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

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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 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 problem related to landmines and Explosive Remnants of War (ERW), which include unexploded sub-munitions, 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 and ERW including unexploded sub-munitions contamination. These activities comprise mine risk education, survey and 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 ERW 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. References

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

4. Mine action

Mine action refers to '.... those activities which aim to reduce the social, economic and environmental impact of landmines and Explosive Remnants of War (ERW) including unexploded sub-munitions. Mine action is not just about clearing and releasing suspected land. It is also about people and societies, and how they are affected by landmine and ERW contamination. The objective of mine action is to reduce the risk from landmines and ERW 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);

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

- b) humanitarian demining, i.e. mine and ERW survey, mapping, marking and, when necessary, clearance;
- c) victim assistance, including rehabilitation and reintegration;
- 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.

5. Purpose of IMAS

IMAS have been developed to improve safety, efficiency and effectiveness in mine action and to promote a common and consistent approach to the conduct of mine action operations. IMAS provide guidance, establish principles and, in some cases, define 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 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 standards until such time as appropriate local modifications are put in place. 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 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.

6. 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.

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.

6.1. National responsibilities

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.

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.

6.2. Humanitarian imperative

Landmines and ERW, including unexploded sub-munitions, 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, equality and humanity so that mine action is focused on giving support to those who are most vulnerable.

6.3. 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 and ERW 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.

6.4. 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. IMAS are also consistent with UN and other international gender and diversity guidelines and ensure the different needs of the men, women and children in the affected communities.

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

6.5. International treaties

IMAS draws on the three main treaties in international law which deal with landmines and ERW:

- a) The Anti-Personnel Mine Ban Convention (APMBC) on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (often referred to as the Ottawa Convention or Mine Ban Treaty);
- b) The Convention on Certain Conventional Weapons (CCW) Amended Protocol II on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices, and Protocol V on Explosive Remnants of War; and
- c) The Convention on Cluster Munitions (CCM) 2008 – a convention that prohibits all use, stockpiling, production and transfer of Cluster Munitions. Separate articles in the convention concern assistance to victims, clearance of contaminated area and destruction of stockpiles.

Countries which are States Party to one or more of the Anti-Personnel Mine Ban Convention (APMBC, the Amended Protocol II of CCW, Protocol V of CCW and the CCM have, for instance, certain specific obligations regarding the marking and clearance of explosive hazards. The provisions of IMAS do not, however, replace the obligations detailed in these conventions.

7. 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.

8. 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 occupational health, 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 and ERW 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 and the protection of the environment should be applied judiciously, and information on the location of mine and ERW hazardous areas, casualties and technical details on the mines and ERW 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 mine and ERW contamination 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 hazards and their 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.

9. 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.

10. 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.

11. 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 for men and women 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.

12. 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.

12.1. 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

12.2. 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:

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

12.3. 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.

13. Responsibilities

13.1. 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.

13.2. Regional organisations

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.

13.3. 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.

13.4. 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.

13.5. Mine action organisations

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.

13.6. 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 (Normative) References

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this part of the standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of the standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid ISO or EN:

- a) IMAS 04.10 Glossary of mine action terms, definitions and abbreviations.
- b) IMAS 07.20 Guide for the development and management of mine action contracts.

Other informative references:

- c) ISO 9000:2008, Quality management systems - Fundamentals and vocabulary.
- d) ISO Guide 51, Safety aspects - Guidelines for their inclusion in standards.
- e) ILO R164 - Occupational safety and health recommendation 1981.
- f) ILO C155 - Occupational safety and health convention 1981.
- g) Anti-Personnel Mine Ban Convention (APMBC).
- h) Convention on Certain Conventional Weapons (CCW), amended protocol II and protocol V.
- i) Convention on Cluster Munitions (CCM).
- j) Mine action and effective coordination: the United Nations Inter-Agency Policy.
- k) UNMAS Gender Guidelines for Mine Action Programmes

The latest version/edition of these references should be used. GICHD hold copies of all references used in this standard. A register of the latest version/edition of the IMAS standards, guides and references is maintained by GICHD, and can be read on the IMAS website (<http://www.mineactionstandards.org/>). NMAA, employers and other interested bodies and organisations should obtain copies before commencing mine action programmes.

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 ERW hazards from a specified area to a specified depth to ensure safe use of the released land. 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 clearance requirements (09.10) has 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 international conventions related to landmines and ERW which include unexploded sub-munitions, 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:

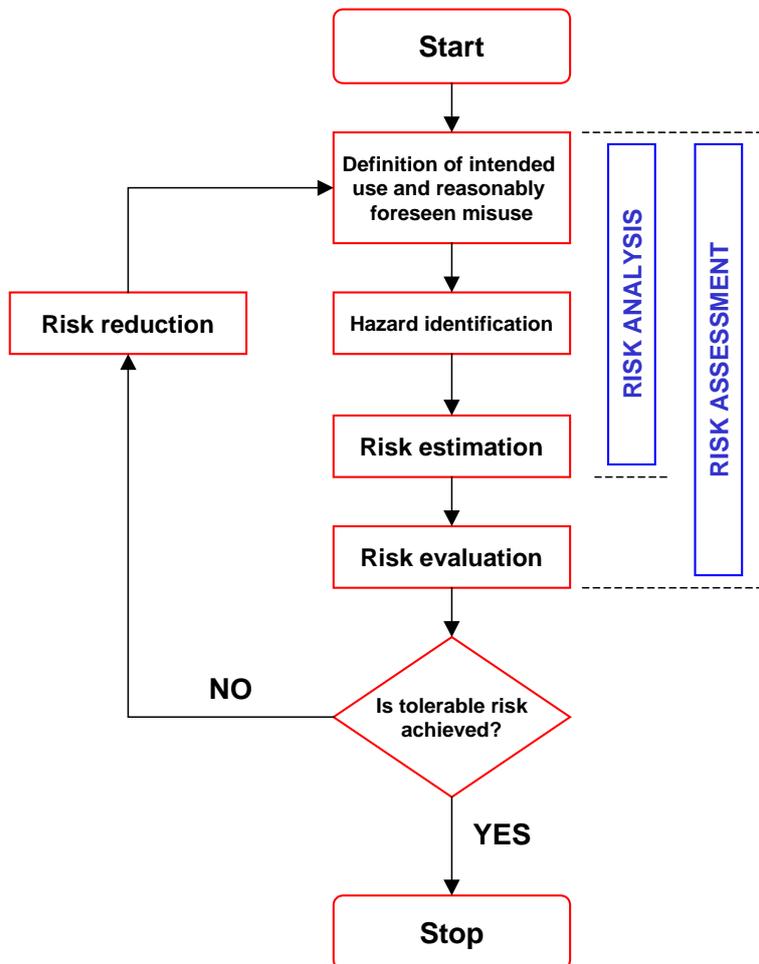
- a) available resources;
- b) the benefit to the user of released land;
- c) local norms and perception;
- d) cost effectiveness; and

e) the hazards and risks.

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 (men, women and children) of the procedure, or of the released 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 mine action programmes must be confident and the process should ensure that the released land is tolerably safe for their use. This requires management systems, survey 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 ERW.

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 will be given a number, and the date and general details of the amendment shown in the table below. The amendment will also be shown on the cover page of the IMAS by the inclusion under the edition date of the phrase *'incorporating amendment number(s) 1 etc.'*

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

The most recently amended IMAS will be the versions that are posted on the IMAS website at www.mineactionstandards.org.

Number	Date	Amendment Details
1	1 Dec 2004	1. Formatting changes. 2. Minor text editing changes. 3. Changes to terms, definitions and abbreviations where necessary to ensure that this IMAS is consistent with IMAS 04.10.
2	23 Jul 2005	1. Annex A, change to the definition of 'Mine Risk Education (MRE)' to be consistent with IMAS 04.10.
3	1 Aug 2006	1. Minor changes/additions to the first and second paragraph of the foreword. 2. Clause 4, move third paragraph up as the first paragraph with some minor text changes. 3. Inclusion of the term 'mines and ERW '. 4. Removal of the term 'threat'.
4	22 Apr 2008	1. Inclusion of clause 2, renumbering of subsequent clauses, addition of an Annex A "normative references", and re-lettering of other Annexes. 2. Minor changes to clause 6.5-a, and addition of Protocol V of CCW in 6.5-b 3. Addition of AXO and CCW definitions in Annex B
5	11 Nov 09	Minor changes throughout. Updating definition of NMAA. Updating UNMAS address Inclusion of cluster munitions convention and minor additions to that effect. Ensuring inclusion of gender and diversity issues -minor additions to that effect. Updating normative references. Removal of Annex B and its references.

