams managing EU-funded demining projects has to be maintained in order to ensure stability and the continuity of donor commitments.
- Some of the provisions introduced by the 2015 Mine Action Law, i.e. with regard to quality control (QC), continue to pose some challenges to the efficient and effective implementation of mine action operations.
- There is a need for a concentrated and structured focus on consolidating databases and information management processes.

Introduction

Background to the study

This case study forms part of a broader Geneva International Centre for Humanitarian Demining (GICHD) study on national capacities and residual contamination. It is based on a combination of desk research and a country visit to Croatia in October 2018, during which a series of interviews with stakeholders involved in Croatia's mine action programme were conducted. This was followed by remote follow-up with the Croatian Mine Action Center (CROMAC) and the Government Office for Mine Action (GOMA), meetings in the margins of the 17th Meeting of States Parties of the Anti-Personnel Mine Ban Convention (APMBC) and a final, shorter visit in April 2019. A full list of the meetings and interviews held during the mission is available in Annex I.

The purpose of this report is to document Croatia's experience with developing a national clearance capacity and management systems to address residual contamination, and to identify and present good practices and lessons learnt. The research can be used to provide guidance on national priorities in mine action, and to provide information about the role of commercial companies in the demining sector. The terms of reference for the national capacities and residual contamination case study are available in Annex II.

Overview of country context

Croatia is located within central and south-eastern Europe, with a coastline on the Adriatic Sea, and has a population of approximately 4.1 million.⁷ Croatia is a country with a very high standard of living and in terms of health, education and income, it was ranked 46th out of 189 countries on the 2017 United Nations (UN) Human Development Index.⁸

Croatia declared independence from Yugoslavia in June 1991, which was followed by a four-year armed conflict, referred to by Croatia as the Homeland War. For much of the 1990s, democratically elected President Franjo Tudjman ruled the country in a manner that some considered tended towards an authoritarian style of government. After his death in 1999, the country embarked on a transition from a semi-presidential to a parliamentary system. Croatia became a member state of the United Nations after its declaration of independence in May 1992 and joined the North Atlantic Treaty Organization (NATO) in April 2009. On 1 July 2013, Croatia joined the European Union (EU) as the 28th member state.⁹

Since attaining independence, Croatia has built its security sector in two phases: during the first phase, the country built its armed forces and intelligence services almost from scratch in an environment marked by war and one-party rule. In the second phase, introduced following the change of government in 2000, Croatia embarked on an ambitious programme of security sector reform, adapting the sector to the country's new security situation and building the legal, conceptual, and institutional foundations for democratic control and oversight.¹⁰

After a period of protracted economic recession which lasted for six years, Croatia's economy began to grow again, notably after joining the EU in mid-2013. The new access to the EU's internal market as well as global value chains, combined with the strong performance of Croatia's tourism industry, accelerated economic growth and lowered the country's poverty rate. However, the ongoing

⁷ The World Bank (2018): Croatia: Population, total. Available at: <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=HR> (accessed 1 November 2018).

⁸ Human Development Indices and Indicators (2018): 2018 Statistical Update. Croatia. Available at: http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/HRV.pdf (accessed 1 November 2018).

⁹ BBC News (2018): Croatia Country Profile. Available at: <https://www.bbc.com/news/world-europe-17212572> (accessed 1 November 2018).

¹⁰ Vesel, S. (2004): Croatia. In: Cole, E., Donais, T. and Fluri, P. H. (eds.): *Defence and Security Sector Governance and Reform in South East Europe Self-Assessment Studies: Regional Perspectives*. Baden-Baden: Nomos Verlagsgesellschaft.

outmigration of labour and slow pace of structural reforms risk undermining Croatia's economic development.¹¹

Croatia's political system is structured as a parliamentary republic.¹² Currently, the centre-right Croatian Democratic Union (HDZ) holds a majority in the parliament and, since 19 February 2015, Kolinda Grabar-Kitarović serves as the first female president of Croatia.

Origin, nature and scope of the mine/explosive remnants of war contamination problem

Croatia is affected by mines and, to a lesser extent, by other explosive ordnance (EO) including cluster munition remnants, the legacy of 4 years of armed conflict associated with the break-up of the former Socialist Federal Republic of Yugoslavia in the early 1990s.¹³ During these 4 years, mines were laid by all warring parties along frequently moving front lines. EO was placed in strategically important areas including railway lines, power stations, gas and oil pipelines and military installations.¹⁴

The use of anti-personnel mines along with the general consequences of war resulted in the presence of significant numbers of EO, with contamination recorded in 14 out of 21 of Croatia's counties. EO contamination has primarily caused economic, developmental and social implications, and has affected large agricultural areas, infrastructure, forest areas and river banks that have become inaccessible to local communities.¹⁵

In December 1997, Croatia signed the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (APMBC) which was ratified by the Croatian parliament on 28 May 1998. In 2002, Croatia fulfilled its commitment to landmine stockpile destruction, banned the production, marketing and usage of landmines and started making a strong political plea for non-usage of landmines at international level.¹⁶

After the entry into force of the APMBC, Croatia's combined suspected hazardous areas (SHAs) and confirmed hazardous areas (CHAs) were initially estimated to amount to about 5,980 km². Through the application and continuous improvement of survey methods, this area was reduced to 1,147 km² in 2005. As of December 2018, the remaining SHAs and CHAs cover an area of 365 km².¹⁷ EO continues to be found in 55 municipalities in 8 out of 21 Croatian counties, and a total of 11.3% of the population of Croatia lives in the vicinity of an SHA or a CHA.¹⁸ *Figure W* below indicates historical SHAs in Croatia.

When systematic demining started in Croatia, the first priority was to clear land for the reconstruction of houses, transport infrastructure, power grids and water supply systems. This has been completed successfully and as of 2018, 89.7% of SHAs reportedly remain on forested land, much of which is protected as a national park or Natura 2000¹⁹ area. A further 9.9% of mined areas are located on agricultural land, and the remaining 0.4% on other areas (water, marshland, and

¹¹ The World Bank in Croatia (2018): Country Snapshot. Available at: <http://pubdocs.worldbank.org/en/601461539205316770/Croatia-Snapshot-Oct2018.pdf> (accessed 1 November 2018).

¹² Central Intelligence Agency (2018): The World Factbook: Croatia. Available at <https://www.cia.gov/library/publications/the-world-factbook/geos/hr.html> (accessed 14 December 2018).

¹³ Clearing the Mines 2018: Mine Action Review, p. 85.

¹⁴ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 9.

¹⁵ Ibid.

¹⁶ The Croatian Mine Action Center (2018): Mine Action in Croatia. Available at: <https://www.hcr.hr/en/protuminOsnove.asp> (accessed 1 November 2018).

¹⁷ The Croatian Mine Action Center (2018): Mine Situation. <https://www.hcr.hr/en/kapaciteti.asp> (accessed 13 December 2018).

¹⁸ Presentation by CROMAC at the 17th Meeting of States Parties of the APMBC, 26-30 November 2018.

¹⁹ Natura 2000 is an "ecological network consisting of areas important for the conservation of endangered species and habitat types of the European Union". Second APMBC Article 5 deadline extension request, 29 March 2018, p. 36.

coast).²⁰ A large part of the prevailing mined area includes mountainous terrain and has not been accessed for twenty years - which will pose challenging conditions for clearance.²¹

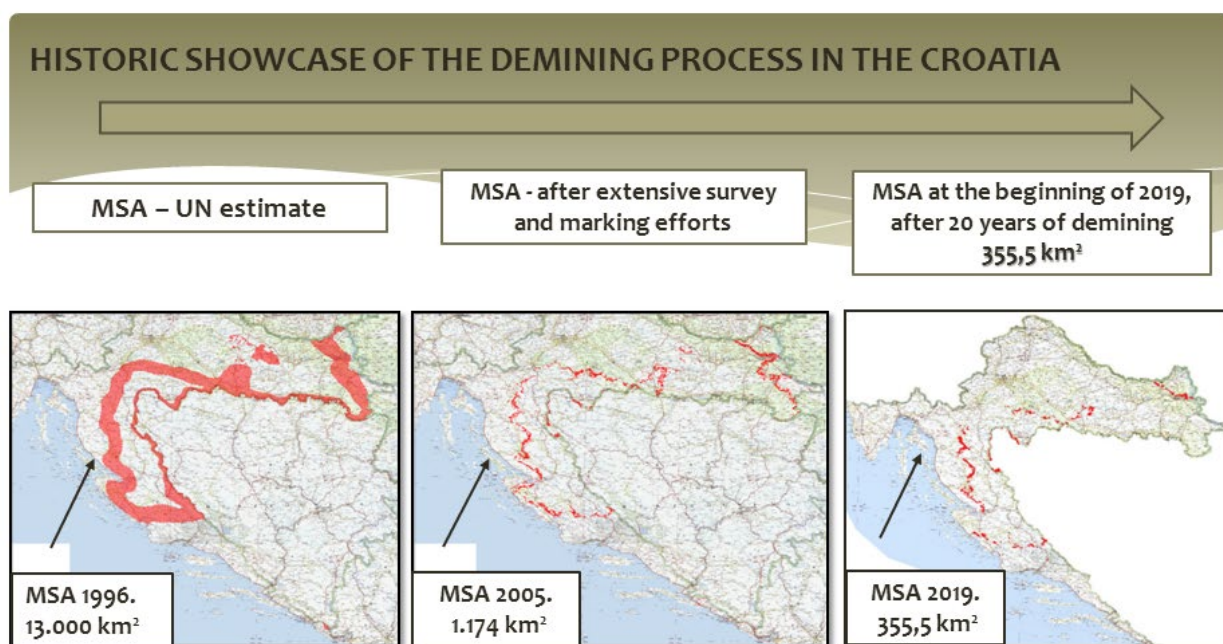


Figure 1: Historic showcase of mine suspected areas (MSA) in Croatia.
Source: CROMAC

Croatia officially²² succeeded in meeting its objective to clear all areas intended for agriculture by the end of 2018 and is committed to demine all known minefields on Croatian territory by 2024. In March 2018, Croatia submitted its second APMBC Article 5 deadline extension request. The requested period runs from 1 March 2019 to 1 March 2026. The request was approved at the 17th Meeting of States Parties of the APMBC in November 2018.²³

Croatia became a signatory to the Convention on Cluster Munitions (CCM) on 3 December 2008, and ratified the convention on 17 August 2009. It was amongst the first 30 ratifications that triggered the convention's entry into force on 1 August 2010. Under Article 4 of the CCM, Croatia is required to destroy all cluster munition remnants in areas under its jurisdiction or control as soon as possible, but no later than 1 August 2020. CROMAC's national work plan had aimed to complete clearance of cluster munition remnants contaminated areas by the end of 2018,²⁴ well in advance of its Article 4 deadline.²⁵ At the time of writing less than 0.26 km² remain and the MoI anticipates that this will be cleared in 2019. On 31 July 2018, Croatia completed its obligations under Article 3 of the CCM pertaining to storage and stockpile destruction.

²⁰ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 37.

²¹ Interview with Nataša Mateković, CROMAC, Sisak, 18 May 2017. In: Clearing the Mines 2018: Mine Action Review, p. 86.

²² There are still some micro locations remaining that are structured as agricultural land, but due to their small surface size these locations could not be cleared in independent projects or be attached to some of the larger project areas in 2018. Therefore, clearance of these areas will be the subject of activity in 2019.

²³ Anti-Personnel Mine Ban Convention: 17th Meeting of States Parties Documents. Final Report. Available at: <https://www.apminebanconvention.org/fileadmin/APMBC/MSP/17MSP/17MSP-final-report-advance-copy-en.pdf> (accessed 21 December 2018).

²⁴ Clearing Cluster Munition Remnants 2018: Mine Action Review, pp. 28.

²⁵ The Convention on Cluster Munitions (2018): Croatia completes the destruction of its stockpiles of cluster munitions. Available at: <http://www.clusterconvention.org/2018/07/31/croatia-completes-the-destruction-of-its-stockpiles-of-cluster-munitions/> (accessed 20 December 2018).

Croatia has ratified the Convention on Certain Conventional Weapons (CCW) and is bound by CCW Amended Protocol II and Protocol V. It is also a State Party to the Convention on the Rights of Persons with Disabilities (CRPD).

Institutional structures

History of the process of developing and transitioning to national capacities

During the Homeland War and in its aftermath, humanitarian demining in Croatia was undertaken by the Croatian Army, Croatian Special Police, civil protection, United Nations (UN) engineering troops, the state-owned demining company AKD MUNGOS, and private companies.²⁶ Since 1998, mine action has been led by civilian institutions.

In 1995, the United Nations Protection Force (UNPROFOR) Command established a mine action centre with the aim of supporting UNPROFOR operations, but it was not authorised to establish a humanitarian demining programme for Croatia. In June 1996, the UN Department for Humanitarian Affairs took over the responsibility for the mine action centre from the UN Department of Peacekeeping Operations, with the mandate to coordinate international assistance to the Croatian mine action programme and to develop Croatia's mine clearance capacity.²⁷

As a result of established contacts with international financial institutions such as the World Bank, the Croatian parliament passed the Law on Humanitarian Demining in March 1996. The law stipulated that the Ministry of the Interior (Mol) would implement a demining plan, with demining to be carried out by a commercial company established by the Croatian government. In accordance with the law, quality assurance (QA) tasks would only be carried out by authorised representatives from the Mol. In June 1996, the Croatian government established the state-owned commercial company, AKD MUNGOS, to carry out such demining operations.²⁸

The Croatian government passed a decree in February 1998 to establish the Croatian Mine Action Center (CROMAC), responsible for the management of all mine action operations in Croatia. The UN Office for Project Services (UNOPS) provided management services to CROMAC until January 1999 when, in recognition of the existence of a functioning CROMAC, the programme changed its name to the UN Mine Action Assistance Programme (UNMAAP) and continued to work on capacity-building activities with CROMAC. In 1999, the Croatian government and the UN signed a Memorandum of Understanding to outline the intention of transferring the responsibility for the support of the Croatian mine action programme to the United Nations Development Programme (UNDP). Since 2003, the programme has operated independently and without the assistance of the UNDP.²⁹

The establishment of CROMAC marked the beginning of an integrated and systematic approach to the explosive ordnance (EO) contamination issue in Croatia. Since its creation, CROMAC has developed into a well-established and internationally recognised mine action institution. This was reflected when Croatia presented its Article 5 deadline extension request at the 17th Meeting of APMBBC States Parties, as other states and non-governmental organisations (NGOs) commended Croatia for its notable accomplishments in mine action.

Multiple laws and legal reviews have since been ratified by the Croatian parliament in order to keep an effective and efficient mine action architecture in place. On 1 January 2019, through Amendments of the Act on Mine Action, CROMAC was disbanded as an independent government agency and integrated into the newly established civil defence authority within the Mol. CROMAC however, kept its name under the new structure of government agencies.

²⁶ Second APMBBC Article 5 deadline extension request, 29 March 2018, p. 12.

²⁷ Second APMBBC Article 5 deadline extension request, 29 March 2018, p. 23.

²⁸ Ibid.

²⁹ Second APMBBC Article 5 deadline extension request, 29 March 2018, p. 24.

The Croatian Mine Action Center (CROMAC)

Although CROMAC no longer exists as an independent government agency, for the purpose of this study it is crucial to illustrate its evolution and considerable contribution to the mine action sector in Croatia.

CROMAC acted as the umbrella organisation for mine action coordination in Croatia and was responsible for the following tasks:

- Collecting, processing, and recording of data on EO contamination;
- Non-technical survey, technical survey and clearance (including the drafting of demining and implementation plans for technical survey operations);³⁰
- Marking of contaminated areas;
- Quality control of clearance operations;
- Issuance of certificates for the exclusion of a demined area from previously marked hazardous areas;
- Mine risk education activities;
- Cooperation with national and international mine action stakeholders.³¹

Some of these activities will be elaborated further in the following sections.

CROMAC was accountable to the government of Croatia through the Managing Board (formerly known as the CROMAC Governing Council) whose members were representatives of relevant ministries and stakeholders, as appointed by the government for a four-year term. Due to CROMAC's integration into the Mol, the Managing Board no longer exists. The Managing Board however, acted as a mediator between the government of Croatia and relevant ministries involved in explosive hazard management as part of their scope of activities, and CROMAC.³² It was responsible for the adoption of the mine action programme, the supervision of annual demining plans, and was part of the APMBC Article 5 extension request preparatory work.

The Government Office for Mine Action (GOMA) and the Ministry of Defence

In April 2012, the government of Croatia established the GOMA, reporting to the Office of the Prime Minister, to function as a national and international focal point for coordination of all mine action-related activities, to strengthen coordination among stakeholders and funding agencies, and raise awareness about EO contamination.³³ The GOMA no longer exists, as the Croatian government decided to also merge the GOMA with the Mol as of 1 January 2019.

The GOMA was a governmental expert body dealing with the political dimensions of mine action, whereas CROMAC managed the technical aspects.³⁴ As such, the GOMA effectively operated as the national mine action authority, as foreseen by International Mine Action Standards (IMAS). The GOMA also included a department for European Union (EU) funds, responsible for mobilising and accessing EU funding for the Croatian mine action sector.³⁵

The GOMA participated in intergovernmental cooperation in the field of mine action and cooperated with different authorities to advance the implementation of obligations under international treaties and disarmament conventions. Since its creation, it has significantly elevated the political status of

³⁰ In survey operations, a total of seven teams are deployed in Croatia, covering all seven geographical regions. The survey teams are not moved around from area to area, in order to maintain close contact with communities.

³¹ Second APMBC Article 5 deadline extension request, 29 March 2018. p. 24.

³² Ibid.

³³ Interviews with Dijana Pleština, Director, Office for Mine Action of the Government of Croatia (OMA), in Geneva, 23 May 2012 and 10 April 2014; and email from Miljenko Vahtarić, CROMAC, 4 July 2013. In: *Clearing the Mines 2018: Mine Action Review*, p. 86.

³⁴ Email from Miljenko Vahtarić, CROMAC, 3 June 2016. In: *Clearing the Mines 2018: Mine Action Review*, p. 86.

³⁵ Interview with Miljenko Vahtarić, CROMAC, in Geneva, 11 April 2013; and email, 4 July 2013. In: *Clearing the Mines 2018: Mine Action Review*, p. 86.

mine action in Croatia.³⁶ The GOMA also played a vital role in the APMBC Article 5 extension request preparatory work.

As a result of the document produced by the GOMA “Concept Note – Mine Action and Integrated Development in the Republic of Croatia”, the European Commission gave its support and approval for humanitarian demining to be accepted as a precondition for economic and social development in Croatia and included related funding in its operational programmes (i.e. the Competitiveness and Cohesion Programme for Croatia).³⁷

Demining activities of military facilities and any area under the control of the military are conducted by the Demining Battalion of the Engineering Regiment, according to plans drawn up by the Ministry of Defence (MoD).³⁸ Stakeholders from the MoD are equally involved in the formulation of the national mine action programme as well as the annual mine action plans. The capacity of the Demining Battalion entails five platoons with 30 persons each and according to the MoD this capacity has to be maintained in order to comply with the completion goal of 2026.

The Demining Battalion and CROMAC have established a cooperative and close working relationship and acknowledge that effective civil-military cooperation is the basis for achieving the stated results. All clearance reports as well as maps of currently and previously cleared sites by the Demining Battalion are shared with the MoI, which digitises and consolidates the information within its database.

International cooperation and the Center for Testing, Development and Training (HCR-CTRO)

Over the past 20 years, Croatia has developed an internationally recognised mine action programme and cooperated internationally to share its knowledge and expertise with other mine-affected countries. CROMAC has provided active assistance to other mine action centres in the region and beyond and has initiated joint projects and common approaches towards the donor community.

In October 2018, CROMAC participated in the conference, “Humanitarian Demining in Bosnia and Herzegovina – Road to Completion” and engaged in preliminary discussions on a joint exit strategy for mine-affected countries in the Balkans region. Although neighbouring countries such as Montenegro, Bosnia and Herzegovina, and Serbia face different contexts and types of explosive hazard contamination, Croatia is committed to sharing its knowledge in the development of a regional strategy for completion of proactive mine clearance.

CROMAC has worked closely with the Bosnia and Herzegovina Mine Action Centre (BHMAC) on mine clearance of border areas. Whilst still subject to significant contamination, the last years have seen an increase in migratory movements through these areas, a topic of concern for both BHMAC and CROMAC. As illegal migration routes lead through contaminated land, CROMAC and BHMAC have cooperated on raising awareness on the topic amongst affected communities.

HCR-CTRO was established in 2003 as the first institution in Croatia to conduct research, development and training in the field of humanitarian demining. HCR-CTRO is further involved in developing new technologies for the mine action sector, as well as to test and certify demining equipment.³⁹ It has developed partnerships with international mine action stakeholders and provided training for numerous national mine action centres. In the long term, HCR-CTRO will have an important role in serving as an international model of expertise and knowledge centre, and will most likely keep its role as an independent mine action expert organisation in Croatia.

³⁶ APMBC Article 7 Report, 2017, Form A.

³⁷ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 16.

³⁸ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 43.

³⁹ More information on HCR-CTRO can be accessed here: <http://ctro.hr/en/>

Since 2004, CROMAC and HCR-CTRO, together with the GOMA from 2013, have organised annual international expert symposiums on mine action. The symposiums provide a platform for representatives from national mine action centres, the UN, NGOs, scientific and research institutions, demining companies, equipment manufacturers and other mine action stakeholders to exchange good practices, and lessons learnt.⁴⁰ The 16th International Symposium on Mine Action took place in April 2019 and included sessions focusing on the link between demining of border areas and migrant routes, new technologies in mine action as well as challenges and solutions for the demining of forests. These issues are in accordance with the topics the Croatian mine action programme currently faces.

Strategic planning

The Croatian National Mine Action Strategy 2009-2019 guides the strategic planning of the Croatian mine action programme. This mine action strategy was drafted by CROMAC in consultation with relevant ministries, the GOMA, the National Protection and Rescue Directorate as well as local administration and self-administration bodies and was adopted by the Croatian parliament. Based on the strategy as well as operational and financial parameters, CROMAC drafts the national annual mine action plans which outline planned mine action activities, name, size (surface area), type of activity and the estimated value thereof, information on the overall status of hazardous areas as well as the necessary funding to realise set objectives. The plans are developed in consultation with a wide range of stakeholders, including the counties and communities, NGOs, and government ministries. The Ministry of Defence (MoD) contributes to the annual plans by providing information on the clearance plans of military properties as well as the required funding.⁴¹

The prioritisation of survey and clearance tasks is a highly consultative process which is driven at town and municipality levels, the basic geographical administrative units in Croatia. The eight counties affected by EO contamination, including 55 towns and municipalities, are divided into geographically structured entities (polygons) in order to simplify the planning of humanitarian demining tasks. The counties collect information from the communities to inform local priority setting through county demining coordinators, who communicate these priorities through official channels (via mayors) to CROMAC for integration in the annual demining plans. According to the proposed geographical entities, the counties issue a priority list per municipality and polygon (for a schematic overview of the prioritisation system, and which actors are involved in its funding and approval process, see *Figure X* below).⁴²

CROMAC contractually assigns authorised legal entities for demining, mechanical surface preparation and surface inspection in accordance with public procurement procedures. As outlined above, assigned activities are spelled out by the annual plan. In exceptional cases, i.e. urgent threat to public safety, protection of health, life, the environment and property, the list of demining tasks is expanded to include additional priorities.

Croatia's public procurement laws prescribe the parameters which determine who gets awarded clearance tenders: (1) economically best bid (which accounts for 90% of the final decision) and (2) the years of experience of the worksite manager. CROMAC states that past evidence indicates that the quality of demining activities is higher where the worksite leader has more years of experience. The set price per square metre is based on the specific conditions of the land (including vegetation and environmental factors) which is then multiplied by the geographical surface. All mine clearance tenders are announced in the EU's procurement bulletin.⁴³

⁴⁰ Information on the last mine action symposium can be found here: <http://www.ctro.hr/en/news/news-archive/360-mine-action-2018>

⁴¹ Second APMB Article 5 deadline extension request, 29 March 2018, p. 26.

⁴² Second APMB Article 5 deadline extension request, 29 March 2018, p. 26.

⁴³ According to Neven Karas, Assistant Director of the General Affairs Sector of CROMAC, no international company has made an offer for tender in the last 10 years. Thus, all mine clearance tenders have been awarded to Croatian commercial companies. Interview with Neven Karas, 2 October 2018. CROMAC headquarters: Sisak, Croatia.

In its 2018 Article 5 extension request, Croatia prioritised the remaining hazardous areas according to (1) those which affect safety; (2) those which obstruct socio-economic development; and (3) those areas with other ecological implications. While the concrete priorities at the operative level are elaborated in annual demining action plans in consultation with municipalities and counties, Croatia reaffirmed in its Article 5 extension request that by the end of 2018, all EO threat was to be removed from agricultural areas, and by the end of 2024, all known minefields would be demined.⁴⁴

According to the MoI, the next National Mine Action Strategy (post 2019) is currently being drafted and will include specifications on how the Croatian mine action programme will be structured to achieve completion, but also on how it will manage residual contamination.

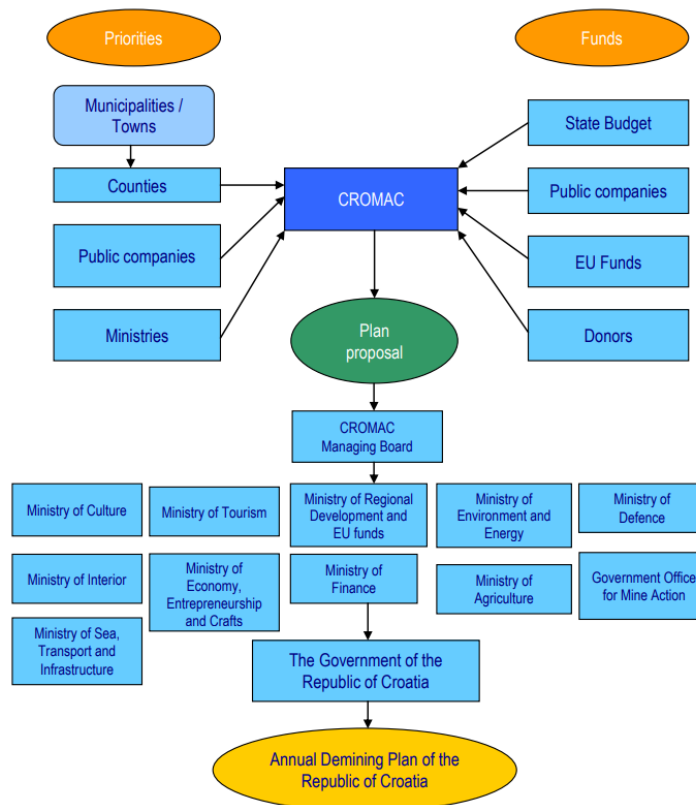


Figure 2: Demining operations planning structure of the Croatian mine action programme to 2019. Source: CROMAC

Legislation and standards

In 2003, Croatia developed its first national mine action standards (NMAS) based on the International Mine Action Standards (IMAS) and established standard operating procedures (SOPs) for non-technical and technical survey operations as well as for the quality assurance (QA) and quality control (QC) of such operations.⁴⁵

A revised law on mine action was adopted by the Croatian parliament on 21 October 2015, incorporating amendments reflected in the IMAS, notably those relating to the use of technical survey to confirm or discredit the presence of contamination in suspected hazardous areas (SHAs).⁴⁶ The law introduced a new procedure for “supplementary general survey” (i.e. non-technical survey) and enabled “exclusion” (i.e. reduction) of SHAs through technical survey, something that was not

⁴⁴ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 40.

⁴⁵ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 10.

⁴⁶ APMBC Article 7 Report (for 2017), Form A.

possible under the previous legislation.⁴⁷ Since 2015, CROMAC has been able to use technical survey to reduce/release land, and to better assess minefields which lack records.⁴⁸ The 2015 law has also eliminated SOPs, as all aspects of mine action are directly spelled out in the relevant legislation.⁴⁹ In addition, NMAS are encompassed within the law.⁵⁰

The initial incentive for drafting the new law on mine action came from the GOMA, based on its expert assessment that it was time to streamline current developments in mine action and the situation on the ground into a modern and up-to-date comprehensive legal frame. Therefore, the 2015 Mine Action Law was drafted by the Mol, following a consultative process during which expert feedback was provided by a variety of stakeholders. The new law marked an improvement in certain aspects compared to earlier operational procedures (i.e. by introducing higher security provisions for deminers and auxiliary workers), but has also created some challenges for the efficient and effective implementation of Croatia's mine action programme. Most notably, the authority (CROMAC) is no longer authorised to conduct QC tasks of personnel and technical equipment prior to and during demining operations, but only of executed demining operations.⁵¹ In spite of several by-laws that were introduced in order to rectify some of the deficiencies introduced by the 2015 law, expert stakeholders reported that they believe that the QC process for demined areas has been weakened since the legislative amendments were made.⁵² Furthermore, the Mol took over sole responsibility for investigating demining accidents and accrediting legal entities for carrying out clearance operations.⁵³

As previously mentioned, on 30 November 2018, the Croatian government passed a legislative amendment effectively dissolving an independent CROMAC and integrating it into the Mol. This decision, regulating the status of CROMAC through Amendments of the Act on Mine Action, entered into force on 1 January 2019. The details of the new organisational structure of the Croatian mine action programme are in progress. All of CROMAC's responsibilities and obligations were absorbed by the Mol, as well as all of CROMAC's current employees and their expertise (apart from the ones entering retirement). This legislative change introduced a degree of uncertainty into the Croatian mine action programme, and whilst the details of the transition process are yet to be decided, there may be a risk associated with the administrative hurdles generated by such a task. The programme will need to manage this transition carefully. This point will be further elaborated below.

Mine risk education

Mine risk education (MRE) programmes were coordinated by CROMAC until 2016 (then, by the GOMA until it was disbanded) and have always been conducted in cooperation with the Mol and relevant policy departments. For instance, the "Less Arms, Less Tragedies" campaign has been a nationwide effort to prevent firearm-related tragedies by informing citizens about the dangers of owning a weapon and encouraging people to surrender illegal weapons to the police, without the imposition of legal consequences (Amnesty Law).⁵⁴ Annually, over 10 tons of small arms/EO have been collected by the Croatian police and private weapons arsenals are regularly found during routine inspection visits. MRE programmes are not mainstreamed in school curricula but delivered in close partnership with local communities. However, with the integration of CROMAC and the GOMA into the Mol, "the Ministry of the Interior in cooperation with state administration bodies,

⁴⁷ Ibid. and emails from Miljenko Vahtarić, CROMAC, 13 and 18 May 2016. In: Clearing the Mines 2018: Mine Action Review, p. 87.

⁴⁸ Email from Miljenko Vahtarić, CROMAC, 9 June 2015. In: Clearing the Mines 2018: Mine Action Review, p. 87.

⁴⁹ APMBC Article 7 Report (for 2017), Form A; and email from Miljenko Vahtarić, CROMAC, 13 May 2016. In: Clearing the Mines 2018: Mine Action Review, p. 87.

⁵⁰ Email from Miljenko Vahtarić, CROMAC, 9 June 2015. In: Clearing the Mines 2018: Mine Action Review, p. 87.

⁵¹ Email from Nataša Mateković, CROMAC, 30 August 2017. In: Clearing the Mines 2018: Mine Action Review, p. 88.

⁵² Email from Nataša Mateković, CROMAC, 30 August 2017. In: Clearing the Mines 2018: Mine Action Review, p. 88.

⁵³ Instead of unified accreditation licences, the Mol can issue three separate permits: accreditation for manual mine detection, accreditation for mechanical mine detection, and approval for operations by mine and unexploded ordnance (UXO) detection dogs. Email from Miljenko Vahtarić, CROMAC, 24 August 2016. In: Clearing the Mines 2018: Mine Action Review, p. 88.

⁵⁴ Seesac (2011): Croatia: Arms Collection and Awareness Raising Campaign "Less Arms, Less Tragedies" Completed. Available at: http://www.seesac.org/News_1/Croatia-Arms-Collection-and-Awareness-Raising-Campaign-Less-Arms-Less-Tragedies-Completed/ (accessed 19 November 2018).

local and regional self-government units, civilian sector and the local population continuously carries out MRE".⁵⁵

Croatian war veterans and people with disabilities participate in MRE activities, i.e. by teaching MRE courses at the Faculty of Agriculture and Forestry to raise awareness amongst students and prospective farmers about the risks posed by explosive hazards. According to the CROMAC Governing Council, MRE activities will be continued even beyond the APMBC completion date, to keep former war veterans engaged in community work, but also to ensure the sustainability of the public information campaign on the threat of EO.

Quality management

Since the introduction of demining legislation in 1996, the use of a demined area prior to QA and QC activities, without the certificate of clearance completion, has been prohibited. CROMAC performs QC operations of executed demining operations, as prescribed by the law on mine action through the CROMAC Quality Control Department. QC procedures did not exist before the establishment of CROMAC in 1998, however.

Since the 2015 Mine Action Law, the supervision during and after survey and clearance activities has been replaced by ongoing QC of cleared land during demining operations, and final QC once the clearance company has reported completion of a surface area. QA operations are performed by the Mol. During demining operations, deminers and supervisors are required to QC every worksite, no later than three working days from when the last QC was conducted. Control samples should cover at least 5% of the total demined surface area of the previous working days, per polygon and demining team. The final QC is conducted by a commission (consisting of two CROMAC representatives and one Mol Inspector) by using samples covering at least 1% of the total demined surface area for each unit of the worksite. Depending on its results, CROMAC will either issue a certificate of exclusion of an area from recorded hazardous areas or shall request that demining activities be repeated.⁵⁶

Compared to the 1996 Law on Demining, the 2015 Mine Action Law has considerably increased the surface area subject to QC, causing a significant increase in workload and administrative burden for CROMAC. The increase in the prescribed area subject to QC as well as the new requirement that the CROMAC operational staff are no longer allowed to conduct ongoing QA as well as final QC, led to a reorganisation of CROMAC's work which adversely affected Croatia's Article 5 implementation plans.⁵⁷

The Mol not only takes part in QA and QC, but also carries out administrative and legislative oversight of the implementation of the law on mine action and its secondary by-laws, including supervising the inspection of demining companies and CROMAC.⁵⁸ According to CROMAC, the Mol is also responsible for liability matters. Therefore, the Mol is in charge of all aspects of mine action, with the exception of victim assistance.

Operators and partner institutions

As a result of conditions for earlier World Bank funding and the 1996 Law on Demining that introduced the market model to demining, Croatia has commercialised the mine action sector, with almost all civil clearance carried out by local companies competing for tenders.⁵⁹ The majority of foreign donor funding is tendered by the non-profit organisation ITF Enhancing Human Security, while CROMAC manages tendering for the Croatian government and EU funds, in accordance with

⁵⁵ Amendments to the Act on Mine Action (Official Gazette No. 118/2018).

⁵⁶ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 29.

⁵⁷ Ibid.

⁵⁸ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 28.

⁵⁹ Clearing the Mines 2018: Mine Action Review, p. 88. Second APMBC Article 5 deadline extension request, 29 March 2018, p. 29.

the Law on Public Procurement. The trust fund “Croatia Without Mines” raises money from private sources.⁶⁰

As of January 2018, 40 authorised commercial demining companies were accredited for mine and cluster munition remnants clearance operations, with a total capacity of 676 deminers, 45 demining machines, and 99 mine detection dogs (MDDs). As barriers to entry into the mine clearance sector are relatively low, considerable fragmentation exists.⁶¹ There have been no non-governmental operators working in Croatia since the Norwegian People’s Aid’s (NPA) mine action programme in Croatia was phased out in 2011.⁶² The state-owned enterprise, MUNGOS, which was previously assigned a sufficient number of tasks (around 30% of demining tenders) by CROMAC to keep it functional and solvent, has slowly phased out clearance operations and was dissolved during the first half of 2018.⁶³ Former staff of MUNGOS were then employed by CROMAC to bolster its survey and QC capacities (as MUNGOS used to conduct most of the survey activities for CROMAC).⁶⁴

⁶⁰ Article 7 Report (for 2017), Form C. In: Clearing the Mines 2018: Mine Action Review, p. 88.

⁶¹ In 2017, out of 21 commercial companies conducting demining operations, 10 organisations cleared less than 1 square kilometre. Landmine and Cluster Munition Monitor (2018): Croatia: Mine Action: Operators. Available at: <http://www.the-monitor.org/en-gb/reports/2018/croatia/mine-action.aspx> (accessed 5 November 2018).

⁶² Norwegian People’s Aid (2018): Croatia. Available at: <https://www.npaid.org/Our-Work/Humanitarian-Disarmament/Where-we-work/Past-projects/Croatia> (accessed 5 November 2018).

⁶³ Second APMB Article 5 deadline extension request, 29 March 2018, pp. 36 and 39.

⁶⁴ Email from Davor Laura, CROMAC, 6 April 2018. In: Clearing the Mines: Mine Action Review, p. 88.

Addressing residual contamination

What is residual contamination?

The International Mine Action Standards (IMAS) define residual risk in the context of humanitarian demining, as “the risk remaining following the application of all reasonable efforts to identify, define, and remove all presence and suspicion of explosive ordnance (EO) through non-technical survey, technical survey and/or clearance”.⁶⁵

Residual contamination refers to “EO contamination which gives rise to residual risk”.⁶⁶ The term “residual contamination” should therefore be understood to denote contamination (explosive ordnance [EO] - mine/explosive remnants of war [ERW]/ unexploded ordnance [UXO] etc.) that is not discovered despite all reasonable effort to identify it.

From the perspective of the Anti-Personnel Mine Ban Convention (APMBC), “residual contamination” should be understood as “unknown anti-personnel mine contamination under a State Party’s jurisdiction or control after all known or suspected mined areas have been processed and fit for normal human use”. Accordingly, any areas that are known or are suspected to contain anti-personnel mines and newly mined areas cannot be considered as “residual”, and must be addressed under the State Party’s obligations under the APMBC.⁶⁷

Nature and extent of residual contamination in Croatia

Reactive management of risks posed by residual contamination requires a different approach to the one that was taken during the proactive survey and clearance period. This entails a review of the established institutional architecture, as well as the development of evidence-based systems, tools and processes. A key area of focus for long-term risk management must be on the integrity of survey and clearance data that was collected during the proactive phase, as well as on how that data can be used to inform decision-making in a reactive survey and clearance phase. Information management and record keeping during the land release process are crucial for the future management of residual risk.⁶⁸

The Ministry of Defence (MoD) is aware of the issue of residual contamination and advised that it is already preparing itself for the long-term management of EO, including a reorganisation of its engineering capacities.

Existing national institutions and capacity to address residual contamination

Croatia has established various mechanisms to manage the reactive phase of survey and clearance operations. These activities are currently undertaken in close cooperation between police EOD teams and CROMAC, with the oversight of the MoI.

Currently, the response to EO call-outs and spot tasks is managed in two ways:

- 1) If an item of EO is discovered in a previously marked confirmed hazardous area (CHA) that was reported as cleared, the Croatian police will be notified. If the item was found at a depth greater than 20 cm and is confirmed to be located in a previously marked polygon, then CROMAC are informed. CROMAC will then examine whether there is a danger that more

⁶⁵ IMAS 04.10 (2003): Glossary of mine action terms, definitions and abbreviations.

⁶⁶ International Mine Action Standards (IMAS) 04.10: Glossary of mine action terms, definitions and abbreviations. Available at: https://www.mineactionstandards.org/fileadmin/user_upload/20190201_IMAS_04_10_Glossary_on_mine_action_terms_definitions_and_abbreviations_Am_10RB.pdf (accessed 6 December 2018).

⁶⁷ Reflections and understandings on the implementation and completion of Article 5 mine clearance obligations. Presented by the Committee on Article 5 Implementation: 22 October 2018. Available at: <https://www.apminebanconvention.org/fileadmin/APMBC/MSP/17MSP/Reflections-Art.5-en.pdf> (accessed 13 December 2018).

⁶⁸ White, R. (2017): The Challenge of Long-term Risk Management in Mine Action. *Journal of Conventional Weapons Destruction*, 21 (3), pp. 2-6.

mines exist at depth (and therefore whether the site needs to be redesignated as a suspected hazardous area [SHA]), and/or whether a formal investigation should be initiated by the MoI.

Depending on the result of the investigation, the relevant department within the MoI will ask CROMAC for additional documentation, this could also lead to punitive measures being taken against the respective commercial company responsible for clearance (normally a fine).

- 2) If an item of EO is discovered outside a previously recorded SHA/CHA (and within a depth of 20 cm), the police will be responsible for the survey and clearance of the area.⁶⁹ In such instances, the civil protection services are contacted and witnesses are gathered to collect additional information on the surrounding area. Each geographical district in Croatia has its own police EOD disposal unit. In the case of lack of evidence of a dense placement of EO, the item will be destroyed on site.

This second mechanism has been the established practice for how Croatia has managed the clearance of EO left over from World War II. This system will continue to function once all known mined areas are processed.

All geographical information and data on residual contamination are included in the mine information system (MIS) database. However, due to the integration of CROMAC into the MoI, the data has been transferred to the MoI, taking over the management of that database. Therefore, the MoI is the primary focal point for any issues related to residual contamination.

Information and data management

CROMAC established the MIS portal, publicly available through the Internet, to obtain detailed insights into hazardous and mine-marked areas, searchable by counties, municipalities, towns or settlements.⁷⁰ The MIS portal is compliant with International Mine Action Standards (IMAS) and uses databases and geographic information systems (GIS) to deliver a fully integrated information management system.

CROMAC has further developed a Web/mobile application, based on the MIS portal, named Minefields.info which can be downloaded onto smartphones and accessed for free. As indicated in *Figure Y* below, the application includes information on the location of a SHA and a CHA on Croatian territory and can track the user's distance to the closest contaminated area. If a user happens to be in a mined area, the relevant police department can be notified immediately by selecting the "SOS Call" option, which will automatically transmit the geo-data on the location of the caller to the police. The application also contains the option to report suspected explosive devices to the police by uploading photos and a short description of the encountered device. Furthermore, the app contains a list of the most common EO to be found in Croatia. For each item, there is a photo, the name and a brief narrative of the objects, as well as the most common locations where particular explosive remnants could be encountered. The application offers a user-friendly and educational tool to inform the Croatian population about the potential dangers of EO. As a result, the application was among the six best inventions awarded with the Geneva Centre for Security Policy Prize for Innovation in Global Security in 2018.⁷¹

⁶⁹ Depending on the type of mine, CROMAC performs a control assessment of at least 500 square meters (minimum fadeout) of area around any item.

⁷⁰ Second APMB Article 5 deadline extension request, 29 March 2018, p. 14.

⁷¹ Swiss Federal Department of Foreign Affairs (2018): In Croatia's woods 3,585 mines have been defused. Available at: <https://www.erweiterungsbeitrag.admin.ch/erweiterungsbeitrag/en/home/news/presse.html/content/erweiterungsbeitrag/en/meta/news/2018/12/20/erfolgreiche-entminung-in-kroatien> (accessed 21 December 2018).

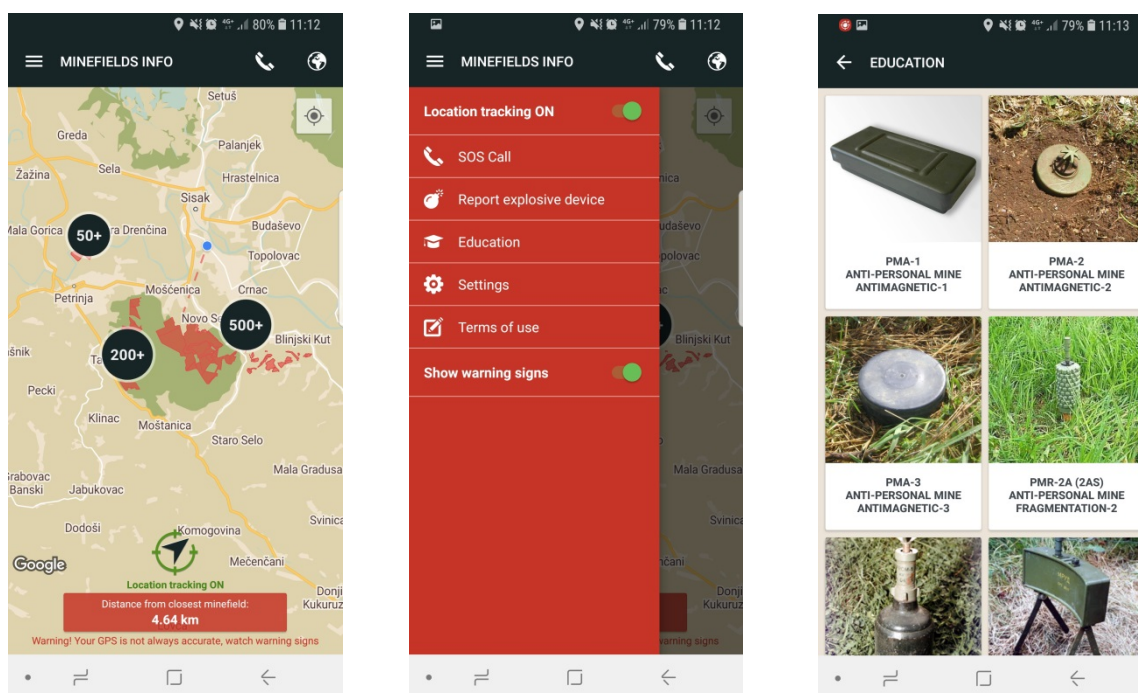


Figure 3: Screenshots of the web application named *Minefields.info*.
Source: CROMAC

The future of CROMAC and the GOMA

According to the Mol, the discussions on a potential integration of CROMAC into the Mol were underway for some time. The government has been planning to institutionalise some 54 government agencies, including CROMAC, within existing government structures. With regards the future of CROMAC, discussions involve the creation of a new organisational body or department within the Mol. As stated above, the corresponding legislation was passed by the Croatian government on 30 November 2018.

The new legislation confirms the dissolution of CROMAC and the GOMA, and the full integration of both these capacities into the Mol. The structural and institutional details are still in flux at the time of writing, but the Mol is taking over all responsibilities and tasks as well as the staff of both organisations. According to the GOMA, this decision entered into force, through amendments to the Act on Mine Action,⁷² on 1 January 2019.

The inclusion of CROMAC and the GOMA into the Mol as part of the restructuring of government will require careful planning and management, particularly given the short timeline involved. The Croatian mine action programme has a finite mandate (with the completion date set for 2026) and is developing a national mine action programme to guide progress towards that goal. In this context, continuity, stability and political commitment are the prerequisites to achieving completion.

Demobilisation of deminers and future of commercial companies

Over the last 10 years, the Croatian mine action programme has employed around 600-650 deminers. Against the background of a phasing out of proactive clearance efforts, Croatia is discussing different options to ensure the social security and economic inclusion of demobilised deminers. These include:

⁷² Amendments to the Act on Mine Action, Official Gazette No. 118/2018.

- 1) The provision of education, retraining and requalification courses for former deminers to equip them with new skills and qualifications. This programme might entail EOD 3+ level private security training, or English language courses to prepare deminers for possible employment internationally.
- 2) Early retirement and pension schemes. The existing pension scheme available to deminers regulates early retirement under special conditions as a right (and not an obligation) after eight years of demining work and a total of 25 years of work experience.
- 3) Employment by the Mol. Following the formal integration of CROMAC, all operational staff receive all rights and opportunities in line with the Act on Civil Employees of Croatia.⁷³

The Croatian Chamber of Commerce started to undertake a project to provide opportunities for retraining for deminers, including the planning of a potentially EU funded large-scale survey as a prerequisite to determine the employment-related needs of deminers. According to the GOMA, these initiatives were put on hold after the announced institutional changes, but the GOMA has since informed the Mol of the need to continue developing these projects. Moreover, the Ministry of Labour has shown a great deal of support for these initiatives from the very start, and is keen to see them through.

Some commercial demining companies have already started to diversify their operations outside Croatia, but given the relatively higher wages of Croatian deminers (as regulated by the Croatian Labour Union for Humanitarian Deminers), limited international experience, different legal frameworks and lack of brand recognition, it has proven difficult to compete for tenders internationally.⁷⁴ In order for commercial demining companies to survive, it is largely recognised amongst relevant stakeholders that they will have to broaden their portfolio of work (some have already started expanding into other sectors) and/or deepen their expertise in one specific area of demining-related activity. At the same time, the clearance of remaining EO-contaminated areas that are difficult to access might open up a potential market share for demining companies investing in alternative demining methods, such as animal detection systems or small demining machinery.

Sustainability of funding

The Croatian mine action programme has derived funding from the Croatian state budget, World Bank loans, public companies, as well as international and domestic donors.⁷⁵ Since 2012, financial resources have progressively been contributed from the EU, which has become the single most significant source of external funding for demining in Croatia. Since the beginning of the mine action programme, Croatia has received over 144 million Euros from the EU in support of mine action activities.⁷⁶

As stated in the 2018 extension request, the Croatian mine action programme has been able to secure permanent and stable sources of financing from the state budget as well as through the EU's pre-accession, structural and cohesion funds. Given the large amount of forest land suspected to contain EO contamination, CROMAC anticipates that the company "Croatian Forests" will become an additional big investor until completion of the proactive clearance programme in Croatia.⁷⁷

Croatia estimates that in order to fulfil its Article 5 obligations, it will have to secure a further 459 million Euros. Funding is expected to stem from the national state budget (52.3%); EU/European

⁷³ Amendments to the Act on Mine Action, Official Gazette No. 118, 2018.

⁷⁴ Interview with Zeljko Romic, Piper Demining, Zagreb, 17 March 2015. In: Clearing the Mines 2018: Mine Action Review, p. 88.

⁷⁵ Second APMB Article 5 deadline extension request, 29 March 2018, p. 16.

⁷⁶ The Croatian Mine Action Center (2018): Contribution to EU mine action. Available at: <https://www.hcr.hr/en/aktualnostCijela.asp?ID=2690> (accessed 6 December 2018).

⁷⁷ Second APMB Article 5 deadline extension request, 29 March 2018, p. 39.

structural and investment funds (21.8%); EU/cross border cooperation with Bosnia and Herzegovina (15.3%); state budget of forest management positions (10.2%); and other donations (0.4%).⁷⁸

The securing of significant financial support for demining by the EU is the result of the Croatian mine action stakeholders developing a thorough understanding of the EU's requirements and priorities for financial contributions. In addition to securing significant state funding, which demonstrates the government's commitment to mine action, CROMAC and the GOMA have successfully managed to understand the donor's needs and priorities and tailored their funding requests accordingly. This has contributed to the medium to long-term sustainability of external funding sources. As the GOMA is the government's focal point for EU-funded demining projects, there exists some uncertainty concerning the future management of these grants, and continuity in terms of maintaining the institutional knowledge, in light of the integration into the Mol. While it is possible that the management of EU-funded projects will be affected by new bureaucratic and administrative procedures, regular exchanges by the Ministry of Regional Funds, Development and EU Funds, and the Mol have laid the groundwork for a handover of responsibilities.⁷⁹

Furthermore, the average price of demining per square metre in Croatia has been estimated at €1.27/m².^{80,81} As mentioned earlier, since the remaining EO contamination is located in areas that are more difficult to access, i.e. mountainous, rocky, or forest terrain, this will result in a reduction in the use of classical demining machinery and an increase in the use of manual demining methods and mine detection dogs (MDDs). Furthermore, CROMAC predicts that the use of demining machines will be limited to small, mobile machines which can be quickly transported and used in such areas. These developments might result in higher prices for demining activities per square metre, depending on the market situation.⁸²

⁷⁸ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 45.

⁷⁹ Interview with Hrvoje Debač, 30 November 2018, Geneva.

⁸⁰ This price includes VAT and comprises the average value of all mine action activities, not only clearance.

⁸¹ Second APMBC Article 5 deadline extension request, 29 March 2018, p. 44.

⁸² Ibid.

Concluding remarks

Well ahead of the requested new deadline for completion of Article 5 of the Anti-Personnel Mine Ban Convention, Croatia has started high-level discussions on the future management of the national mine action programme, the management of residual contamination and how to support demobilised deminers after proactive clearance efforts have been successfully completed. Considering that these topics are being discussed eight years ahead of the new deadline, Croatia demonstrates that understanding and planning for a phase of residual contamination forms part of a long-term vision for the mine action programme, and includes tackling difficult questions such as the provision of social security or new employment opportunities for deminers and other operational staff.

At the same time, Croatia has already established various mechanisms to manage the reactive phase of survey and clearance operations. Such activities have been undertaken in close cooperation between police explosive ordnance disposal (EOD) teams, the Ministry of the Interior (Mol) and the Croatian Mine Action Center (CROMAC), and have been taking place in parallel to the proactive clearance efforts coordinated by CROMAC. For instance, each geographical district in Croatia has its own police EOD disposal unit. If explosive ordnance (EO) is discovered outside a previously recorded suspected/confirmed hazardous area (SHA/CHA) (and within a depth of 20 cm), the police are already responsible for the survey and clearance of the area. This has been the established practice for how Croatia has managed the clearance of mines/unexploded ordnance (UXO) left over from World War II.

Besides earmarked sources of funding from the Croatian state budget, the Croatian mine action programme has been able to successfully secure European pre-accession, structural and cohesion funds by understanding both domestic and international political dimensions to leverage sustainable resources, and to tailor its funding requests to the EU's requirements and needs. Sustainable and long-term funding will be key to ensuring that demining operations can finish clearance of the remaining hazardous areas within the set timeframe.

Given that the majority of the remaining contamination is located in mountainous, rocky or forest terrain, research and development into alternative demining methods will be crucial. The Croatian Mine Action Center for Testing, Development and Training (HCR-CTRO) might be able to contribute significantly to these efforts by working closely with mine action operators and sharing its knowledge at international level.

Given the high level of expertise and existing national capacity to manage a residual contamination scenario, it will be important for Croatia to build upon these strong elements of the mine action programme. As such, the integration of CROMAC and the GOMA into the Mol should be managed carefully to mitigate any risk posed by uncertainty within the sector.

Political will and strong commitment to efficiently guide the mine action programme until its completion deadline, as well as to maintain a consolidated and up-to-date information management system, are prerequisites for a sustainable and effective risk management structure in a stage of residual contamination. At the same time, Croatia could build upon existing provisions for the long-term security of demining staff in order to ensure conservation and transfer of knowledge of CROMAC staff.

This case study highlights the importance of a participatory and transparent long-term strategic planning process, including a comprehensive and properly implemented exit strategy.

Annex I: People interviewed

Name	Title	Organisation
Zdravko Modrušan	Director	CROMAC
Boris Sigur	President	Association of commercial companies in humanitarian demining
Neven Karas	Assistant Director of the General Affairs Sector	CROMAC
Nikša Bogdanić	Assistant Director of the Quality Control Sector	CROMAC
Ante Brkljačić	Assistant Director of the Survey Sector	CROMAC
Davor Laura	Assistant Director	CROMAC
Đurđa Adlešič	President	CROMAC Governing Council
Ivan Šteker	Director	HCR-CTRO Ltd.
Avgustin Pavičić	Head of Sector for Inspection	Ministry of the Interior
Marija Kovačević	Chief of Humanitarian Demining Inspection	Ministry of the Interior
Lieutenant Siniša Šipek	Commander of the Pioneer Battalion	Ministry of Defence
Lieutenant Colonel Nevenka Kovač	Senior Non-Conventional Arms Expert Advisor in the Arms Surveillance Section	Ministry of Defence
Commander Renato Mendeš	Commander of the Pioneer Unit	Ministry of Defence
Staff Sergeant Nikolino Šušak	Operational Officer in the Sub-Division for Mine Action	Ministry of Defence
Hrvoje Debač	Director	Government Office for Mine Action

Annex II: Terms of Reference – National capacities and residual contamination country case study Croatia

Introduction

National ownership is a central principle of the global mine action approach and is reflected in international conventions and standards. As an increasing number of explosive ordnance (EO)-affected countries are approaching the “completion” stage of clearing all known contaminated areas, the issue of national ownership and that of developing sustainable capacities to deal with residual contamination has become more central. This national capacities and residual contamination project addresses the issue of long-term risk management through documenting processes, providing recommendations and offering targeted, country-specific guidance on the development of sustainable capacities to deal with residual contamination.

Croatia has a well-established mine action programme, as such it has been identified as a relevant country from which lessons learnt can be drawn, documented and usefully applied to assist other countries as they reach similar stages of their mine action programme life cycle. In this regard, prioritisation of residual contamination and the role of the national mine action authority in priority-setting, will be reviewed, including in relation to commercial operators. The project is funded by the Bureau of Political-Military Affairs, Office of Weapons Removal and Abatement at the United States Department of State.

Objective

The purpose of the case study will be to gather information that will be used as part of wider research into key issues on the development of sustainable national capacities to deal with residual contamination. This research will then be used to provide clear guidance to the sector on national priorities in mine action, addressing residual contamination in a timely manner, and the role of commercial companies in the demining sector.

Outputs

A country case study report will be compiled and disseminated via the Geneva International Centre for Humanitarian Demining (GICHD) website and other channels. The target audience will include: the Croatian Ministry of the Interior, other national mine action authorities/mine action centres, national security services, relevant ministries, international and national organisations, and international mine action sector donors.

Methodology

The case study will be conducted by the GICHD in partnership with the Croatian Mine Action Center (CROMAC).

CROMAC is the public institution, established by the government of Croatia according to the Act on Institutions, with the mandate to manage and coordinate mine action activities while relying on suggestions and requests of the Croatian government (including the GOMA), Croatian parliament, Croatian Mine Action Center Council and several ministries.

Information will be researched through a combination of desk study, a country visit, and individual interviews (conducted both in country and remotely). During desktop assessment the research team will identify relevant national and international stakeholders, and then, based on advice from CROMAC will select appropriate representatives to interview, based on jointly agreed guiding

questions. Interviews will be conducted during a week-long study visit. During the visit, the GICHD and CROMAC will agree on key findings to be included in the report. The GICHD will then compile a draft report to be reviewed and approved by CROMAC prior to publication.

Key issues to be explored in country case studies

Introduction and overview of the country context

- Brief introduction to the country
- Origin, nature and scope of the explosive ordnance contamination problem
- Remaining contamination and completion goals
- Land release and operational planning
- Clearance organisations

Institutional architecture (national capacities)

Outline of existing mine action capacities and how they have evolved:

- What stakeholders are/were involved (national and international)?
- Do specific plans/strategies/policies exist to guide long-term risk management planning?

Addressing residual contamination

Explore the following key issues:

- Definitions
- Nature of the residual contamination itself (items, depth, expected distribution)
- Information management
 - a. Reporting structures and reporting flows (from whom to whom?)
 - b. Information database (where is it stored?)
 - c. Means of information sharing and dissemination (who has access to it?)
- Sustainability aspects (legislation and government planning)
- National priorities to reach completion
- Responsible actors? If more than one, describe the nature of the partnership
- Responsiveness
- Key aspects of the national risk management approach (if relevant)

Key findings:

Good practices, main challenges, lessons learnt and specific recommendations

- Critically review the process of developing national capacities. Present and elaborate on key findings, good practices (success stories), and list challenges and issues that have been problematic (lessons learnt)
- Provide specific formal recommendations for the CROMAC/mine action programme

TIMEFRAME

The specific timeframe will be determined in conjunction with CROMAC. The GICHD proposes to complete the study by the end of Q2 2019.

Published with the kind contribution of the government of the United States



Geneva International Centre for Humanitarian Demining
Maison de la paix, Tower 3, Chemin Eugène-Rigot 2C
PO Box 1300, CH – 1211 Geneva 1, Switzerland



info@gichd.org

gichd.org