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Guide for the application of International Mine Action Standards (IMAS)

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Foreword

International standards for humanitarian mine clearance programmes were first proposed by working groups at an international technical conference in Denmark, in July 1996. Criteria were prescribed for all aspects of mine clearance, 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).

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 organisations. The latest version of each standard, together with information on the work of the technical committees, can be found at <http://www.mineactionstandards.org/>. Individual IMAS are reviewed at least every three years to reflect developing mine action norms and practices and to incorporate changes to international regulations and requirements.

Introduction

In recent years the international community has become increasingly aware of the scale and severity of the international landmine crisis, and has come to accept that it is a global problem requiring a coordinated global response. There is also recognition that the United Nations has a key role to play in articulating this global response, and in providing the necessary international support and coordination mechanisms.

The term 'mine action' refers to those activities which, together, aim to reduce the social, economic and environmental impact of landmine contamination. These activities comprise mine risk education, demining¹, victim assistance, advocacy to stigmatise the use of landmines and support of a total ban on anti-personnel landmines, and stockpile destruction. However, mine action and its constituent activities cannot be addressed in isolation as there is significant overlap with complementary humanitarian and developmental programmes, and in some cases with peacekeeping and peace support operations. Mine action requires management planning at global, national and local levels, and involves international, national, commercial, NGO and military stakeholders operating under a variety of conditions. Thus it is not possible, nor is it desirable, to establish a unique set of criteria which alone define mine action standards and guidelines. Instead, it is necessary to identify a framework of standards and guidelines which, together, harmonise the manner in which activities and tasks are conducted by the different organizations and agencies involved. *International Mine Action Standards* (IMAS) provide this framework of international standards and guidelines.

1. Includes technical survey, mapping, mine and UXO clearance, marking, post clearance documentation and sampling and the handover of cleared land. (See IMAS 04.10 for the full definition).

Guide for the application of International Mine Action Standards (IMAS)

1. Scope

This Guide defines the role of IMAS, and establishes the guiding principles for their proper and appropriate use by national authorities, international organizations, donors and organizations involved with the planning and implementation of mine action activities at headquarters and field level.

2. Terms, definitions and abbreviations

'Policy' defines the purpose and goals of an organization, and it articulates the rules, standards and principles of action which govern the way in which the organization aims to achieve these goals. Policy evolves in response to strategic direction and field experience. In turn, it influences the way in which plans are developed, and how resources are mobilised and applied. Policy is prescriptive and compliance is assumed, or at least is encouraged.

IMAS follow the ISO definition a standard: *"A standard is a documented agreement containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose"*.

Note: Mine action standards aim to improve safety and efficiency in mine action by promoting the preferred procedures and practices at both headquarters and field level. To be effective, the standards should be definable, measurable, achievable and verifiable.

'Standing operating procedures' (SOPs) are instructions which define the preferred or currently established method of conducting an operational task or activity. Their purpose is to establish recognisable and measurable degrees of discipline, uniformity, consistency and commonality within an organization, with the aim of improving operational effectiveness and safety. SOPs should reflect local requirements and circumstances.

A list of terms, definitions and abbreviations used in this Guide is given in Annex A. A complete glossary of all the terms, definitions and abbreviations used in the IMAS series of standards is given in IMAS 04.10.

3. Mine action

Mine action refers to '... those activities which aim to reduce the social, economic and environmental impact of landmines and unexploded ordnance (UXO). Mine action is not just about demining. It is also about people and societies, and how they are affected by landmine contamination. The objective of mine action is to reduce the risk from landmines to a level where people can live safely; in which economic, social and health development can occur free from the constraints imposed by landmine contamination, and in which the victims' needs can be addressed.'²

Mine action comprises five complementary groups of activities:

- a) Mine Risk Education (MRE);
- b) humanitarian demining, i.e. mine and UXO survey, mapping, marking and, when necessary, clearance;
- c) victim assistance, including rehabilitation and reintegration;

2. *Mine Action and Effective Coordination: The United Nations Policy.* Resolution A/53/26 on Assistance in Mine Action, adopted 17 November 1998.

- d) stockpile destruction; and
- e) advocacy against the use of Anti-Personnel Mines (APM).

A number of other enabling activities are required to support these five components of mine action, including: assessment and planning, the mobilisation and prioritisation of resources, information management, human skills development and management training, quality management and the application of effective, appropriate and safe equipment.

4. Purpose of IMAS

IMAS assists National Mine Action Authorities (NMAA) to establish national standards and national SOPs by establishing a frame of reference, which can be used, or adapted for use, as a national standard. In certain situations and at certain times it may be necessary and appropriate for the UN, or some other recognised international body, to assume some or all of the responsibilities, and fulfil some or all of the functions, of a NMAA. In such cases, IMAS will be the de-facto national standard. IMAS also provide the basis for the development of legal contracts between donors and implementing organisations.

IMAS are not themselves SOPs. They do not define the way in which mine action requirements are to be achieved in the field - that is covered in national and local SOPs, rules, instructions and codes of practice.

IMAS have been developed to improve safety and efficiency in mine action by providing guidance, by establishing principles and, in some cases, by defining international requirements and specifications³. They provide a frame of reference which encourages the sponsors and managers of mine action programmes and projects to achieve and demonstrate agreed levels of effectiveness and safety. They provide a common language, and recommend the formats and rules for handling data which enable the accurate and timely exchange of important information.

IMAS also provides a suitable medium for informing the mine action community of existing international regulations, conventions, treaties and standards which impact on mine action, particularly those referring to basic human rights, clearance requirements, hazard marking and general safety issues.

5. Guiding principles

The preparation and application of IMAS are shaped by five guiding principles: first, the right of national governments to apply national standards to national programmes; second, standards should protect those most at risk; third, emphasis on building a national capacity to develop, maintain and apply appropriate standards for mine action; fourth, to maintain consistency with other international norms and standards; and fifth, compliance with international conventions and treaties.

5.1. National responsibilities and obligations

The primary responsibility for mine action lies with the Government of the mine-affected state. This responsibility is normally vested in a NMAA which is charged with the regulation, management and coordination of a national mine action programme. The NMAA is responsible for establishing the national and local conditions which enable the effective management of mine action. It is ultimately responsible for all phases and all facets of a mine action programme within its national boundaries, including the development of national mine action standards, SOPs and instructions.

3. In this case, international requirements and specifications refers to those treaties, international laws and conventions, international agreements, international ISO standards etc that have already been agreed to by participating nations.

In certain situations and at certain times it may be necessary and appropriate for the United Nations, or some other recognised international body, to assume some or all of the responsibilities, and to fulfil some or all the functions, of a NMAA. (See clauses 7 and 10) In such cases, reference to a 'NMAA' throughout IMAS shall be understood as applying to the United Nations or other recognised international body.

5.2. Humanitarian imperative

Landmines are first and foremost a humanitarian concern and should be addressed from the humanitarian perspective. In this regard, the framing of standards and their application to national mine action programmes and local projects should reflect the fundamental humanitarian principles of neutrality, impartiality and humanity so that mine action is focused on giving support to those who are most vulnerable.

5.3. Capacity building

In countries with long term mine action needs, the development of an indigenous capacity should be addressed from the very outset of a mine action programme. Capacity development is the process by which individuals, institutions and societies (individually and collectively) perform functions, solve problems and set and achieve objectives.⁴

At the national level an indigenous capacity is characterised by a state's ability and willingness to develop and articulate mine action policy and direction. It is also about a state's ability to plan, coordinate, manage and sustain a mine action programme that is accountable, cost-effective and able to address the humanitarian and socio-economic implications of landmine contamination, and to provide appropriate (i.e. enabling or authorising) legislation. Such a capacity includes the willingness to promote the formation of a NMAA and other operational organizations, be they military or civilian elements, commercial companies or NGOs. It also includes the ability to develop, maintain and apply appropriate national standards for mine action.

5.4. Other international standards

IMAS are written to be consistent with other international standards, and to comply with international regulations, conventions and treaties. Precedent and norms already exist at international level, mainly through the International Labour Organization (ILO) for safety in the workplace; the International Organization for Standardization (ISO) provides guidance on risk management (ISO Guide 51) and the application of quality systems (ISO 9001:2000); and numerous international standards, protocols and norms which prescribe rules for the handling, exchange and display of electronic data that has application to the management of mine action information.

5.5. International treaties

IMAS draws on the two main treaties in international law which deal with landmines:

- a) The 1997 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (often referred to as the Anti-Personnel Mine Ban Convention (APMBC) or the Ottawa Convention); and
- b) Amended Protocol II to the UN Conventional Weaponry Convention on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices.

Countries which are States Party to the Anti-Personnel Mine Ban Convention (APMBC) and/or Amended Protocol II have, for instance, certain specific obligations regarding the marking of mine hazards. The provisions of IMAS do not, however, replace the obligations detailed in the Anti-Personnel Mine Ban Convention (APMBC) and Amended Protocol II.

4. Taken from UNDP Definition at <http://www.magent.undp.org/cdrb/techpap2.htm>.

6. International Organization for Standardization (ISO)

ISO is a worldwide federation of national bodies from over 138 countries. Its work results in international agreements which are published as ISO standards and guides. ISO is a NGO and the standards it develops are voluntary, although some (mainly those concerned with health, safety and environmental aspects) have been adopted by many countries as part of their regulatory framework. ISO deals with the full spectrum of human activities and many of the tasks and processes which contribute to mine action have a relevant standard. A list of ISO standards and guides is given in the ISO Catalogue; see www.iso.ch/infoe/catinfo/html.

ISO has an international reputation for integrity and neutrality, and it enjoys a special working relationship with international organizations including the United Nations, and with regional organizations including the European Union. IMAS have been developed to be compatible with ISO standards and guides. Adopting the ISO format and language provides some significant advantages including consistency of layout, use of internationally recognised terminology, and a greater acceptance by international, national and regional organizations who are accustomed to the ISO series of standards and guides. It should also provide the opportunity for IMAS to be accepted and adopted in due course as mature ISO standards.

7. The application of IMAS

These standards have been developed to assist national authorities in the development of national mine action standards. They have no legal standing except where they have been adopted by a national authority as national standards, or where one or more of the specific IMAS is specified in a contract or some other legal instrument, (such as a Memorandum of Understanding (MOU) or a Letter of Agreement). For issues such as safety and basic human rights, there should be absolute agreement on the need to adopt appropriate standards and professional codes of conduct. Guidance on the suitability and application of standards to mine action projects, and how they accommodate these different circumstances, is given below.

During open conflict, and in complex emergencies short of war, humanitarian assistance may be impeded, delayed or prevented, relief workers may face significant security risks, and there may be a need for an extensive and coordinated international response. Mine action will focus on assistance to mine victims and MRE, and some limited mine clearance may be conducted in support of aid agencies and humanitarian relief work, but this will be localised and expedient. It will not normally be possible to conduct technical surveys, and clearance efforts will focus on reducing the immediate risk of death or injury, with little or no attempt being made to conduct post-clearance inspections.

At this stage, a NMAA will not normally have been formed, there may be no centralised direction or coordination, and most management decisions including the prioritisation of work will be made by mine action managers operating at the local level. In such circumstances, local managers should apply judgement and common sense in the application of IMAS. Whenever possible, standards covering safety and occupational health (S&OH) should be applied judiciously, and information on the location of mine and UXO hazardous areas, casualties and technical details on the mines and UXO found should be shared and recorded in a systematic manner - by applying the principles and procedures recommended in IMAS. Even in the absence of a national plan or database, the proper recording of clearance work done is vital, if subsequent re-clearance is to be avoided.

In the immediate aftermath of conflict, the conditions for a stable and long lasting peace are unlikely to be present. The civil infrastructure may have collapsed and there may be large numbers of refugees and internally displaced persons (IDPs). Initially, emphasis will be given to mine action in support of humanitarian activities and peacekeeping tasks, rather than building an effective indigenous capacity. The scale and impact of the mine and UXO threat will become more apparent at this stage with increasing demand for effective coordination, and the prioritisation of mine action projects based on common and consistent criteria. A UN-sponsored Mine Action Centre (MAC) may be established, and emphasis will be given to the introduction of a management information system and GIS, such as the Information Management System for Mine Action (IMSMA), to collate and display information on the threat and its immediate impact. Local mine action managers should continue to apply their judgement on the application of IMAS, with growing emphasis on regulating the marking of hazardous areas, conducting clearance to international standards, submitting formal completion reports, and targeting MRE projects on high risk communities.

The end of the humanitarian emergency phase will normally be marked by the emergence of a recognised governing body demonstrating effective governance. The structures will be in place to ensure that funding for longer term development programmes can be applied judiciously. Emphasis will be placed on building an indigenous capacity including the establishment of a NMAA, coordinating the demands for mine action from all the national and regional authorities. There will also be a requirement for a national MAC. This will act as the operating arm of the NMAA, and its management functions will include the writing of national mine action standards and SOPs. This may require the assistance of the United Nations and mine action NGOs.

The responsibility for mine action will be vested in the host nation, although some assistance may still be required from the international community. This may include assistance in the provision of appropriate equipment, training, quality assurance and post-clearance quality control, and the application of an accreditation scheme and financial control which satisfies the requirements of the international donor community. Advice may also continue to be sought from the United Nations, NGOs and commercial demining contractors in the appropriate application of IMAS and the development of national standards. This will be assisted by management training and the use of technical advisors.

8. Quality and risk management

IMAS have been developed in line with the recommendations and processes contained within the ISO Quality Management systems (ISO 9001:2000) and the ISO Risk Management system (ISO Guide 51). Elements of these systems are contained within the majority of IMAS, thereby making the IMAS themselves an integrated risk and quality management system. There is still a requirement, however, for NMAA and mine action organisations to develop their own specific individual risk and quality management systems.

A guide to the use of risk management in IMAS is contained at Annex B.

9. Conformance

In IMAS, the words 'shall', 'should' and 'may' are used to convey the intended degree of compliance. This use is consistent with the language used in ISO standards and guides. 'Shall' is used to indicate requirements, methods or specifications that are to be applied in order to conform to the standard. It is used sparingly in the IMAS standards. 'Should' is used to indicate the preferred requirements, methods or specifications. 'May' is used to indicate a possible method or course of action.

10. Legal requirements

IMAS have no legal standing except where they have been adopted by a national authority as national standards, or where one or more of the specific IMAS is specified in a contract or some other legal instrument, (such as a MOU or a Letter of Agreement). The wording of each contract or agreement should clarify the application of IMAS standards to each proposed project, and should reflect the national and local circumstances discussed in clause 7 above; i.e. the local security situation, the authority of government, political will and the resources available. Contracts should be consistent with the laws of the mine-affected state. This may cover general issues such as safety and occupational health, environmental requirements, equal opportunities and minimum wage, in addition to legislation specifically relating to the conduct of mine action. Guidance on the preparation and framing of contracts is given in IMAS 07.20.

11. Continual review of IMAS

ISO undertakes a formal review of all of its standards on a three to five year basis. This is to ensure that the standards are still relevant, accurate, achievable and appropriate. IMAS will be subject to a similar formal review process, however, due to the dynamic development and hazardous nature of mine action IMAS will be formally reviewed on a three-year basis. This does not preclude essential amendments being made within that period for reasons of operational safety or efficiency.

11.1. IMAS Review Board

A formal Review Board will be constituted to undertake this task, with the majority of the work being undertaken by E Mail. The Review Board should rarely have to meet. The formal IMAS Review Board should consist of the following members:

- a) Chairman - UNMAS
- b) Members - Donor Representative x 3
Commercial Demining Company Representative x 2
JRC / ITEP Representative
National Programme Representation x 4
National Operator Representation x 2
International NGO/Demining Organisation Representative x 3
UNDP Mine Action Representative
UNOPS Representative (for Contracts)
UNICEF Representative (for MRE)
Subject Specialists (As required)
- c) Secretary - GICHD

11.2. IMAS Steering Group

A Steering Group provides executive direction to the IMAS Review Board. It agrees the membership of the Review Board, the Terms of Reference for the Review Board and endorses or directs the production of new IMAS. The IMAS Steering Group consists of the following members:

- a) Chairman - UNMAS (Chair and Secretary)
- b) Members - UNDP
UNICEF
UNOPS
GICHD (Ex-officio)

11.3. Inter-Agency Coordination Group (Mine Action) (IACG(MA))

The IACG(MA) should meet annually at Principal's Level (Under-Secretary General and Directors) to consider the findings and recommendations of the IMAS Review Board. The IACG (MA) will then either: 1) endorse the findings and recommendations of the IMAS Review Board; or 2) return IMAS that they have concerns about to the IMAS Review Board for further work and reconsideration.

12. Areas of responsibility

12.1. United Nations

The United Nations has a general responsibility for enabling and encouraging the effective management of mine action programmes by continuously refining IMAS to reflect developing mine action norms and practices, and to incorporate changes to international regulations and requirements. UNMAS is the office within the United Nations Secretariat responsible to the international community for the development and maintenance of IMAS, including this Guide.

The United Nations applies IMAS to its mine action programmes, activities and contracts unless the local situation precludes their effective application. In such circumstances, when one or more IMAS is not appropriate, the UN provides alternative, specifications, requirements and guidance.

12.2. Regional organizations

In certain areas of the world, regional organizations have been given a mandate by their member states to coordinate and support mine action programmes within a states' national boundaries. (A particular example of this is the OAS mine action programme in Central and South America).

In these circumstances the regional organization will assume many of the responsibilities and roles of the NMAA, and may also act as a conduit for donor resources. The responsibilities and roles of regional organizations for mine action will vary from state to state and will be subject to a specific MOU, or similar agreement.

12.3. National Mine Action Authority (NMAA)

The NMAA is responsible for ensuring the conditions which enable the effective management of national mine action projects. The NMAA is ultimately responsible for developing and managing the mine action programme within its national boundaries.

The NMAA is responsible for establishing and maintaining national standards, regulations and procedures for the management of mine action operations. These national standards, regulations and procedures should be consistent with IMAS, and other relevant national and international standards, regulations and requirements.

In certain situations and at certain times it may be necessary and appropriate for the UN, or some other recognised international body, to assume some or all of the responsibilities, and fulfil some or all the functions, of a NMAA.

12.4. Mine Action Centre (MAC)

A MAC can be established by either the NMAA, or in specific circumstances by the United Nations. The structure of each MAC will reflect the national mine action plan, but in general they will be responsible for:

- a) the co-ordination or planning of all mine action activities in their area of responsibility;
- b) the provision of technical advice to the NMAA;

- c) the maintenance of mine action records and databases;
- d) (if delegated by the NMAA), the accreditation of mine action organizations; and
- e) the investigation of mine action related accidents and incidents.

12.5. Mine action organizations

NGOs, commercial companies and other organizations involved in mine action shall establish SOPs, instructions and drills which enable mine action projects to be conducted effectively, efficiently and safely. These SOPs should be based on the national standards in the country of operation; (they may be based on IMAS if national standards do not yet exist). Where the NMAA is in the process of formation, such organizations are well placed to assist the formation process, by giving advice and assistance including the framing of national standards.

12.6. Donors

Most mine action is funded by donors – mainly governments, regional organizations and international trust funds. Donor agencies are part of the management process, and as such have a responsibility for ensuring that the projects they are funding are managed effectively, and in accordance with national and/or international standards. This involves attention to the writing of contract documents, and ensuring that mine action organizations chosen to carry out such contracts are competent, and likely to meet the national accreditation criteria. Donors, or their agents, are also partly responsible for ensuring that the standards and guidelines for quality management are applied, including monitoring and the post-clearance inspection of cleared land. This responsibility and accountability is even greater when the NMAA is in the process of formation, and has not had the opportunity to gain experience.

Annex A (Informative) Terms, definitions and abbreviations

A.1.

Amended Protocol II (APII)

Amended Protocol II (APII) to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons (CCW) which May be Deemed to be Excessively Injurious or to have Indiscriminate Effects.

Note: It prohibits the use of all undetectable APMs and regulates the use of wider categories of mines, booby-traps and other devices. For the purposes of the IMAS, Article 5 lays down requirements for the marking and monitoring of mined areas. Article 9 provides for the recording and use of information on minefields and mined areas. The Technical Annex provides guidelines on, inter alia, the recording of information and international signs for minefields and mined areas.

A.2.

Anti-Personnel Mine Ban Convention (APMBC)

Ottawa Convention

Mine Ban Treaty (MBT)

Note: Provides for a complete ban on the use, stockpiling, production and transfer of anti-personnel mines (APMs) and on their destruction. For the purposes of IMAS documents, Article 5 of the APMBC lays down requirements for the destruction of APMs in mined areas. Article 6 details transparency measures required under the Convention including information on the location of mined or suspected mined areas and measures taken to warn the local population.

A.3.

demining

humanitarian demining

activities which lead to the removal of mine and UXO hazards, including technical survey, mapping, clearance, marking, post-clearance documentation and the handover of cleared land. Demining may be carried out by different types of organisations, such as NGOs, commercial companies, national mine action teams or military units. Demining may be emergency-based or developmental.

Note: in IMAS standards and guides, mine and UXO clearance is considered to be just one part of the demining process.

Note: in IMAS standards and guides, demining is considered to be one component of mine action.

Note: in IMAS standards and guides, the terms demining and humanitarian demining are interchangeable.

A.4.

harm

physical injury or damage to the health of people, or damage to property or the environment. [ISO Guide 51: 1999(E)]

A.5.

harmful event

occurrence in which a hazardous situation results in harm. [ISO Guide 51:1999(E)].

A.6.

hazard

potential source of harm. [ISO Guide 51:1999(E)]

A.7.

hazardous situation

circumstance in which people, property or the environment are exposed to one or more hazards. [ISO Guide 51:1999(E)].

A.8.

intended use (land)

use of land following demining operations.

Note: Intended use: use of a product, process or service in accordance with information provided by the supplier. [ISO Guide 51:1999(E)]

Note: Intended land use should be included in the clearance task specification and clearance task handover documentation.

A.9.

mine

munition designed to be placed under, on or near the ground or other surface area and to be exploded by the presence, proximity or contact of a person or a vehicle. [MBT]

A.10.

Mine Risk Education (MRE)

previously referred to as mine awareness

activities which seek to reduce the risk of injury from mines/UXO by raising awareness and promoting behavioural change including public information dissemination, education and training, and community mine action liaison.

A.11.

National Mine Action Authority (NMAA)

the government department(s), organization(s) or institution(s) in each mine-affected country charged with the regulation, management and coordination of mine action.

Note: In most cases the national MAC or its equivalent will act as, or on behalf of, the NMAA.

Note: In certain situations and at certain times it may be necessary and appropriate for the UN, or some other recognised international body, to assume some or all of the responsibilities, and to fulfil some or all the functions, of a NMAA.

A.12.

reasonably foreseeable misuse

use of a product, process or service in a way not intended by the supplier, but which may result from readily predictable human behaviour. [ISO Guide 51:1999(E)]

A.13.

residual risk

in the context of humanitarian demining, the term refers to..... the risk remaining following the application of all reasonable efforts to remove and/or destroy all mine or UXO hazards from a specified area to a specified depth. [Modified from ISO Guide 51:1999]

A.14.

risk

combination of the probability of occurrence of harm and the severity of that harm. [ISO Guide 51:1999(E)]

A.15.

risk analysis

systematic use of available information to identify hazards and to estimate the risk. [ISO Guide 51:1999(E)]

A.16.
risk assessment

overall process comprising a risk analysis and a risk evaluation. [ISO Guide 51:1999(E)]

A.17.
risk evaluation

process based on risk analysis to determine whether the tolerable risk has been achieved. [ISO Guide 51:1999(E)]

A.18.
risk reduction

actions taken to lessen the probability, negative consequences or both, associated with a particular risk.

A.19.
safety

the reduction of risk to a tolerable level. [ISO Guide 51:1999(E)]

A.20.
tolerable risk

risk which is accepted in a given context based on the current values of society. [ISO Guide 51:1999 (E)]

A.21.
standard

a standard is a documented agreement containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose.

Note: Mine action standards aim to improve safety and efficiency in mine action by promoting the preferred procedures and practices at both headquarters and field level. To be effective, the standards should be definable, measurable, achievable and verifiable.

A.22.
Unexploded Ordnance (UXO)

explosive ordnance that has been primed, fused, armed or otherwise prepared for use or used. It may have been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason.

A.23.
victim assistance

survivor assistance

refers to all aid, relief, comfort and support provided to victims (including survivors) with the purpose of reducing the immediate and long-term medical and psychological implications of their trauma.

Annex B (Informative) Guide to risk management and IMAS

B.1. Scope

This Annex provides guidance on risk management and its application to mine action.

B.2. Background

The target of humanitarian demining, as defined in IMAS, is the identification and removal of all mine and UXO hazards from a specified area to a specified depth. The objective is to promote a culture where the demining community seeks to achieve this target by developing and applying appropriate management procedures, by establishing and continuously improving the skills of managers and deminers, and by procuring safe, effective and efficient equipment.

The IMAS for mine clearance requirements (09.10) have been adopted. IMAS incorporates a new approach that takes into account best practice in risk management and quality management. When determining the appropriate resources to be committed to assess the overall quality of a particular clearance operation, appropriate account shall be taken of the intended use of the contaminated land and the potential risk that a missed mine poses to the user.

A revised IMAS for the inspection of cleared land (09.20) has also been adopted. It provides guidance for the inspection of cleared land by sampling. It defines terms, proposes a management system and procedures based on ISO 2859, and provides guidance on the implementation of these procedures.

B.3. The concept of safety

Safety is achieved by reducing risk to a tolerable level, which is defined in this IMAS as **tolerable risk**. There can be no absolute safety; some risk will remain and this is the **residual risk**. [ISO Guide 51:1999(E)].

Therefore, in the context of humanitarian demining, cleared land can never be absolutely safe; it can only be relatively safe. This is an inevitable fact of life, which does not mean that the requirements of the Anti-Personnel Mine Ban Convention (APMBC) to clear all mines and UXO are not being met. It just means that we cannot prove, with 100% confidence, that they are being achieved. The risk and quality management systems recommended in IMAS aim to be as close to that 100% ideal confidence level as is realistically possible, whilst allowing national mine action authorities to determine what is the **tolerable risk** that they are prepared to accept in their particular environments.

B.4. Risk management

B.4.1. Determining tolerable risk

Tolerable risk is determined by the search for absolute **safety** contrasted against factors such as:

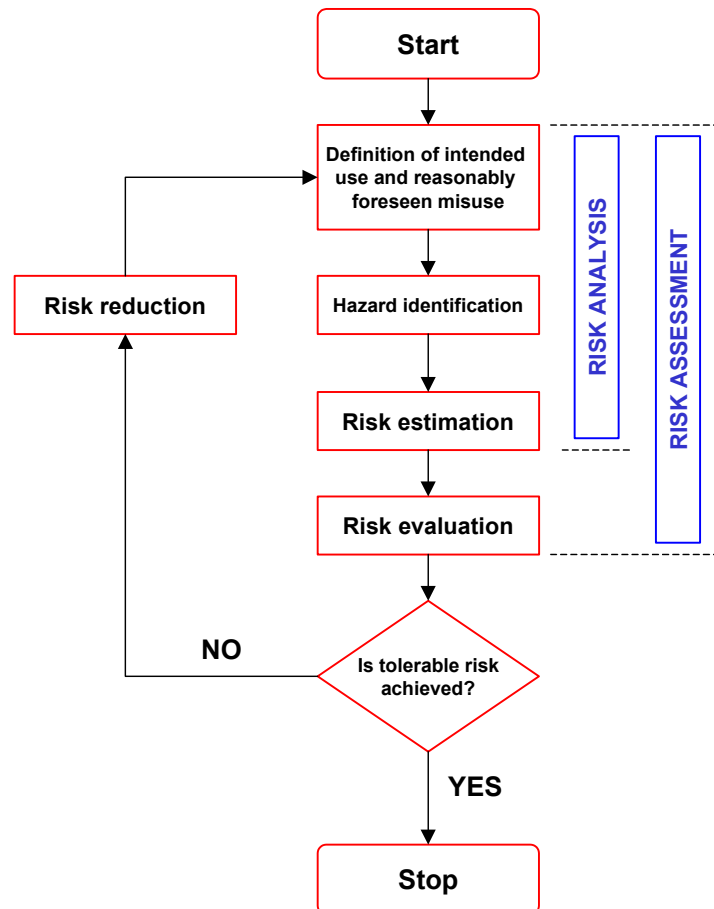
- a) available resources;
- b) the benefit to the user of cleared land;
- c) the conventions of society;
- d) cost effectiveness; and

- e) the technical threat (a combination of hazard and risk).

It follows that there is therefore a need to continually review the tolerable risk that underpins the concept behind demining operations in a particular environment.

B.4.2. Risk assessment and reduction

Tolerable risk is achieved by the iterative process of **risk assessment (risk analysis and risk evaluation)** and **risk reduction**.



B.4.3. Achieving tolerable risk

The following procedure should be used, in conjunction with IMAS, to reduce risks to a tolerable level:

- a) identify the likely user group of the procedure, or of the cleared land;
- b) identify the **intended use** and assess the **reasonably foreseeable misuse** of the procedure or cleared land;
- c) identify each **hazard** (including any **hazardous situation** and **harmful event**) arising in all stages of the process;
- d) estimate and evaluate the **risk** to each identified user or group;
- e) judge if that **risk** is **tolerable** (e.g. by comparison with other risks to the user and with what is acceptable to society); and

- f) if the **risk** is not **tolerable** then reduce the risk until it becomes tolerable.

When conducting the risk reduction process, the order of priority should be as follows:

- a) inherently safe design;
- b) protective equipment; and
- c) information for users.

B.5. Conclusion

It must be emphasised that quality is **NOT** a synonym for safety, and consequently the respective roles of quality management and risk management should not be confused. The success of humanitarian demining is dependent on the integrated application of both quality management and risk management principles and procedures.

The beneficiaries of humanitarian demining programmes must be confident that cleared land is safe for their use. This requires management systems and clearance procedures that are appropriate, effective, efficient and safe. Utilising best practice in risk and quality management will result in significant improvements to humanitarian demining operations. These benefits will be felt on the ground by communities and individuals affected by mines and other UXO.

