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Environmental management and climate change in mine action

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Foreword

International standards for humanitarian demining programmes were first proposed by working groups at an international technical conference in Denmark, in July 1996. Criteria were prescribed for all aspects of demining, standards were recommended and a new universal definition of “clearance” was agreed. In late 1996, the principles proposed in Denmark were developed by a UN-led working group and the International Standards for Humanitarian Mine Clearance Operations were developed. A first edition was issued by the UN Mine Action Service (UNMAS) in March 1997.

The scope of these original standards has since been expanded to include the other components of mine action and to reflect changes to operational procedures, practices and norms. The standards were re-developed and renamed as International Mine Action Standards (IMAS) with the first edition produced in October 2001.

The United Nations has a general responsibility for enabling and encouraging the effective management of mine action programmes, including the development and maintenance of standards. UNMAS, therefore, is the office within the United Nations responsible for the development and maintenance of IMAS. IMAS are produced with the assistance of the Geneva International Centre for Humanitarian Demining.

The work of preparing, reviewing and revising IMAS is conducted by technical committees, with the support of international, governmental and non-governmental organizations. The latest version of each standard, together with information on the work of the technical committees, can be found at www.mineactionstandards.org. Individual IMAS are reviewed at least every five years to reflect developing mine action norms and practices and to incorporate changes to international regulations and requirements.

Introduction

The increasingly rigorous demands in the national legislation of many countries and international treaties reflect the high priority of environment protection and addressing climate change for national governments and international institutions. Since mine action (MA) operations are entirely subject to applicable national environmental and climate legislation and the terms of applicable international treaties,¹ the effective management of environmental aspects is therefore important for national authorities, mine action operators, affected communities, donors and the wider global community.

MA not only improves the safety and security of populations, but also presents opportunities for socio-economic development. Indeed, its aims is to “reduce social, economic and environmental impact of mines, and EO including unexploded submunitions.”² Therefore, it is essential to prevent and mitigate the possible adverse impacts on the environment by taking into account the specific activities conducted by a mine action organization and the context in which operations are conducted, and by considering climate change. The science around climate change is well established and human activity is the main cause of the rising temperatures.³ Climate change affects MA operations and the communities where they are conducted. Environmental management includes climate action, which means reducing greenhouse gas emissions⁴ and strengthening resilience and adaptive capacity to climate-induced impacts. It is worth noting that the most effective way of reducing the direct impact of MA operations on land is through the application of land release (LR) principles (as per IMAS 07.11, 08.10, 08.20 and 08.30) to minimize the number of square metres that are processed, without compromising the quality of the demining activities.

This standard provides a framework for the national mine action authority (NMAA) to define appropriate measures. In addition, TNMA 07.13/01 provides further guidance and a list of practical measures to be used by the NMAA, mine action centre (MAC) and mine action organizations to support the implementation of this standard.

This standard reflects the principles of ISO 14001:2015 (Environmental management systems) as well as of ISO 9001:2015 (Quality management systems) but does not include a comprehensive management system as set out by the ISO standards. Organizations seeking to enhance compliance with this IMAS are encouraged to consider the adoption of ISO 14001, which can be accredited. ISO 14001 is an internationally agreed standard that sets out the requirements for an environmental management system, helping organizations improve their environmental performance through continual review.

National mine action standards (NMAA) need to be tailored with mitigation measures adapted to the way different mine action operations could impact the environment at the national level. The delivery of mine action, together with other humanitarian services, environmental recovery and climate resilience initiatives, can provide multiple benefits. Many conflict-affected countries are in areas considered among the most vulnerable to climate change. They are also less prepared to withstand the impacts of climate change, with weaker capacity and fewer options available.

For these reasons, NMAAs need to take every opportunity to embed environmental management and climate adaptation measures into the management processes of the sector. Collecting data on the environment and, in the longer run, climate adaptation risks is key to make more informed decisions. Furthermore, by addressing environment and climate-related issues, mine action operations will improve in terms of quality and positive impact.

¹ Annex B provides a list of international conventions.

² IMAS 04.10:2023, 3.176.

³ In 2013, the Intergovernmental Panel on Climate Change (IPCC) released its globally peer-reviewed Fifth Assessment Report, which concluded that climate change is real and human activities, largely the release of polluting gases from burning fossil fuel (coal, oil, gas), is the main cause.

⁴ Atmospheric gases, responsible for causing global warming and climate change. The major greenhouse gases are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O).

Environmental management and climate change in mine action

1 Scope

This standard provides the minimum requirements for environmental management in mine action operations. It also covers the responsibilities of national mine action authorities and the mine action operators involved, to ensure that the environment is not degraded by mine action work, and land is returned in a state that is appropriate for safe and sustainable use.

This standard sets generic and minimum requirements regarding:

- measures to prevent or mitigate adverse impacts on people and the wider environment;
- consideration of climate risk as a critical factor during planning mine action operations;
- the positive contribution of mine action to address climate change and environmental degradation;
- the need for mine action programmes to adapt to meet the challenges posed by climate change and extreme weather events;
- compliance with national legislation; and
- the opportunity to support the climate resilience of communities and sustainable livelihoods.

This standard does not provide guidance for supply chain monitoring or verification.

2 Normative references

A list of normative references is given in Annex A. Normative references are important documents to which reference is made in this standard and which form part of the provisions of this standard.

3 Terms and definitions

A glossary of all the terms, definitions and abbreviations used in the International Mine Action Standards (IMAS) series is given in IMAS 04.10.

In the IMAS series, the words “shall”, “should” and “may” are used to indicate the intended degree of compliance:

- “shall” is used to indicate requirements, methods or specifications that are to be applied in order to conform to the standard;
- “should” is used to indicate preferred requirements, methods or specifications; and
- “may” is used to indicate a possible method or course of action.

3.1

adverse impact

harmful effect imposed on the environment

Note 1 to entry: The reference to requirements set by national legislation, if existing, and the intended future use of the cleared area are key factors for determining the adverse impacts.

3.2

climate

condition of the atmosphere at a particular location and usually defined as the average weather

3.3

climate action

efforts to reduce or prevent greenhouse gas emissions and strengthen resilience and adaptive capacity to climate-induced impacts

3.4

climate change

long-term shifts in temperatures and weather patterns

3.5

climate change adaptation

process of adjusting to current or expected effects of climate change, and making changes to live with its impacts

3.6

climate change mitigation

efforts to reduce or prevent emission of greenhouse gases responsible for causing global warming and climate change

3.7

climate impact

impact due to climate change on lives, livelihoods, health and well-being, economic, social and cultural assets and investments, infrastructure, services provision, ecosystems and species

Note 1 to entry: In mine action, this may also mean impact on programming, working practices and the choice and deployment of certain equipment or clearance techniques.

3.8

climate-related incident

extreme weather events which impact operations or adversely affect the local community

EXAMPLE: Flooding, landslides, landscape fires, heavy or unseasonal rainfall, extreme heat, dust storms.

3.9

climate resilience

capacity to cope with a climate event or trend in ways that essential function, identity and structure is maintained

3.10

climate risk

potential for climate change to create adverse consequences for human or ecological systems

Note 1 to entry: A climate risk is a factor of probability of an impact occurring and the magnitude of its consequences.

3.11

environment

surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation

[SOURCE: ISO 14001:2015, 3.2.1, modified – The Notes to entry have been removed.]

3.12

environmental aspect

element of an organization's activities or products or services that interacts or can interact with the environment

[SOURCE: ISO 14001:2015, 3.2.2, modified – The Notes to entry have been removed.]

3.13

environmental baseline

environmental characteristics of an area before activities or project work takes place

3.14

environmental impact

any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects

[SOURCE: ISO 14001:2015, 3.2.4]

3.15

environmental impact assessment

EIA

<mine action> process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant environmental effects of mine action activities prior to decisions being taken and commitments made

3.16

environmental incident

unplanned event which results in adverse impact to the environment, such as damage to sensitive natural habitats or wildlife, inappropriate waste management, fires, spill or pollution events and nuisance complaints

3.17

environmental management

policies and procedures in place to address the adverse or positive effects of products, activities or services on the environment

Note 1 to entry: This includes protection of the environment during mine action activities

3.18

environmental management system

EMS

part of an organization's management system used to develop and implement its environmental policy and manage its environmental aspects [SOURCE: ISO 14001:2015, 3.1.2]

3.19

environmental mitigation measure

action taken before, during and/or after mine action operations to lower adverse environmental impact

3.20

environmental receptor

something that could be adversely affected by the impact or effect of an activity or climate-related event, for example, a person, living organism, ecosystem, property (including buildings, crops, and livestock), or water.

3.21

environmental risk

a combination of the likelihood or probability for an event to occur and the magnitude of the potential consequence (or severity) of the event occurring and harm to people or the environment.

3.22

mine action organization

organization (government, military, commercial or non-governmental organization/civil society) responsible for implementing mine action projects or tasks

Note 1 to entry: The mine action organization may be a prime contractor, subcontractor, consultant or agent.

3.23

national mine action authority

NMAA

government entity, often an inter-ministerial committee, in country affected by explosive ordnance (EO), charged with the responsibility for broad strategic, policy and regulatory decisions related to mine action

Note 1 to entry: In the absence of an NMAA, it may be necessary and appropriate for the UN, or some other body, to assume some or all of the responsibilities of an NMAA.

3.24

national mine action centre

NMAC

mine action centre

MAC

mine action coordination centre

MACC

organization which, on behalf of the national mine action authority, is responsible for planning, coordinating, overseeing and, in some cases, implementing mine action projects

Note 1 to entry: The NMAC/MAC/MACC acts as the operational arm of the NMAA.

Note 2 to entry: In the absence of a NMAC, it may be necessary and appropriate for the UN, or some other body, to assume some or all of the responsibilities of the NMAC.

3.25

nature-based solution

action to protect, sustainably manage, or restore natural ecosystems, that addresses societal challenges such as climate change, human health, food and water security, and disaster risk reduction

EXAMPLE: Planting native species to reduce soil erosion and enhance biodiversity or planting mangroves to improve coastal habitats and reduce flooding from tidal surges.

4 General requirements

Environmental management and climate change adaptations shall comply with applicable legal, regulatory and normative requirements (for example, national law, applicable international conventions to which the host nation is a party).

Environmental management and climate change adaptations shall be put in place within mine action programmes by mine action operators. Quality management (see IMAS 07.12) shall be applied to these efforts, including the accreditation and the quality control process. The impact on environment and climate shall be monitored for the duration of the organisation's mine action programme/project in the country (see IMAS 07.40). Risk to the environment and climate shall be included in the management of risks (see IMAS 07.14).

5 Climate and environmental management considerations

5.1 Climate and environmental policy

The key elements when planning a climate and environmental policy include:

- a) ensuring that the policy is appropriate to the specific activities of the mine action programme;
- b) committing to environmental management and appropriate climate action;
- c) referencing applicable legal obligations;
- d) continually improving environmental management;
- e) communicating the policy to relevant internal and external stakeholders; and
- f) reviewing and, where appropriate, updating the policy every two years, as a minimum.

5.2 Understanding the consequences for climate and environmental context and needs

To incorporate climate change, environmental protection and mitigation measures in the national mine action programme, the following elements shall be identified, assessed and documented:

- a) the obligations and opportunities contained in applicable national and international conventions to which the host nation is party regarding environmental management and climate action;
- b) the benefits of climate action and environmental management;
- c) the obligations contained in national mine action standards (NMAS) and normative references regarding climate action and environmental management;
- d) the responsibilities and needs of other government ministries, agencies and departments regarding environmental management and climate action in mine action;
- e) measures to support/improve environmental mitigation, avoid duplication of effort, and identify and address gaps in environmental management within the mine action programme in coordination with national/international stakeholders;
- f) measures to understand the climate risks and the environmental needs and expectations of mine action stakeholders, including women, men, boys and girls from local communities.

5.3 Identifying and evaluating climate and environmental aspects and impacts

As a minimum, the environmental and climate aspects of mine action activities, inputs, products and services arising from those activities shall be identified, monitored, evaluated and documented. This includes:

- a) emissions to air, water and land;
- b) use of raw materials and natural resources;
- c) use of energy;
- d) vegetation clearance, ground disturbance and construction;
- e) noise;
- f) release of greenhouse gas emissions;
- g) disturbance of pre-existing chemical contamination;
- h) generation of waste;
- i) emergency events.

For each environmental aspect relevant to the mine action programme or activity, there is a potential environmental impact. Adverse environmental impacts include:

- a) pollution of air, water and soil;
- b) disruption, disturbance or harm to local stakeholders, communities and infrastructure;
- c) disruption, disturbance or harm to wildlife, habitat and vegetation;
- d) loss of soil fertility and function;
- e) soil degradation and erosion;
- f) alteration of landscapes and ecosystems;
- g) increased vulnerability to the effects of climate change, such as flooding, drought and other extreme weather incidents;

- h) degradation of the visible environment;
- i) damage to heritage sites and objects.

When analysing the relevance of environmental aspects, the following shall be taken into account:

- a) the environmental baseline and environmental receptors present;
- b) the type of mine action activity;
- c) the size of the mine action operation;
- d) the frequency and timing of mine action operations;
- e) relevant legal or standards requirements;
- f) the expectations of environmental stakeholders;
- g) the risk for one environmental aspect to lead to more than one adverse environmental impact;
- h) the potential legal liability associated with adverse impacts of mine action operations on the environment;
- i) opportunities to protect the environment through the adoption of measures that minimize the adverse impacts of transport, storage and waste disposal processes on the environment; and
- j) the inclusion in operational planning of emergency responses to potential critical/major environmental incidents, including prevention and mitigation measures.

Guidance on evaluating the significance of an environmental/climate impact is given in TNMA 07.13/01. Where an unacceptable risk of adverse environmental impact is identified, measures to prevent or mitigate them shall be implemented. Reviewing each environmental aspect and impact can also help to identify opportunities for net environmental improvement.

Environmental and climate aspects and impacts shall be evaluated and documented in appropriate task orders, implementation plans, SOPs and other relevant documentation. This should include maintaining a risk register (see IMAS 07.14 Risk management in mine action) throughout the mine action activity to document:

- a) risk level;
- b) any residual risk;
- c) the effectiveness of the controls in place;
- d) any other environmental opportunities or benefits identified and/or actioned;
- e) the level of understanding of the environmental baseline and the sensitivity of environmental receptors present; and
- f) lessons learnt and good practices.

In some circumstances, an initial evaluation of environmental aspects and impacts may indicate the potential for significant environmental risks. Otherwise, relevant stakeholders or national legislation may require comprehensive assessment through a formal environmental impact assessment (EIA). Legislation and practice governing EIA requirements vary between regions but typically require wide stakeholder engagement and public access to the results of the EIA. A formal EIA should be made whenever:

- g) the NMAA determines that an EIA is necessary given the risk of significant environmental impacts;
- h) there is a legal or contractual obligation to do so;

- i) the scale or significance of environmental impact is uncertain.

Guidelines on the requirements and considerations for a formal EIA are provided in TNMA 07.13/01.

5.4 Planning and tasking of mine action operations

Environmental management shall apply to any mine action activity, in particular to explosive ordnance disposal, non-technical and technical survey, clearance and stockpile destruction. Environmental management should contain provisions concerning activities with the potential for significant negative impact, including:

- a) work in or close to ecologically important or protected habitats;
- b) in accordance with the IMAS 09.50, Mechanical land release;
- c) bulk demolition activities; or
- d) open pit burning (IMAS 11.20).

When planning and tasking mine action operations, climate impacts and environmental aspects shall be considered as early as possible, and meet the following criteria:

- a) be appropriate to the environmental context;
- b) take into account national laws and regulations and international conventions to which the host nation is a party;
- c) take into consideration climate risks;
- d) take into account climate change predictions and expected consequences when prioritizing areas of operation;
- e) take into account future intended land use;
- f) understand the costs and benefits of possible mitigation measures, including special handling requirements for certain munitions (see TNMA 09.30/02 and Human remains recovery tasks, see IMAS 07.50);
- g) incorporate identified environmental prevention and mitigation measures, including any emergency response;
- h) be open to opportunities for embedding climate adaptation and environmental initiatives which could benefit local communities and support nature and nature-based solutions following land release; and
- i) be consistent with the national and organizational environmental management and climate action policy.

More details on the environmental management principles and practices relating to operations are provided in TNMA 07.13/01.

6 Consideration of climate risk

As knowledge about climate change and its impact across the globe increases, the mine action sector should adapt and remain capable of delivering effective and climate-resilient programmes, both in terms of how operations are delivered and how vulnerable communities can be supported. This also involves mitigating the negative impact mine action could have on climate change, and considering how climate change issues could affect the prioritization and planning of tasks.

Vulnerable societies in conflict and post-conflict areas are often already overwhelmed by tremendous immediate challenges. Climate impacts that bring additional challenges and pressure on local resources could disrupt

established patterns of behaviour, migration and land-use. As well as understanding how climate change affect mine action operations, operators shall:

- a) identify and analyze the climate impacts communities are facing and the uncertainties around them; and
- b) ensure that their planning and operations support local adaption or mitigation strategies.

More details on climate risk management principles are provided in TNMA 07.13/01.

7 Monitoring⁵

As a minimum, monitoring environment and climate aspects of mine action activities include:

- a) complying with IMAS 07.40 or NMAA relating to monitoring;
- b) calculating the organizational greenhouse gas emissions to establish a baseline for tracking progress on any emission reduction;
- c) managing environmental nonconformities in accordance with IMAS 07.12 and 07.40;
- d) treating environmental incidents and accidents caused by/resulting from mine action through investigating them in accordance with IMAS 10.60;
- e) including in any impact assessments and surveys undertaken after release of land, the evaluation of environmental aspects, including the effectiveness of any agreed environmental remediation measures and possible unintended consequences or maladaptation.

8 Review and improvement

Environmental management and climate action shall be reviewed as per IMAS 07.12. This review shall be conducted by management to ensure the continued effectiveness, suitability and alignment of environmental management and climate action with the organization's environmental and climate policy.

As a minimum, the review shall be conducted every two years, or more frequently according to the requirements of the NMAA, or as dictated by prevailing circumstances and conditions.

Management reviews take into account:

- a) the status of actions arising from previous reviews;
- b) changes in the mine action environmental and climate action context;
- c) the environmental management performance of the mine action organization, including:
 - i) satisfaction of stakeholders' environmental needs and expectations;
 - ii) compliance with environmental management and climate policy;
 - iii) environmental nonconformities and corrective actions;
 - iv) environmental monitoring, measurement, audit and evaluation results;
 - v) opportunities for improvement of environmental management;
 - vi) opportunities for reducing the environmental and climate footprint.

⁵ Evaluation is a separate topic within the IMAS framework. See IMAS 14.10.

Management reviews include decisions and actions related to:

- a) opportunities for improvement of environmental management and climate action;
- b) changes to environmental management;
- c) actions to be taken, people responsible, schedule for completing and verification of effective implementation;
- d) the communication of results to relevant managers and stakeholders.

9 Responsibilities

9.1 NMAAs' responsibilities

The NMAA, or organization acting on its behalf, shall:

- a) establish a national environmental management and climate action policy that is reflected in the national mine action standards, contracts and tasking orders; takes into account the related needs and responsibilities of other government ministries, departments and agencies; and is communicated to mine action organizations and other stakeholders;
- b) review the policy every two years at a minimum, updating where appropriate;
- c) accredit mine action operators and monitor compliance with documented environmental management and climate action requirements;
- d) ensure that necessary environmental and climate assessments, to include formal Environmental Impact Assessments (EIA), are made to support informed decision-making on the prioritization and planning of tasks;
- e) maintain records of reported environmental or climate/related incidents/accidents;
- f) conduct investigations into environmental or climate-related incidents/accidents (IMAS 10.60);
- g) promote/share information about significant environmental impacts of mine action, including recommendations for best practices and details of environmental and climate-related incidents to other stakeholders within the national mine action programme;
- h) coordinate environmental management and climate action with other national and international stakeholders;
- i) promote awareness and understanding of the role of climate action and environmental management and mitigation in improving the social and economic situation on a local, regional and national scale;
- j) give particular attention to the environmental conditions required for subsistence or economic purposes to ensure that these activities, or similar, can continue after mine action operations have been completed, taking into consideration the possible effects of climate change.

9.2 Mine action organizations' responsibilities

Mine action organizations shall:

- a) establish, maintain and communicate an environmental management and climate action policy that is consistent with that established by the NMAA for the national mine action programme;
- b) review the policy every two years at a minimum, updating where appropriate;

- c) document environmental management and climate action policy and risk management strategies in SOPs to ensure that the protection of the environment and climate and associated risks are factors in the planning and conduct of all mine action operations;
- d) train staff in environmental management and climate action SOPs, methodologies and awareness;
- e) conduct operations in a manner that is safe for mine action staff and communities;
- f) monitor operations to ensure they are conducted in accordance with safety and environmental management and climate action SOPs;
- g) select cost-effective measures to prevent and mitigate adverse environmental impacts based on the specific type of mine action operations conducted;
- h) give particular attention to the environmental conditions required for subsistence or economic purposes to ensure that these activities, or similar, can continue after mine action operations have been completed, taking into consideration the possible effects of climate change;
- i) mitigate adverse impacts on people, wildlife, vegetation and other aspects of the environment;
- j) leave the environment in a state that is similar to or, where possible, better than before the start of mine action operations;
- k) apply quality management (see IMAS 07.12) to environmental management, climate action and climate change adaptation measures;
- l) as part of a climate-aware approach to mine action, include climate risk in risk management strategies to build in flexibility to adjust and adapt to the impacts and risks from a changing climate;
- m) record, report and investigate environmental and climate-nonconformities (incidents and accidents) to the NMAA and manage nonconformity in accordance with IMAS 07.12, IMAS 07.40 and IMAS 10.60;
- n) include relevant environmental impact evaluation information and mitigation measures taken in handover documents.

In the absence of a NMAA or other authority, the mine action organization may assist the host nation in the development of national standards for environmental management and climate action relevant to mine action activities.

9.3 Donor and other stakeholders' responsibilities

- a) Donors and other stakeholders should understand environmental management and climate action aspects of mine action and its potential impacts.
- b) Donors and other stakeholders should promote awareness and understanding of the role of climate action and environmental management and mitigation in improving the social and economic situation on a local, regional and national scale.
- c) Donors and other stakeholders should emphasize the need to reduce any adverse impact on climate and environment among authorities and operators.
- d) Donors should request implementing partners report on environmental measures put in place and their effectiveness, as well as any constraints or obstacles to implementing good environmental practice.
- e) Organizations active in climate action and the protection of the environment may contribute with resources to improve the awareness, understanding and implementation of climate action, environmental protection measures to prevent and mitigate impact.

- f) Stakeholders should be aware of the challenges of climate change and protecting the environment in mine action operations when developing tools or requirements.

More details on the implementation of this IMAS are provided in TNMA 07.13/01.

Annex A (normative)

References

- [1] IMAS 04.10, Glossary of mine action terms, definitions and abbreviations
- [2] IMAS 07.11, Land release
- [3] IMAS 07.12, Quality management in mine action
- [4] IMAS 07.14, Risk management in mine action
- [5] IMAS 07.40, Monitoring of mine action organisations
- [6] IMAS 07.50, Management of human remains in mine action
- [7] IMAS 08.10, Non-technical survey
- [8] IMAS 08.20, Technical survey
- [9] IMAS 08.30, Post-clearance documentation
- [10] IMAS 10.60, Investigation and reporting of demining incidents
- [11] IMAS 11.20, Principles and procedures for open burning and open detonation operations
- [12] IMAS 09.50 Mechanical Land Release
- [13] IMAS 14.10 Monitoring and Evaluation in Mine Action
- [14] TNMA 07.13/01 Environmental management and climate change in mine action
- [15] TNMA 09.30/02 Clearance of depleted uranium hazards

Annex B (informative)

References

- [1] Paris Pledge for Action, 2015;
- [2] Sendai Framework for Disaster Risk Reduction 2015-2030, 2015;
- [3] Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention), 1998;
- [4] United Nations Convention to Combat Desertification, 1994;
- [5] Convention on Biological Diversity, 1993;
- [6] Rio Declaration on Environment and Development, 1992;
- [7] Convention on wetlands (or Ramsar convention), 1971;
- [8] Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, February 1972 and subsequent amendments;
- [9] London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 29 December 1972 and subsequent amendments.
- [10] UNGA Resolution 77/104 Protection of the environment in relation to armed conflicts (PERAC), 2022
- [11] Explosive Weapons in Populated Areas (EWIPA), the Political Declaration on Strengthening the Protection of Civilians from the Humanitarian Consequences arising from the use of Explosive Weapons in Populated Areas, 2022
- [12] UNEP Resolution 3/6. Managing soil pollution to achieve sustainable development, 2017.
- [13] UNEP Resolution UNEA-3/1. Pollution mitigation and control in areas affected by armed conflict or terrorism, 2017.
- [14] UNEP Resolution UNEA 4/21. Implementation plan "Towards a pollution-free planet.", 2019
- [15] UNGA Resolution 73/284. United Nations Decade on Ecosystem Restoration (2021–2030), 2019.
- [16] IMAS 10.50, Storage, transportation and handling of explosives
- [17] IMAS 11.10, Guide for the destruction of stockpiled anti-personnel mines
- [18] IASC Guidance on Environmental Responsibility in Humanitarian Operations
- [19] IATG 10.10, Demilitarization, destruction and logistic disposal of conventional ammunition

Amendment record

Management of IMAS amendments

The IMAS series of standards are subject to formal review on a three-yearly basis. However, this does not preclude amendments being made within these three-year periods for reasons of operational safety and efficiency or for editorial purposes.

As amendments are made to this IMAS they are given a number. The date and general details of the amendment shown in the table below. The amendment is also shown on the cover page of the IMAS by the inclusion under the edition date of the phrase "*incorporating amendment #.*"

As the formal reviews of each IMAS are completed, new editions may be issued. In this case, amendments up to the date of the new edition are incorporated into the new edition and the amendment record table cleared. Recording of amendments then starts again until a further review is carried out.

The most recently amended IMAS are posted on the IMAS website at www.mineactionstandards.org.

Number	Date	Amendment details