STOCKPILE DESTRUCTION AND AMMUNITION SAFETY MANAGEMENT
KEY MESSAGES

- There is increasing concern about unplanned explosions of ammunition stockpiles that lead to civilian casualties and damage to property.
- Theft of ammunition from stockpiles makes material available for IEDs.
- Spontaneous ignition arising from chemical reactions in aging and deteriorating ammunition in stockpiles is the cause of many explosions.
- Prevention is better than cure – it is cheaper to destroy excess and dangerous stockpiles of ammunition now than to pay clear up costs and suffer the impact of unplanned explosive events.
- International efforts are now turning towards ensuring that ammunition is well managed and appropriately stored.
- Programmes of Physical Safety and Stockpile Management (PSSM) of both ammunition and weapons are attracting more attention.
- Programmes to assist nations in destroying excess and dangerous stock are being implemented worldwide.

BACKGROUND

Each State Party to the Anti-Personnel Mine Ban Convention (APMBC) is required to destroy all of its stockpiled anti-personnel mines\(^1\), and those States Parties in a position to do so must assist others to fulfil this obligation.\(^2\) The Convention on Cluster Munitions (CCM) also requires States Parties to destroy stockpiles of cluster munitions under their jurisdiction and control.\(^3\)

Destruction of banned weapons under international treaties is just one element within the wider activity of stockpile destruction. This also encompasses elimination of other weapons and ammunition that are obsolete, dangerous or surplus to requirements.

The need to manage ammunition appropriately is clear. The international community has increased efforts to minimise the risks of unintended explosions of ammunition stockpiles, but they continue to occur, causing great loss of life. Thousands of people have been killed and injured by such explosions in recent years.
STOCKPILE DESTRUCTION

Definition

IMAS states that the term ‘stockpile’ refers to a large accumulated stock of explosive ordnance.4

• Stockpile destruction is defined as ‘the physical destructive procedure towards a continual reduction of the national stockpile’.5

• A State or other entity holding stocks of weapons may wish to destroy explosive ordnance as part of a disarmament process, to implement a legal obligation, upon expiry of shelf life, or for reasons of safety.

The IMAS focus upon the destruction of anti-personnel mines, based on the requirements of the APMBC and, indirectly, of Amended Protocol II to the Convention on Certain Conventional Weapons. A wide variety of techniques exist for the destruction of other explosive ordnance stockpiles.
The Conventions do not define what constitutes ‘destruction’. The term has been interpreted by States Parties broadly to include a number of different approaches, among others, dismantling, crushing and recycling, as well as physical detonation.

**Options for destruction**

Physical destruction techniques range from relatively simple open burning (OB) and open detonation (OD) techniques, through contained detonation and crushing to highly sophisticated industrial processes. The costs of demilitarisation\(^6\) of anti-personnel landmines are generally reported to range from US$ 2 to US$ 4 each, depending on the type of mine, although some States have quoted higher figures. Figures as low as one Euro per bomblet (submunition) are quoted for the destruction of cluster munitions.\(^7\)

Options for destruction (and the associated costs) depend to a great extent on the quantity of ammunition, its condition, storage history and quality of records. Small stockpiles of poorly stored ammunition, without a complete documented history, are unlikely to be acceptable ammunition, without a complete documented history, are unlikely to be acceptable for sophisticated industrial processing.
Generally, OD is likely to be the cheapest method of destroying smaller stockpiles (up to one million anti-personnel landmines for instance). OD does require significant knowledge of explosives engineering and close supervision of personnel as the shockwave caused by a detonation in a badly prepared demolition pit may not destroy all the munitions but throw some out, requiring additional EOD work in a potentially more dangerous situation (there is a possibility that some throwouts may be armed).

Industrial scale demilitarisation has many advantages, among them the option for mechanical disassembly, incineration in environmentally-controlled systems and the ability to operate 24 hours a day, 365 days a year. Its major disadvantage is the high capital set-up costs of design, project management, construction and commissioning, as well as the significant cost and time implications that can be associated with recovery from an unplanned explosion.

Operating costs are generally lower than OBOD (typically 50 US cents to US$ 1) although high labour costs in developed countries account for a large percentage of the OBOD costs. Industrial demilitarisation was applied successfully in Albania where all anti-personnel landmines stocks were demilitarised in the same factory where some of them had originally been produced.8

Nevertheless, OBOD can be a cheaper option in some circumstances, depending on economies of scale. In the United States (US), for example, average OBOD costs (for all ammunition types) are US$ 850 per tonne, whereas industrial demilitarisation is US$ 1,180 per tonne.9 Salvage of metallic scrap or explosive waste can result in a potential income stream and some explosive fillings may be
useful to the commercial explosives industry. Other metals (such as copper) may also be of interest to commercial markets.

In many countries, the development of purpose-built demilitarisation facilities, to enable States Parties to fulfil their obligation for stockpile destruction, will be well beyond available resources and not a practical option. Factors such as cost, location and safety may mean that OBOD is the only pragmatic and feasible option. This is not only true for items covered by the conventions, but for all ammunition which may be overstocked or stored after its useful life has ended, either because of its age or because the holders no longer possess the weapons required to use the ammunition.

**Preparation for destruction: disassembly techniques**

It may be necessary to disassemble or break down ammunition prior to the destruction process. This may be required to limit the amount of contained explosive that can be incinerated, the design of the item or the technical requirement for different components to have separate destruction methods.

Available technologies include:

- Manual disassembly
- Mechanical disassembly/breakdown
- Robotic disassembly
- Cryofracture
- Hydro-abrasive cutting
- Microwave explosive melt-out.

All of these methods require the movement of exposed bare explosive to the final destruction facility. The decision to opt for any particular technique is likely to be based on cost, safety and environmental considerations, as well as the type of munitions being destroyed.

**Manual disassembly**

This technique involves the use of human resources to take ammunition apart by manual actions using simple hand tools. It has the advantage of requiring limited capital investment, but is a labour-intensive process that results in relatively slow throughput rates. The method requires semi-skilled, well-disciplined staff able to concentrate for long periods.
Mechanical disassembly and breakdown

Mechanically-operated systems can be used to take ammunition apart. The different technologies available include pull apart, defuizing and separating the different explosive components. Breakdown techniques are used to expose the explosive fillings of ammunition before the destruction phase.

In contrast to manual disassembly, mechanical disassembly/breakdown has high production rates. It is an efficient system and has low staff requirements. It is also environmentally friendly and the technology is readily available. A major disadvantage is the high initial capital investment, although when dealing with larger national stocks, this option can offer significant economies of scale. Breakdown techniques also bring the risk of an explosion during processing.

Robotic disassembly

A fully-automated disassembly system has similar advantages and disadvantages to mechanical disassembly, but the initial capital costs are much greater. The system is only economically efficient for very large quantities of ammunition.

Cryofracture

Cryofracture breaks down an item of ammunition into pieces small enough to be processed through an incineration destruction method. It involves the use of liquid nitrogen to make the munition casing more brittle by cooling it to minus 130°C. The munition can then be shattered using simple mechanical shear or press techniques. A cryogenic wash out system is in the early stages of development. The principle is similar to cryogenic fracture, except that in this case the filling is attacked with liquid nitrogen in order to make its removal easier.

Cryofracture is an environmentally friendly technique with low staff requirements. It can be used for any type of munition, explosive or propellant and requires limited pre-preparation of the munition. There is no secondary waste stream, which reduces final disposal costs. In financial terms, relatively low capital investment is required for set up costs.

Hydro-abrasive cutting

Hydro-abrasive cutting (HAC) uses water and abrasives at pressures ranging from 240 to 1,000 bar to cut open ammunition. There are two distinct technologies, ‘entrainment’ and ‘direct injection’ (the preferred option for safety reasons).
HAC systems have limited staff requirements and a wide range of target munitions can be processed. The explosive safety of HAC systems is well proven and it is a cost-effective method in comparison to other pre-processing methods.

The major disadvantage is the requirement for initial high capital investment for infrastructure. The systems also produce contaminated wastewater, which requires a complex filtration system to clean it. In terms of post-process operations, the explosive content is ‘grit sensitised’ and requires careful handling during any further processing or destruction to avoid inadvertent detonation.

**Microwave melt-out**

This technology is under development in the US, using microwaves to heat up TNT-based explosive fillings. It is a rapid, clean technique but has the major disadvantage of lack of heating control which can lead to ‘hot spots’ forming and initiation of the filling. It is more energy efficient than steam melt-out systems and improves the value of recovered explosives. Work continues on its development, as it is not yet a feasible production technique.

**Sea dumping and landfill**

The deep sea dumping of ammunition and explosives has now been outlawed in response to environmental concerns. Putting these items into landfill sites is prohibited for the same reason. Both these methods are now recognised as being environmentally unacceptable.

**Benefits of starting early**

There are considerable cost benefits to be gained by the early initiation of stockpile destruction activities. Improved disposal techniques enable the recycling of most waste with potential income from the sale and use of rare metals and other component parts. When stockpiles are destroyed or reduced there are often considerable savings on the cost of storage and there is the increased peace of mind when the risk of unplanned explosions is reduced.

The relative cost of managing stores safely is minimal compared to the costs associated with human loss, property damage and clear up operations after an unplanned explosion.

**Identification, recording and reporting**

Destruction programme transparency is an important security and confidence-building measure. International organisations, national ambassadors, media and
NGOs are often invited to witness the destruction process and are given access to ammunition accounts for anti-personnel mines and cluster munitions so that they can verify those destroyed against declared stockpile levels.

ENVIRONMENTAL CONSIDERATIONS

Some concerns have been expressed about the environmental consequences of destroying certain kinds of ammunition by open detonation, both by states holding the stockpiles and by potential donors sensitive to national or international environmental legislation.

The PFM-1 remotely-deliverable, anti-personnel mine contains hydrogen chloride for instance, the open detonation of which may lead to unacceptable environmental pollution. A solution is to conduct contained detonation in a pollution control chamber, as this type of mine cannot be disassembled. Similar responses may be appropriate with other particular munitions.

Traditionally, military organisations are responsible for the destruction of ammunition using OBOD techniques, while civilian companies use industrial demilitarisation, although post-conflict work in Iraq and Afghanistan, as well as support to States Parties to the CCM provided by NGOs, has blurred this distinction.

The availability of competent manpower has a significant influence on the available options for destruction. Certain techniques result in the production of ‘special’ or ‘hazardous’ waste, which requires destruction or disposal in an environmentally benign manner. A specialist environmental disposal company usually does this.

In Europe, some nations have banned OBOD of all munitions unless there is no alternative and it can be justified on safety grounds. This has necessitated the construction of expensive demilitarisation facilities that rely on the disposal of a wide variety of ammunitions types (not just those covered by the conventions) in large quantities to deliver the necessary economies of scale.

Research into the environmental impacts of OBOD is still on-going. Sound scientific evidence indicates that OBOD of certain ammunition types may not pose any greater threat to the environment than the alternatives (including the environmental implications of not carrying out disposal). OBOD remains a viable destruction option for stockpiles and may well be the most suitable option for regions with little or no industrialised demilitarisation capacities.
DETERMINING THE APPROPRIATE METHODOLOGY & TECHNOLOGY FOR STOCKPILE DESTRUCTION

The IMAS make clear that it is not possible to provide ‘template solutions’ for ammunition destruction. The selection, by a national authority, of the most suitable technique or technology depends primarily on the resources available, the physical condition and quantity of the stockpile, the national capacity and applicable environmental and explosives legislation.

Stability in storage and degradation or deterioration rates of explosive content influence the degree of urgency for disposal, the type of transport that can safely be used and the destruction methodology.

The IMAS note that, although anti-personnel mine stockpiles tend to be relatively small in terms of weight and net explosive content, they are typically large in quantity and the destruction of the stockpiles can be a complex logistic operation.10

STOCKPILE DESTRUCTION OF ANTI-PERSONNEL MINES

On 17 August 2000, the UN Inter-Agency Co-ordination Group on Mine Action agreed that stockpile destruction would be formally incorporated as the fifth core component of mine action. Accordingly the IMAS developed under UN auspices also deal with stockpile destruction. In addition, the stockpile destruction section of the UN’s Electronic Mine Information Network (E-MINE) provides a consolidated reference point containing technical papers, policy guidelines, lessons learned and other relevant information on the destruction of stockpiles.

The UN has a general responsibility to encourage and support the effective management of stockpile destruction programmes. According to the UN Development Programme (UNDP), stockpile destruction should form part of each integrated mine action programme that UNDP supports. The GICHD also provides technical assistance for the destruction of stockpiles to States requesting it.

In terms of stockpile destruction, anti-personnel mines are no different to other types of munitions. They all contain fuzing systems and high explosives so the inherent dangers present during transport, storage, processing and destruction are generally the same. For this reason, the IMAS recommend that the stockpile destruction of anti-personnel mines should not be looked at in isolation.11

An influential factor in determining the method of anti-personnel mine stockpile destruction is likely to be economy of scale. The greater the number of anti-
personnel mines requiring destruction, the larger the economy of scale and the wider range of available technology options. National authorities may wish to consider anti-personnel mine destruction on a regional basis, and/or to include other ammunition in the destruction plans, in order to achieve economies of scale.

STOCKPILE DESTRUCTION OF CLUSTER MUNITIONS

A range of techniques are recommended for the practical destruction of cluster munition stockpiles, ranging from open detonation to closed detonation or incineration, disassembly, cryofracture and ‘harvesting’ of explosives.

Open detonation

Open detonation techniques may be the only practical solution to destroy stockpiles of cluster munitions for certain countries. This is especially the case where the numbers to be destroyed are limited and where there is no suitable industrial base to develop alternative techniques.

Open detonation is not generally suitable for large-scale destruction of cluster munition stocks. Very careful positioning and calculation of donor charges is necessary to ensure the destruction of all submunitions and supplementary charges. Incomplete detonation of submunitions may result in ‘throw-outs’ (items which are ‘thrown-out’ of the demolition pit).

Closed detonation

Two techniques for closed detonation have been used successfully for cluster munitions destruction: detonation deep underground in worked-out in mines in Norway; and destruction in closed detonation chambers.

Closed incineration

Complete cluster munitions cannot be incinerated but their explosive components can be once the munitions have been broken down. Pre-treatment may include the removal of fuzes from submunitions (after which the fuzes can be incinerated), the removal or deformation of the cones of shaped charges and, in the case of rocket-fired cluster munitions, breaking down the rocket motors into segments suitable for incineration.

Closed incineration requires highly specialised explosive waste incinerators with pollution control systems to prevent the emission of noxious gases.
**Disassembly**

Disassembly of cluster munitions is possible at two levels: extraction of submunitions from the main canister; and disassembly of the submunitions themselves.

The extraction of submunitions from the main canister may be useful in allowing recovery of material for recycling. It helps to reduce the risk of throw outs during open detonation disposal. Disassembly of submunitions may offer additional opportunities for the recovery of materials (such as copper from shaped charge warheads), and can increase the range of options for final disposal of energetic and inert components.

Disassembly of some Soviet and British cluster munitions, including submunitions, has been successfully implemented (with the support of international mine action NGOs) in several countries, with relatively small stockpiles, as part of their CCM compliance processes. This technique requires limited capital investment, but is a labour-intensive process which results in relatively slow throughput rates. The method requires semi-skilled, yet well-trained staff. Not all types of cluster munition are suitable for this technique.

Disassembly is not a complete solution to cluster munition destruction, because the explosive components require further treatment after disassembly. This may involve further use of other techniques such as closed incineration or cryofracture.

**Cryofracture**

This technique is widely used for the neutralisation of small submunitions such as the M42, M46 and M77 grenades disbursed by artillery cluster munitions. The grenade fuzes are cut off mechanically before the grenades are passed through a bath of liquid nitrogen to embrittle their structures. They are then crushed to expose the explosive filling and passed under a flame in an enclosed environment to ignite the explosives, which burn to extinction. The metal scrap is then separated into ferrous and non-ferrous elements.

**Harvesting of components of cluster munitions**

A cutting machine, located behind protective walls and embankments, is used for demilitarisation. The machine can cut ammunition safely, which allows explosives to be recycled and the metal casing to be turned into scrap. Shaped-charge artillery submunitions harvested by the process have been used for EOD operations, which may also have the advantage of providing donor charges for mine clearance.
CLUSTER MUNITIONS IDENTIFICATION TOOL

The GICHD’s Cluster Munitions Identification (CM ID) Tool – a web-based system that enables the identification of cluster munitions – allows countries to easily assess whether or not they have weapons that are classified as cluster munitions prohibited by the CCM.

The CM ID Tool provides an easily accessible and searchable database using graphic navigation to identify cluster munitions based on weapon category. It shows types and combinations of explosive submunitions and cluster munitions, and helps identify remnants of bomblets and cluster munitions – such as nylon ribbons, parachutes, and metal fragments. It also provides a series of images of typical strike patterns of the most common cluster munition types.

Link to the CM ID tool: http://cmid.gichd.org

FUTURE INTERNATIONAL EFFORTS

Improving the safety of ammunition stockpiles worldwide requires a determined effort to educate stockpile owners to establish effective ammunition safety management regimes.
Preventive actions

The education of the local workforce to enable it to safeguard stocks effectively is of vital importance. Although immediate efforts are focused on making safe the stocks and facilities that already exist, local workforces are also taught how to prevent stockpiles from deteriorating once more.

The money spent on the prevention of a large scale ammunition storage explosion is many times less than the money spent on clearing up after an accident. The monetary costs involved after a large explosion, together with loss of life and destruction and replacement of buildings and equipment, are considerable.

Mobile destruction facilities

In many developing nations a cost effective way to destroy surplus stockpile ammunition, and ammunition which is potentially dangerous, is to use purpose-built mobile demilitarisation facilities. There are several on the market. This should be a better alternative to destroying all items by OBOD, with the associated safety, cost and environmental implications.

Logistics, recycling and cost recovery

Effective plans to enable all potential revenue streams to be tapped (such as from recovered materials) will enable more to be done. The recovery of items and substances that can be sold on is one of these sources of income. A successful recycling system for components can be established to ensure maximum returns.

AMMUNITION SAFETY MANAGEMENT (ASM)

ASM as part of the PSSM Process

Physical Security and Stockpile Management (PSSM) is the term coined by the US Defense Threat Reduction Agency (DTRA) to describe their programme to secure weapons and ammunition stockpiles throughout the world. The term Ammunition Safety Management (ASM) is applied to those elements of PSSM specifically concerning actions to improve the safety, security and storage conditions of ammunition stockpiles.
Incidents and causes

In 2008 alone explosions in Albania, Bulgaria, Iran, Iraq, Ukraine and Uzbekistan caused hundreds of casualties and scattered munitions over many square kilometres of previously safe land.\(^{12}\) Figures produced by the Small Arms Survey suggest that an average of 2.5 ammunition storage explosions occur every month, and that the number of unplanned explosions is increasing.\(^^{13}\)

The problem is particularly significant in countries where basic rules of ammunition safety management are frequently not followed, in regard to both the condition of the ammunition and the circumstances of its storage.

The most common cause of unplanned explosions is fire arising from careless smoking, ignition of dry vegetation by the sun, general negligence and a range of other causes. Where undergrowth is allowed to grow out of control or where other flammable material is present the situation is made worse as fires spread quickly and out of control.

All ammunition is affected by fire but items over 20 years old are particularly susceptible, especially ammunition containing propellant. Aging propellant gradually uses up the stabiliser incorporated within it when it was manufactured, in some cases leading to auto-ignition of the nitrocellulose within the propellant. Propellant also ignites very easily if exposed to fire.

Definition of Ammunition Safety Management

Ammunition Safety Management includes the assessment of ammunition and facilities as well as the development of procedures and practices to ensure that they remain safe and secure, presenting no hazard to people, property or the environment.

Effective ASM is achieved by managing stocks of ammunition to ensure they are stored, transported and disposed of safely. It involves the management of munitions to ensure that they are rotated in storage and used in a timely manner, so that they never become unstable, and that storage facilities and equipment are safe and meet required standards. It ensures that potentially dangerous ammunition is segregated and disposed of before it becomes a hazard.

ASM also ensures that all actions taken in connection with ammunition comply with applicable regulations and are carried out by suitably qualified individuals. An important part of ASM is the management of the storage area to ensure that it is not in a condition where fires can start and spread easily.
Explosive risks

Two principal risks arise from the unsafe storage of ammunition: risk to the population and risk to the environment in the vicinity of ammunition storage areas (ASAs).

Ammunition in ASAs may also be vulnerable to theft by terrorists and other criminal groups. Civilians in developing countries may even target ASAs to steal munitions and so earn income from the sale of scrap metal or explosives. The inherent risks posed by the storage of ammunition and explosives can be significantly reduced by correct management of the ammunition and ASA.

Ammunition is designed to be as lethal as possible when used and as safe as possible in storage, but by its very nature it contains highly reactive compounds. The level of risk associated with it is primarily dependent on the condition of the ammunition, the competence of responsible personnel, the management systems in place and the storage infrastructure and surrounding environment.

Ensuring the safety of ammunition requires that it be properly manufactured, tested and inspected, assigned a shelf life and be stored with other appropriate items (in accordance with compatibility mixing rules).

Security concerns and risk of proliferation

Ammunition should be stored in a safe and secure facility. Theft of ammunition either for profit or for use by unauthorised persons is a significant problem, especially in areas with a high crime rate or where terrorist groups are active.

Measures to assist in securing ammunition include:

- Maintaining accounts and conducting stock checks, especially of attractive items such as detonators, grenades, complete weapon systems and bulk explosives.
- Making buildings and sites as secure as circumstances allow, controlling access and maintaining an effective guard force.

Environmental factors affecting ammunition

Ammunition is susceptible to extremes of temperature, rapid changes in temperature, physical impact/shock, high levels of electro-magnetic radiation, moisture and damage by vermin.
To counter local environmental effects ammunition and explosives should be kept dry and well ventilated, as cool as possible and free from excessive or frequent changes in temperature, protected from direct sunlight and protected from excessive impact/vibration.

Some substances used in ammunition and explosives attract and hold moisture, which may result in the degradation of explosive performance. It may also cause them to become dangerous to handle if sensitive explosive crystals form between the fuze and main body of the munition.

Rain, dampness and humidity can cause significant damage to ammunition and explosives in a very short time. Every effort should be made to ensure dry conditions during both storage and transportation. Good ventilation of ammunition and explosive stores helps keep them cool and prevents condensation.

**Mitigating methods**

Problems relating to ammunition storage have a number of solutions. The most reliable and effective are to make stocks safer while simultaneously teaching owners of the ammunition how to manage it safely, efficiently and effectively. This can be done at the same time as ensuring that existing ammunition and explosives are stored and looked after in a manner appropriate to the facilities available to the host/partner nation.
A simple routine can be followed, requiring limited external expert intervention and low capital funding, while making use of locally available labour:

- Inspect ammunition to ensure it is safe to move; destroy any that is not.
- Move ammunition away from areas of habitation to an area with few or no inhabitants.
- Construct or adapt storage to the best standard practicable under local circumstances.
- Introduce an effective and reliable ammunition management regime to ensure that potentially dangerous ammunition is destroyed in a controlled manner and that remaining ammunition is stored in the best environment possible.
- Ensure all workers are trained in the management of ammunition.
- Adhering to a strict inspection routine, regularly rotate stock and dispose of ammunition before it can become dangerous.
- Ensure shelf lives, storage and usage history, local meteorological conditions, etc. are all taken into account when considering which items are potentially unsafe.
- Continue to improve facilities as resources (including time) become available.
- Aim to achieve internationally acceptable standards of ammunition management in accordance with recognized standards and procedures, such as those set out in International Ammunition Technical Guidelines (IATG).

AMMUNITION SAFETY MANAGEMENT TOOLSET

To make worldwide ammunition stocks safer there are many measures that need to be taken. Most of those connected with the safety of ammunition are to be found in the International Ammunition Technical Guidelines.\textsuperscript{14} IATG are most applicable under circumstances where funding, facilities and competence are already available to a high standard. They are expensive to implement from a lower baseline.

The GICHD ASM Toolset contains instructions and guides on how to move towards these standards at relatively little cost. The toolset contains advice on actions that can be taken to make significant improvements to safety while only incurring the cost of labour and transport; taking these measures is preferable to doing nothing.\textsuperscript{15}
A major part of the safety of ammunition is its security. There are measures in the toolset that establish low cost protection, although these are only interim measures and will not deter a determined foe. The IATG gives details of what to aim for – there are also many other sources of detailed security information that can be consulted when improving longer term security of ammunition stocks.

In addition to the risk of explosions within stockpiles and holding areas/stores, there is the worry of explosive remnants of war (ERW) or routinely stored ammunition being taken by terrorist groups or insurgents for their own use.

It is important to gather together or destroy all discovered UXO and AXO – even if an item is incapable of being used in its intended role it may still be possible to use it in a different weapon or as a component of an IED. The toolset also covers actions necessary to address these requirements.
ENDNOTES


2 Ibid, Article 6 of the Convention


5 Ibid.

6 Ibid.: ‘...the act of removing or otherwise nullifying the military potential of a munition. Demilitarization is a necessary step for military items prior to their release into a non-military setting. The process that renders munitions unfit for their originally intended purpose...’


8 Ibid.

9 Ibid.


11 Ibid.


