As with anti-personnel mines, cluster munitions and other ERW, the UN, ICRC, and civil society through INEW are working to raise awareness to influence governments to change their rules of engagement and to think more about the consequences before using certain types of explosive weapons in order to prevent or at least minimise civilian harm.

Toxic remnants of war (TRW)

Certain military materials and practices can cause environmental damage with potential to affect civilian health and interfere with post-conflict recovery.

While the impact of explosive remnants of war is comparatively well documented and increasingly well managed, less attention has been given to toxic materials released during military activities. TRW are defined as: 'Any toxic or radiological substance resulting from military activities that forms a hazard to humans and ecosystems'.[17]

The TRW project is reviewing gaps in states' obligations to:

- Reduce the humanitarian and environmental harm of toxic materials of military origin.
- Examine parallel systems of protection based on environmental and human rights law and peacetime regulatory frameworks.[18]

INTERNATIONAL STANDARDS

Coherent global guidelines have been developed to document good practice in the area of international standards and to aid their translation into national standards. Foremost among these are the International Mine Action Standards (IMAS).[19]

IMAS

The International Organisation for Standardisation (ISO) and the IMAS define a standard as an agreement containing technical and other information to ensure that processes and services are fit for their purpose.

The IMAS provide guidance, establish principles and, in some cases, define international requirements and specifications. They are designed to improve safety, efficiency and quality in mine action, and to promote a common and consistent approach to the conduct of mine action operations. IMAS are intended to be

the main guide for the development of National Mine Action Standards (NMAS), standard operating procedures (SOPs) and training material in mine action.

The standards provide general information on existing regulations and treaties affecting mine action, particularly those referring to basic human rights, clearance requirements, hazard marking and general safety issues. They draw on the APMBC, CCM and CCW Protocols and assist national mine action authorities in the development of their own national standards.

Five guiding principles shape the IMAS:

1. IMAS are guidelines for national standards within national programmes.
2. Standards should protect those most at risk.
3. Emphasis is on developing national capacity to develop, maintain and apply appropriate standards for mine action.
4. Standards should be consistent with other international norms and standards.
5. Standards should be compliant with international conventions and treaties.

The IMAS were begun during the 1990s through a consultative process with representatives of the broader mine action community including UN agencies, donors, national mine action authorities (NMAA), ISO, militaries, commercial companies and individual experts. These groups continue to come together in the context of the IMAS Review Board, chaired by the UN Mine Action Service (UNMAS) and with secretariat functions provided by the GICHD.

The Review Board:

- guides the development of draft IMAS;
- debates and discusses issues and is responsible for approving draft IMAS; and
- produces technical notes, which provide principles, advice and information relevant to specific IMAS or technical subjects.[20]

This process is overseen by the IMAS Steering Group. Resulting standards are ultimately endorsed by the UN Inter-Agency Coordination Group – Mine Action (IACG-MA).

IMAS are not legally binding obligations on governments in the way that treaties, such as the APMBC, CCM or CCW Protocols, are for their States Parties. Mine action

takes place in a range of different contexts, all of which have a bearing on how standards are best implemented (eg, during and immediately after armed conflict, during humanitarian emergencies, or even long after conflict in routine civil protection and property development activities).

Treaties lay out legal obligations of States Parties, while IMAS are living documents that evolve and are amended as appropriate. Nevertheless, the IMAS are the main source for the development of national standards, which are legally binding in many countries.

It usually takes time for a NMAA to develop national standards so IMAS are often used in the meantime. In addition, the UN incorporates IMAS into all of its mine action contracts and grants and it encourages militaries to conduct clearance in accordance with IMAS when they are engaged in humanitarian demining. As a result the IMAS have become fundamental to the mine action sector, helping to ensure that work is completed safely and efficiently.

The IMAS framework provides a comprehensive set of standards arranged into fourteen thematic series. They are written to be consistent with other international standards, and to comply with international regulations, conventions and treaties. In addition to the various weapons-related treaties, conventions and protocols, these include International Labour Organization standards for safety in the workplace and ISO guidelines and standards on risk management and the application of quality systems.

FIGURE 4

IMAS FRAMEWORK (AS AT FEBRUARY 2014)

GUIDE FOR THE APPLICATION OF IMAS	
01.10	Guide for the application of IMAS
ESTABLISHMENT OF MINE ACTION PROGRAMMES	
02.10	Guide for the establishment of a mine action programme
EQUIPMENT TESTING & EVALUATION	
03.10	Guide to procurement of mine action equipment
03.20	Procurement process
03.30	Guide to the research of mine action technology
03.40	Test and evaluation of mine action equipment

GLOSSARY OF TERMS AND DEFINITIONS	
04.10	Glossary of mine action terms, definitions and abbreviations
INFORMATION MANAGEMENT	
05.10	Information management
MANAGEMENT OF TRAINING	
06.10	Management of training
MANAGEMENT, ACCREDITATION AND MONITORING	
07.10	Guide for the management of demining operations
07.11	Land release
07.20	Guide for the development and management of mine action contracts
07.30	Accreditation of demining organization
07.40	Monitoring of demining organizations
07.42	Monitoring of stockpile destruction
SURVEY	
08.10	Non-technical survey
08.20	Technical survey
08.30	Post-clearance documentation
08.40	Marking of hazards
MINE AND ERW CLEARANCE	
09.10	Clearance requirements
09.11	Battle area clearance
09.12	EOD clearance of ammunition
09.20	Guidelines for post clearance sampling
09.30	Explosive ordnance disposal – EOD
09.40	Guide for the use of mine detecting dogs
09.41	Operational procedures for MDDs
09.42	Operational testing of MDDs and handlers
09.43	Remote explosive scent tracing – REST
09.44	Guide to occupational health and general dog care
09.50	Mechanical demining
MINE ACTION SAFETY AND OCCUPATIONAL HEALTH – S&OH	
10.10	S&OH general principles
10.20	Demining worksite safety
10.30	Personal protective equipment – PPE
10.40	Medical support to demining operations
10.50	Storage, transportation and handling of explosives
10.60	Reporting & investigation of demining incidents
10.70	Safety & occupational health – protection of the environment

MINE/ERW STOCKPILE DESTRUCTION	
11.10	Guide for stockpile destruction
11.20	Open burning and open detonation (OBOD) operations
11.30	National planning guidelines for stockpile destruction
MINE AND ERW RISK EDUCATION	
12.10	Mine/ERW risk education
EVALUATION OF MINE ACTION PROGRAMMES	
14.10	Guide for the evaluation of mine action intervention

Other international standards

Since the initial development of the IMAS, international standards have emerged in areas adjoining to and overlapping with mine action. These standards may apply to mine action operators, depending on the specific contexts in which they work and the kinds of activities they undertake.

International Ammunition Technical Guidelines (IATG)[21]

In 2008, the need for proper management of surplus ammunition stockpiles became clear. This included:

- Categorisation and accounting systems (essential for ensuring safe handling and storage and for identifying surpluses).
- Physical security systems and surveillance and testing procedures to assess the stability and reliability of ammunition.

The International Ammunition Technical Guidelines (IATG) were prepared by a technical review panel consisting of experts from UN member states, with the support of international organisations and NGOs. The guidelines were completed in late 2011.

The UN reviews the IATG regularly to reflect developing ammunition stockpile management norms and practices, and to incorporate amendments. The IATG deal mainly at the logistic level and cover technical requirements for safe, effective and efficient storage, processing, transport and disposal of ammunition.

International Small Arms Control Standards (ISACS)

Small arms and light weapons (SALW) contribute to armed violence in conflict, post-conflict and other fragile settings. Uncontrolled proliferation, illicit trade and misuse of small arms and light weapons are common.

In July 2008, the UN's inter-agency Coordinating Action on Small Arms (CASA) launched an initiative to develop ISACS along the lines of the IMAS.[22] The ISACS were launched in August 2012 to provide clear, practical and comprehensive guidance to practitioners and policy-makers on fundamental aspects of small arms and light weapons control. The ISACS resemble the IMAS in that they have a framework divided into a series of thematic modules including stockpile management, marking, record keeping and destruction of weapons.[23]

NATIONAL LEGISLATION AND NATIONAL MINE ACTION STANDARDS (NMAS)

In order to coordinate mine action/ERW activities, a mine-affected state normally establishes a national mine action authority (NMAA) and a mine action centre (MAC). The NMAA coordinates the national mine action programme and promulgates relevant policies, national mine action standards (NMAS) and regulations (and in some cases standard operating procedures).

The MAC coordinates mine action activities on the ground. It carries out the policies of the NMAA and coordinates the day-to-day work of organisations conducting mine action operations.[24]

In order for the NMAA and the MAC to be credible and to have legal authority to fulfil their responsibilities, legal instruments are normally used to establish them as formal government entities with official responsibilities.

Mine-affected states use different kinds of legal instruments to create a NMAA and/or a MAC and to regulate mine action activities. These include laws passed by parliament, decrees, orders or similar legal instruments issued by the President or Prime Minister. Experience and studies show that it is advisable for states to adopt national legislation to coordinate and regulate mine action.[25]

National legislation

National legislation typically identifies the roles and responsibilities of the NMAA and MAC. It also indicates which government ministry, department or member

of the executive will oversee the NMAA's various activities, as well as identifying the ministries and/or officials who are to be members of the NMAA – normally officials from the Ministries of Agriculture, Defence, Education, Foreign Affairs, Health, Infrastructure etc.[26]

Mine action legislation should be designed to address the country's specific mine/ERW problem. It identifies the components of mine action that will take place within the country, such as:

- survey, mapping and marking of mined/ERW-contaminated areas;
- clearance;
- mine/ERW risk education;
- responsibility for quality management;
- stockpile destruction (for states that are a party to the APMBC); and
- victim assistance.[27]

Legislation is used to authorise the MAC to draft national standards, administrative directives and regulations for approval by the NMAA, and to ensure that once approved, they are applicable to all mine/ERW activities in the country.

In order to ensure that mine/ERW operations are carried out safely and in accordance with national priorities, mine action legislation generally gives clear authority to the MAC to accredit all mine action operators in the country and to monitor their activities on an ongoing basis. It is also through legislation that the MAC is required to use IMAS as a basis for developing NMAS.[28] For states that are party to the CCW, APMBC or CCM, mine action legislation is often used as a means to implement the requirements of these treaties.

Further detail on the development of national legislation within the mine action programme life cycle can be found in Chapter 2.

National Mine Action Standards (NMAS)

NMAS are developed to customise IMAS to fit the environment and context of a particular country. They are intended to:

- improve safety and efficiency;
- provide common agreed levels of performance;
- improve coordination;

- ensure national capacity building;
- ensure confidence in mine action; and
- assist states in meeting their treaty obligations.

While drafting the NMAS it is important that the NMAA and the MAC fully understand the mine/ERW problem in the country, engage all stakeholders in the process and respect the principles represented by IMAS.

The NMAS should include norms and policies already in place and any requirements of the NMAA and demining operators in the country.[29] They address functional components of mine action (MRE, Survey, Clearance, Stockpiles, Victim Assistance) as well as mine action activities (accreditation, surveying, marking, reporting, clearing, BAC, EOD, handover, monitoring, inspection of mine dogs, machines, medical support etc.)

In most cases, the NMAA delegates responsibility to the MAC to draft the NMAS, while retaining responsibility for their formal approval.

NMAS and liability

NMAS provide an important opportunity to address questions of liability.

In the case of public land, prior to survey and clearance, the national government normally bears responsibility for the hazardous area and any accidents or incidents that occur. During survey and clearance the responsibility usually falls on the organisation carrying out the mine action operations.

It is important that the NMAA and MAC develop policies that detail liability aspects, including the shift in liability from the demining operator to the government or local community when specific criteria have been fulfilled. This necessitates clear standards and procedures for the handover process, and careful documentation throughout demining operations.

Standards should also be in place for the safekeeping of documentation to support future investigations, in the event of any accident or incident, or should any other evidence of unacceptable residual risk be discovered.[30]

Legal status of NMAS

An important aspect of NMAS is their legal status. Although many states have developed their own NMAS based on IMAS, the legality and overall mandate of

these national standards is sometimes called into question owing to the manner in which they were promulgated and the clarity of the underlying legislation.

In most cases NMAS are recognised and used by elements of the mine action programme, but in a few cases NMAS are used only by the MAC and are neither known of, nor implemented by, other organisations (even including other government departments with responsibility for some aspects of mine action).

National programmes that include a wide variety of organisations and activities, especially those where there is a lot of directly contracted commercial activity in support of civil engineering, minerals and resources industries, are particularly susceptible to such uncertainty. Standards are developed to help sustain confidence in the quality of work. Different actors, apparently working to different standards, make it harder to maintain confidence across all activities. Legislation plays an important part in establishing the credibility, applicability and enforceability of NMAS.

RELEVANCE OF INTERNATIONAL LAW AND STANDARDS TO THE PILLARS OF MINE ACTION

Laws and standards affect the work that is undertaken within each of the pillars of mine action. In particular:

- Land release (including survey and clearance)
- Stockpile destruction
- Victim assistance
- Mine risk education
- Information management in support of the different pillars

Land release (survey and clearance)

Land release 'describes the process of applying all reasonable effort to identify, define, and remove all presence and suspicion of mines/ERW through non-technical survey, technical survey and/or clearance. The criteria for 'all reasonable effort' shall be defined by the NMAA'.[31]

The legal requirements affecting mines, UXO, cluster munitions and ERW are found in the CCW's Protocols II, II amended, and V, the APMBC and the CCM.