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TRAINING AND EDUCATION ON SMALL ARMS



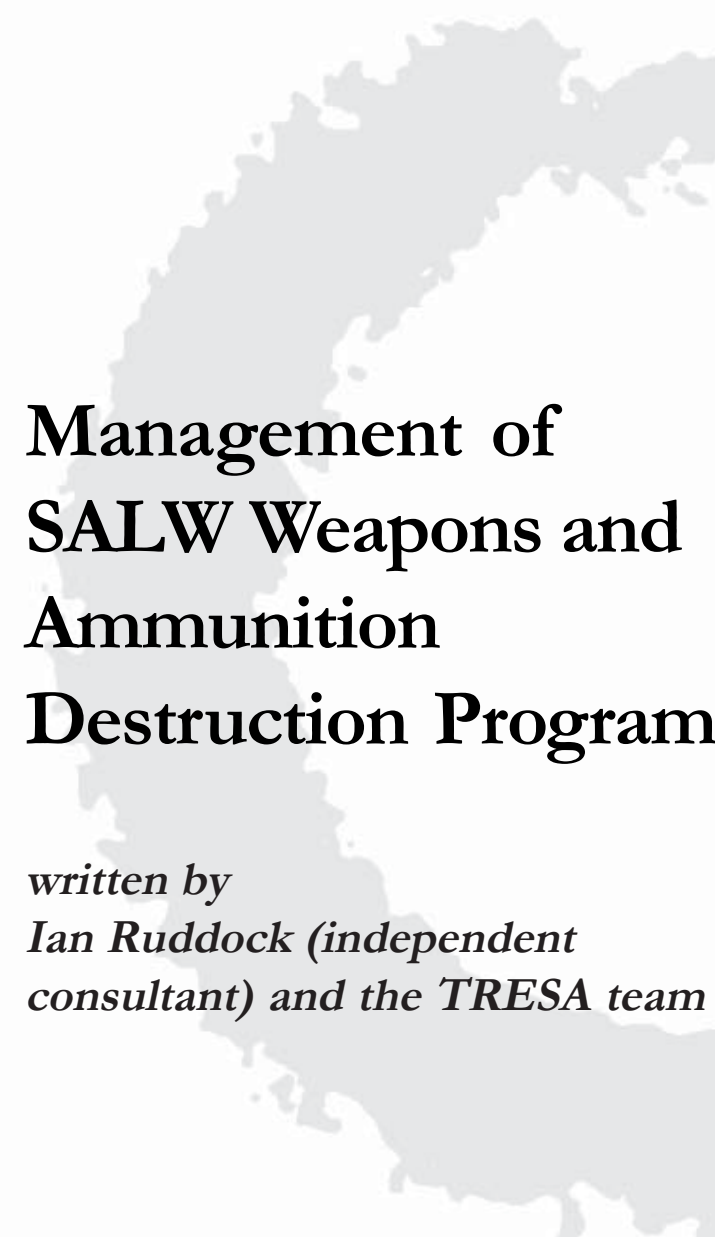
Management of SALW Weapons and Ammunition Destruction Programs

Weapons destruction, Serbia, April 2003

module MWA 06A02

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TRAINING AND EDUCATION ON SMALL ARMS



**Management of
SALW Weapons and
Ammunition
Destruction Programs**

*written by
Ian Ruddock (independent
consultant) and the TRESA team*

module MWA 06A02

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List of Icons for TRESA modules

The following icons will be used in the text. These are intended as pointers for actions the trainer or trainee should take while using the text.



Activity

Indicates some sort of group activity, exercise, discussion, division into separate smaller groups, etc.



R

Case study

Two types of case studies are indicated here:

- Case studies which are required (later text refers to the case, and therefore the case study must be used). These are indicated by an "R".
- Case studies that are optional (trainers can use a similar case study they might be more familiar with, as the same lessons are drawn).



Essential point

Main points that the trainees *must* remember from the training.



Formal quote

Written or pictographic material that is a quote from some other source (e.g.: UN declaration, national law) and cannot be changed or modified.



Outside reference

An arrow pointing to some outside source, for example, another module.



Tag

This indicates an element of the module that the trainer must be careful to modify to fit the audience.



- L: *Linguistic usage*. Where the text uses a particular expression that might not translate well from one language to another.



- C: *Cultural usage*. Where the text uses examples from one culture that might be misunderstood in another.

- S: *Social usage*. Where a text is aimed at a particular audience (example, parliament members) and must be modified to fit another audience (example, military people).



Take a break

Breathe some fresh air, relax, have a cup of coffee, ...



Technical device

Trainer must ensure the availability of some technical device: a computer with presentation software, an OHP, a film projector, puppets, ...



Tool

A film, a form or questionnaire, theatrical performance, etc., that accompany the module but are not part of it. Most are downloadable from www.tresa-online.org



Trainer preparation required

The trainer must make some special preparation (prepare notes or labels, assemble material, collate material for distribution).

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Trainer Preface

This training module is intended for program managers or future program managers (PMs) working on SALW (Small Arms and Light Weapons) and/or ammunition destruction issues. The main focus of this module is on the destruction phase of the weapons and ammunition programs, which can be the final stage in any successful SALW control or surplus reduction program. The destruction of SALW weapons and ammunition is a crucial part of any weapons and ammunition reduction program as the continued presence of these items will inevitably act as a destabilizing influence and affect the public perception. Each of the sections of this module will address a specific area that a project manager needs to understand.

The objectives of this module are:

- To train Program Managers to support the technical activities of trained and licensed Ammunition Technicians and Explosive Ordnance Disposal Experts for the successful and safe execution of SALW and SALW ammunition destruction programs.
- To build the capacity of Program Managers to coordinate all activities during the running of destruction programs.
- To provide Program Managers with background knowledge necessary to understand the problems and difficulties involved in SALW weapons and ammunition destruction.
- To enhance and emphasize the attention to safety and security during SALW weapons and ammunition destruction.

After completing the module, the trainees should have acquired:

- Skills necessary for the planning, preparation, implementation and evaluation of SALW and ammunition destruction programs.
- An understanding of difficulties and obstacles.
- The understanding to provide all administrative, planning, and other related support necessary for the technical efforts of trained and licensed Ammunition technicians and Explosive Ordnance Disposal Experts in the destruction of SALW and SALW ammunition.

Note: this module is not intended as training material for becoming a technical specialist! Please emphasize to trainees that the use of this module does **in no way** qualify them to handle or destroy weapons, ammunition or explosives. In order to become a technical specialist or EOD, a special training and a great deal of knowledge and experience is required, which can not be provided by this training module!



Make sure that trainees understand that the information we provide on technical matters is only intended to be background information for them as PMs to be able to assess a situation and to be aware of needs and obstacles involved in the technical aspect of weapons and ammunition destruction.

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All SALW weapons and ammunition and explosives handling and destruction be done by a technical specialist, to do otherwise can be deadly!



Destruction activities are undertaken based upon requests made by States to the United Nations or other international organizations and are subject to specific agreements governing objectives, methods, and procedures, as well as personnel, material insurance and environmental impact assessments.



These activities should not be undertaken without (1) the expressed authorization of Governments, (2) the participation of their recognized ammunition or EOD specialists and (3) appropriate security, environmental and other needed measures.



As you will see, the destruction of SALW weapons is different from the destruction of SALW ammunition. However, the preparation, administration, logistics etc. for SALW weapons and ammunition destruction have many elements in common. That is why in this module, topics significant and valid both for the destruction of SALW weapons and ammunition will treat both aspects as inclusive, while whenever necessary (e.g. destruction methods) they are treated separately.

Trainer Preparation – 4 days

In order to deliver an effective and well-organized training session, some advance preparation will be needed. As you read through this module, take note of the 'preparation icon' we have included to identify those issues and exercises that may require you to undertake some advance work. For example, we recommend that you begin by reading through this entire module, comparing it as you go with the corresponding trainee manual. This will provide you with a sense of the information your trainees will be provided, as well as areas where you will be required to add value. Through our '**Trainer Note**' boxes, on the left-hand side of the training manual, we offer additional information, guidelines for how to deliver the relevant section, and possible answers for discussion questions to be asked. If you are new to the topic make sure that you understand the underlying issues. Please be prepared to spend sufficient time reading over the texts we recommend you to read in the individual sections, plus any other material that you consider useful prior to the start of your training. Please note that these guidelines are recommendations only and open to modification according to your experience and the level of your trainee group. If you have alternative ideas or methods for training a particular section as well, please feel free to explore them.

Remember: all the material presented in this module is to be used only as **a guideline** for the substance and organization of your training.

Please feel free to:

- Change the sequence of the sections or sub-sections.
- Add material or to leave out certain parts.

We strongly advise that you **do not rely too heavily on the written order and structure** of this module, as this might lead to a rather static training that can be counterproductive to your goals. Instead, we encourage you to **be as flexible and target-group oriented as possible**, and to distance yourself from the material wherever necessary.

Depending on the knowledge of SALW issues of the trainee group, we recommend you to consider combining this module with TRESA modules SALW Basics-Definitions (SB-D05) and SALW Basics-Recognizing SALW and Ammunition (SB-R05). At the appropriate points in this module, you will be directed to these modules for your information or further training.

In sum, we recommend that you set aside at least **2 days** to review the above material, and at least **2 day** to prepare for your training session. While this preparation time may seem rather lengthy, it is unlikely that you will need as much time in preparing for additional deliveries of this training module. Use this time to adequately familiarize yourself with the issues at hand and to identify any questions you may have – it is likely that trainees will also have these questions. If your own research does not provide you with any answers, please feel free to contact the TRESA team at www.tresa-online.org.

Structure of the training

As the trainer, you are free to choose how to deliver this module based on the amount of time you have for training. The average time we recommend is 2 days; however, this can be shortened to one day or stretched out to three. If you have less time than this, we recommend that you leave out sections/examples or case studies, which you do not consider relevant for your country context.

For each exercise requiring group work, we have suggested the amount of time to allocate for group discussion followed by group presentations. Please note that these are **guidelines only** and will need to be adjusted according to your trainee group.

Using this module

Each section of this module should be considered independent of one another. This means that, based on the level, interest and objectives of your trainee audience, not all of the sections need to be covered, nor do you they need to be delivered entirely or in the order presented. At the end of each section, we include short summaries, which are not necessary for you to include in your training, but rather are useful tools for you to measure whether you have covered all the points listed and to help keep you on track. We recommend that you refer to these summaries in preparing your training session to ensure that all relevant points are emphasized. In addition, we have included ample room in the trainee manuals for them to take notes – encourage them to make use of this resource and to follow your presentation along in their manuals. Trainee manuals are freely accessible online at www.tresa-online.org and should be reviewed in preparation for your training.

Please also note that all module abbreviations deliberately state only the first three letters (e.g. SB-D), as well the year in which the module was written (05), but not whether it is the A (Trainer), or B (Trainee) version, or e.g. 01 (is the first version of this module, 02 the second, etc.). This is to emphasize that all our modules are works in progress, and will be regularly updated and modified (01, 02, 03, 04, etc).

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General training tips

The following provides some general suggestions on how to run an effective training session. For a more detailed overview and additional ideas, we recommend that you review TRESA's Train the Trainer Module (TtT06) available online at www.tresaonline.org.

At the beginning of the training session, it is important for you to establish some ground rules to be respected by all trainees over the course of the training. You can set these rules yourself and relay them to your trainees, or establish them together as a group. In the latter case, you can treat this as somewhat of a contract between all participants in the training, whereby all members will agree to the rules they have created and abide by them. On a blackboard or large sheet of paper, ask trainees to offer their ideas and record them as you go along. Make sure to add some of your own – and when you're done, post the rules somewhere visible in the training room for the duration of the session.

At the beginning of the training session, it is important for you to establish general ground rules to be respected by all trainees during the course of your training. We suggest that you write the following rules down on either the blackboard or a big sheet of paper and stick it onto one of the classroom walls before you begin:¹

- Respect for time and punctuality.
- Respect for the views of the others.
- Mobile phones need to be switched off during training sessions. In case a mobile phone does ring during class it should be handed over to you, the trainer, until the end of the day.
- No smoking during training sessions.
- No sleeping during training sessions.
- Trainees need to minimize movement when sessions are in progress.

Note: it is important to ensure the trainees that everything they say during this training course will be treated as confidential and will not be made reference to outside the course. This training course is a trustworthy environment and a safe haven, so invite the trainees to trust your confidentiality and encourage them to speak openly.

As we suggest a number of discussions during the course of this module, we suggest that you take the following points into consideration:

- **Make sure that the discussions do not get too heated** (quite often people come to this discussion with a distinct ideological position) and that latitude is given for everyone's opinion.
- Ensure that each and **every individual has the opportunity to express their views** within the suggested timeframes of the exercises.
- If there is prolonged silence after you raise a question to the trainees or explain an exercise, it may be because your questions or instructions were not

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clear. Ask the trainees if they understand their task and try to re-phrase your questions/instructions in more simple terms.

- **Promote acceptance** of differing opinions and an understanding that individuals have different experiences in organizing or in conceptualizing these sorts of problems. This is particularly important where you have mixed groups (men and women, people from different types of communities, people with different educational backgrounds, etc).
- Try to **hold back individuals who**, because of their personality or experience, **take over the discussion** (you can, for instance, establish a ground rule that no one speaks without raising their hand, and keep a mental count of individuals that are very active, to ensure their voice is not the only one heard).
- Try to **encourage shy or quieter people to speak**, not by putting them on the spot, but rather by creating an informal and accepting environment in which they can feel confident. Circulate often during group work activities to listen for their contribution, and encourage them to later share this with the group if time and the subject matter permit. It is likely that shy participants will feel more confident after having worked in smaller groups. Also, if groups are to present their work several times, make a rule that the presenter for each group should be a different person each time. That will encourage shy participants to get involved in the general discussion.

Note: In some societies, certain individuals or groups do not dare to speak in front of their superiors, their elders or, often in the case of women, in front of men. If this is the case in your training session, try to engage these individuals as much as possible in your discussions. We would like you to keep gender and the trainees' culture in mind while doing the exercises, though these two issues are not always easy to combine, especially in cultures where women have a certain status which is seen as below that of men. Please make note of any difficulties that may arise as a result of these issues and relay them to the TRESA team for consideration in future training sessions.

We wish you the best of luck and success in using this manual for your training.

We welcome any feedback or comments you might have.

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Acknowledgements

We would like to thank Ian Ruddock (Independent Consultant) for his extensive and valuable contribution in developing this training module.

We would further like to thank the South Eastern and Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons (SEESAC) for allowing us to make use of its material, and for the valuable advice and feedback provided.

Last, but not least, we would like to thank EU ASAC for their kind permission to use their material for this module.

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Glossary²

AASTP series	Manuals published by NATO on safety issues related to ammunition.
Ammunition and explosives	A complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological or chemical material for use in military operations, including demolitions. Certain suitably modified munitions can be used for training, ceremonial or non-operational purposes. Also called "ammunition". Note: in common usage, munitions (plural) can be military weapons, ammunition and equipment.
AT	Ammunition Technicians.
ATO	Ammunition Technical Officer.
Bending	SALW destruction method. Usually done by placing weapons on a railway rail, and running a heavy tread tractor over them.
Blocking	SALW destruction method. Inserting the weapon, muzzle first, and to the depth of the open firing chamber, in quick-setting cement.
Caliber	The inner diameter of the tube and the outer diameter of its ammunition. Usually measured in millimeters (mm) or fractions of an inch. Designation of the cartridge a weapon is designed for.
Compatibility Groups (CG)	Parts of the UN Classification System that identifies hazardous substances. In addition to the hazard division, each article of ammunition has been assigned to one of 12 Compatibility Groups, to ensure correct segregation during storage and transportation.
Cryofacture	Ammunition destruction technology. Liquid nitrogen is used to change the mechanical properties of the ammunition casing to a more brittle phase by cooling it to -130o C. The case is then easily shattered using a simple mechanical process. This machine is very environmentally friendly, but has high operating cost for liquid nitrogen.
Disarmament, Demobilization, Reintegration (DDR, DD&R, DDDR, DDDRR)	A three-pronged program of reducing or abolishing weapons of former government or opposition forces, dissolving military structures and integrating their former fighters back to normal non-violent life, after a period of (usually internal) conflict. Sometimes there is added a second, or even a third, R which stands for Reconciliation or Rehabilitation.

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Destruction Organization (DO)	Organization specialized in the destruction of SALW and explosives.
DREAM	Software program. DREAM (Disarmament, Demobilization, Reintegration and Arms Management) is a management information system that can be customized to each country programs' specific needs.
Explosive	A substance or mixture of substances which, under external influences, is capable of rapidly releasing energy in the form of gases and heat.
Explosive Danger Area	Area surrounding an OBOD or ammunition storage site determined by the distances the fragments of the detonation will travel.
Explosive Ordnance	All munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket and small arms ammunition; all mines, torpedoes and depth charges, demolition charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine and improvised explosive devices; and all similar or related items or components explosive in nature.
Explosive Ordnance Disposal (EOD)	The detection, identification, on-site evaluation, rendering safe, recovery and final disposal of unexploded explosives ordnance. It may also include explosives ordnance which has become hazardous by damage or deterioration.
Explosive Remnants of War (ERW)	Unexploded ordnance and abandoned explosive ordnance that remain after the end of an armed conflict artillery shells, hand grenades, mortars, rockets and other explosive ordnance with the exception of anti-personnel mines.
Firearms Reference Table (FRT)	A comprehensive catalogue of the World's firearms. The FRT was developed by the Royal Canadian Mounted Police, beginning in 1992, and now contains listings of more than 89,000 firearm types.
Flames of peace	Weapons destruction ceremonies in which firearms are publicly burned.
Grinding	SALW destruction method. Using a grinding or cutting disk to cut weapons up.
Handgun	Firearm that can be held and shot with one hand (pistols, revolvers, etc.)

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Hazard Divisions (HD)	Parts of the UN Classification System that identifies hazardous substances. Subdivisions of the general hazard classes. For instance Class 1 (Explosives) is subdivided into 6 Hazard Divisions.
High Explosive (HE)	Explosive substance or mixture, which invariably detonates when, initiated, irrespective of the ambient condition of confinement (i.e. in the open).
Host Nation Agreement (HNA)	Within the HNA the Host Nation accepts certain responsibilities. The project operates within the Host Nations' own laws and jurisdiction.
Hydro Abrasive Cutting (HAC)	Ammunition destruction technology. Hydro Abrasive Cutting (HAC): Abrasive particles are suspended in water under pressure (up to 1000BAR), which is directed at the ammunition nature. This slices through the ammunition casing, exposing the explosive filling.
Hydrocode model	A computer program that predicts complex events.
IMAS	International Mine Action Standards.
Inside Quantity Distances (IQD)	Safety measure of ammunition storage. These are the minimum distances, calculated on the basis of explosive trials, which are required to prevent propagation of one explosive site to another.
International Donors (ID)	International Donors fund most of the weapon and ammunition destruction projects. They have certain responsibilities for ensuring that these projects are managed effectively and in accordance with national or international standards.
ISO	International Organisation for Standardisation.
Lead Organization (LO)	An organization takes the lead and is in effect the 'motor' that drives the program.
Light Weapons	A crew operated weapon of less than 100-mm caliber. In practice, these include weapons of caliber's of between 12.7 and 100 mm.
Memorandum of Understanding (MoU)	A legal document describing an agreement between parties less formal than a contract.
Murphy's Law	A statement on human failure in complex systems: Even under the best of circumstances, things can and will go wrong.
National Authority (NA)	Governments and their ministries, agencies and commissions often make the initial approach to the Leading Organizations for assistance in the destruction.

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National Security Forces (NSF)	Umbrella term for official bodies of security, e.g. police, border police and military.
NATO	North Atlantic Treaty Organization.
Net Explosive Quantity (NEQ)	Net quantity (actual weight) of the explosive in the article or substance (here: in ammunition), excluding the other constituents
NGO	Non-governmental organization: a voluntary organization that is non-profit oriented and independent from the state and state institutions.
Open Burning (OBOD)	SALW destruction method. In a wood/coal-fuelled fire.
Open Burning and Open Detonation (OBOD)	There is a controversial perception that destruction of SALW by Open Burning and Open Detonation (OBOD) is sloppy and archaic technology. It is banned in some countries and has a host of restrictions placed on it in others. However, if OBOD has to be used, it has to be ensured to minimize harmful emissions.
Open Detonation (OD)	SALW destruction method using explosives.
OSCE	Organization for Security and Co-operation in Europe.
Outside Quantity Distances (OQD)	Safety measure of ammunition storage. These are the minimum distances required to afford protection to facilities, personnel, roads and local population.
Oxy-acetylene cutting	Metal cutting technology also called Oxy-fuel cutting. The most common fuel used for cutting torches is acetylene. Oxygen is combined with the acetylene in the torch, which produces a high temperature flame.
Plasma Arc incinerator	Ammunition destruction technology. The importance of the technology is the very high temperatures being produced (+7,000° C), which can totally destroy all organic compounds. Importantly, both the emissions and the slag from the process are minimal. As with other emerging technologies, the Plasma Arc system does not have a blast chamber and is not designed for high order detonations. It is ideally suited to: bulk explosives, fuzes, primers, bulk propellants, pyrotechnics and bulk smoke compositions.
Plasma cutting	Plasma cutting is a process used to cut metals. An electro-conductive gas is heated up by an arc of light turning some of that gas to plasma. By the plasma torch metal can be cut.

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Project Manager (PM)	A project manager is the person who is in charge with the project management process. "Project Management is the application of knowledge, skills, tools and techniques to project activities to meet project requirements."Source: Definition by the leading Project Management Institute (PMI).
RMDS/G	Regional Micro-Disarmament Standards and Guidelines developed by the SEESAC.
Rotary Kiln Technology	A rotary furnace with internal spiral flights, which move the ammunition down the cylinder through the number of burners. The cylinder is approximately 1 meter in diameter and six and a half meters long. The walls are up to 8mm thick and able to withstand small detonations. The speed of the kiln can be controlled as can the temperature of the burners and the flights provide some charge segregation.
SAA	Small Arms Ammunition.
SEESAC	The South Eastern and Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons.
Shearing	SALW destruction method. Using a heavy-press shearing machine.
Shoulder arm	A medium-sized weapon such as a rifle that must be fired with two hands, butt against shoulder.
Small arms	Weapons that can be carried and are used by one person.
Smelting	SALW destruction method in an industrial smelter.
SOP	Standard Operating Procedures.
STANAG (NATO Standardization Agreement)	The record of an agreement among several or all the member nations to adopt like or similar military equipment, ammunition, supplies, and stores; andoperational, logistic, and administrative procedures. National acceptance of a NATO Allied publication issued by the Military Agency for Standardizationmay be recorded as a Standardization Agreement.
TA	Technical Assistant.
IMAS	International Mine Action Standards.
UNDDA	United Nations Department for Disarmament Affairs.
UNDP	United Nations Development Program, in conjunction with SALW control one of the main agencies implementing SALW control projects.

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UN-LIREC

The United Nations Regional Center for Peace and Disarmament in Latin America and the Caribbean with its headquarter in Lima, Peru. The UN-LIREC one of the three regional centers coordinated by the UNDDA.

Welding cutter

SALW destruction method. Using an oxy-acetylene or other high-temperature cutting nozzle.

Section 1

Introduction

Objectives and Goals of Section 1:

- To introduce the trainee to the overall objectives of the training module.
- To give a brief overview of different Small Arms and Light Weapons (SALW) control measures.
- To provide participants with a working definition for the items that fall under the category of SALW.

The proliferation of small arms has an enormous cost in human, political and financial terms. In the late 1990s, the international community began to take steps towards addressing the problem. The UN Secretary-General, in a speech to the Security Council in September 1999, emphasized the impact these weapons have on human security and sustainable development:

"Small arms and light weapons are primary tools of violence in many conflicts taking place in the world today. The proliferation of small arms, ammunition and explosives has also aggravated the violence associated with terrorism and organized crime. Even in societies not beset by civil war, the easy availability of small arms has in many cases contributed to violence and political instability. These, in turn, have damaged development prospects and imperiled human security in every way".³



A range of measures has been initiated in an attempt to control the proliferation of SALW. These fall under three main headings:

- Reduction Measures (which include SALW destruction programs).
- Preventative Measures.
- Co-ordination Measures.

Reduction measures, an aspect of which we deal with here, require several stages, which include:

1. Attaining the political will of the decision-makers.
2. Raising awareness of governmental actors, the security forces, and civil society.
3. Building trust between the actors involved.
4. Collecting SALW and ammunition.

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Trainer Note (Exercise 1)

It has shown that the continued presence of these items will inevitably act as a destabilizing influence and affect the public security perception. For example, if weapons are transferred to security forces, there is a danger (or people might perceive this danger) that they are used against the population. This is an extremely sensitive point if the weapons originate from a weapons collection activity that took place after violent conflict where there is mistrust between the former opponents: If, e.g., an armed group has agreed to hand out their weapons to the government forces, they might fear that the army might use these weapons against them if the situation deteriorates.

Whenever weapons are stockpiled, there is always a danger of a leakage of weapons. This can be either through losses, theft or illegal selling or renting.

Trainer Note—Case study Mozambique

In Mozambique, collected weapons were placed initially under UN control, but only a few were destroyed because of lack of finances. If the public perceives that the weapons are just being transferred elsewhere, either legally or illegally, then the essential public confidence in the program can collapse. Weapons destruction programs do not solve problems of violence and weapons use, since they are symptoms of deeper problems of poverty, inequality, injustice, and so on. Whilst, they do not solve all the immediate problems faced by a country, collection and destruction programs have helped to reduce tensions in many of the communities they have been implemented in: Albania, Congo-Brazzaville, Solomon Islands, Mali and Niger to give but a few examples.⁵

Trainer Note—Case study Brazil

In Brazil in response to a number of gruesome murders in the mid- 90's, the government launch 'Viva Rio' an initiative to raise public awareness on the need to disarm the population and in support of a culture of peace. In June 2001, 100,000 firearms were destroyed in a public event this has been followed in 2002 by another 10,000. This has now spread and next years destruction will involve a further 26 cities in various parts of Brazil. This is an ongoing initiative by the Regional Clearing programmed on Firearms, Ammunition and Explosives, sponsored by Lima Regional Center for Peace and Disarmament (UN-LiREC) in conjunction with the local UNDP Country Office and SADU. These initiatives are currently being carried out throughout Latin America with support from UNDP, and SADU.⁶

5. Disposing of collected SALW and ammunition through:

- Transfer to security forces.
- Stockpiling.
- Destruction.

Of the three disposal options, the most desirable in terms of long- and short-term security from the negative effects of SALW and ammunition, is destruction.

Exercise 1:

"Experience has shown that a failure to destroy weapons and ammunition, or even the perception that they are not being destroyed – can severely damage a program's credibility"⁴

Discuss this statement. Why do you think weapons not destroyed will have a destabilizing influence?



Trainer Note—additional information

In 1997, a Panel of Government Experts on Small Arms developed a working definition for its report to the United Nations (UN), which since then has been applied during negotiations at UN level. This is less a 'definition' and more a list of those weapons the participants in the panel hoped would be acceptable for definition as SALW to the governments concerned. The definitional elements most often drawn upon by both states and NGOs for documents, during SALW control campaigns, and for application in legal texts, are those in § 25 of the report "**...small arms are those weapons designed for personal use, and light weapons are those designed for use by several persons serving as a crew.**"

From the Report of the Panel of Governmental Experts on Small Arms, A/52/298, 27 August 1997:

§ 25. [...] Broadly speaking, small arms are those weapons designed for personal use, and light weapons are those designed for use by several persons serving as a crew.

§ 26. Based on this broad definition and on an assessment of weapons actually used in conflicts being dealt with by the United Nations, the weapons addressed in the present report are categorized as follows:

(a) Small arms:

- (i) Revolvers and self-loading pistols;
- (ii) Rifles and carbines;
- (iii) Sub-machine-guns;
- (iv) Assault rifles;
- (v) Light machine-guns;

(b) Light weapons:

- (i) Heavy machine-guns;
- (ii) Hand-held under-barrel and mounted grenade launchers;
- (iii) Portable anti-aircraft guns;**
- (iv) Portable anti-tank guns, recoilless rifles;**
- (v) Portable launchers of anti-tank missile and rocket systems;**
- (vi) Portable launchers of anti-aircraft missile systems;
- (vii) Mortars of caliber's of less than 100 mm;

(c) Ammunition and explosives:

- (i) Cartridges (rounds) for small arms;
- (ii) Shells and missiles for light weapons;



1. What do SALW control programs cover?

1.1 What are SALW?

Box—SALW definitions

In most SALW control related documents and publications, SALW are divided into three categories:

- **Small arms** are those arms designed for personal use. They can be maintained, carried and used by one person.
- **Light weapons** are weapons that can be maintained, used and carried by small groups (2-3 persons), or transported by small vehicles or pack animals.
- **And related material, such as ammunition and explosives** form an integral part of small arms and light weapons, since weapons can be rendered useless without appropriate ammunition.

Landmines were not included, as a separate protocol exists on this weapons category, the Anti-Personnel Mine Ban Convention, (sometimes referred to as the Ottawa Treaty).

- (iii) Mobile containers with missiles or shells for single-action anti-aircraft and anti-tank systems;
- (iv) Anti-personnel and anti-tank hand grenades;
- (v) Landmines;
- (vi) Explosives.

** These weapons are sometimes mounted.

In case you are not familiar with SALW in terms of definitional or type-related aspects, we recommend you to consult the TRESA modules SALW Basics – Definitions (SB-D05) and SALW Basics Recognition (SB-R05) prior to the training.

Trainer Note (Exercise 2)

For this exercise we suggest you use the SALW Intervention Process Flow sheet (see Annex I: SALW intervention process flow)

Duration: 10-20 minutes

Based on the SALW Intervention Process Flow sheet provided outline the basic components of a model SALW collection and destruction program. It depends on you and the trainees how much you want to go into details. You can either use the sheet provided or simplify and/or modify it according to your needs.

Objectives: To make trainees realize that the actual destruction of weapons and ammunition is often (depending on the project context) only one of many components of the overall SALW control program, usually taking place rather towards the end of activities. It will also help trainees in understanding how complex the whole process is, why they should be aware of the previous program phases, and why so many actors are involved in the program.

Trainer Note—additional information

Often the actual destruction of SALW and ammunition is just one part of a SALW control program. The SALW program could be just one element of a larger program looking at the wider issues that are been addressed within a multi-dimensional, long term and integrated approach to reduce the threat from (armed) violence, to reinforce a peace process, to disarm, demobilize and reintegrate former combatants, to reform the security sector, or to enhance development. This must be kept in mind since the context of an SALW destruction program will have an effect on how the program must be conducted.

1.2 SALW control activities

Exercise 2: SALW Intervention Process Flow

- Which different phases are you likely to find in a SALW control model intervention?
- Which position do the SALW and ammunition destruction components have in this process?



As PM for a destruction program, there are a number of SALW control activities that you are likely to encounter and become involved with, which include:

- Weapons collection and destruction programs.
- Ammunition collection and destruction programs.
- Public Ceremonial Destruction Events (can include both weapons and ammunition destruction).

Trainer Note

Discuss with the trainees of which larger programs SALW weapons and ammunition destruction projects could be a component or a complementary element, and ask them to fill in the blanks. Potential programs include:

- Violence reduction programs.
- Security sector reforms.
- DDR programs.
- Crime reduction programs.
- Crime prevention programs.
- Reinforcement of peace process.
- Etc.

Trainer Note

It is useful to break the seriousness by being a little bit lighthearted, and therefore by introducing **Murphy's Law**:

Murphy's Law was born in 1949 at the Air Force Base at North Base. It was named after Capt. Edward A. Murphy, an engineer who worked on Air Force Project MX981. This project was designed to see how much sudden deceleration a person can stand in a crash. One day, after finding that a transducer was wired wrong, he cursed the technician responsible and said, "If there is any way to do it wrong, he'll find it." The contractor's project manager kept a list of "laws" and added this one, which he called Murphy's Law. Murphy's Law can be summarized as "If anything can go wrong, it will." (Excerpt from an article in *The Desert Wings*, March 3, 1978) There is a serious issue to be kept in mind: that there is a great possibility of something going wrong, and that safety is a major concern here.

Trainer Note

The issue of safety and security will come up again and again in the training. You may think of other ways to emphasize this aspect. Given its critical importance, feel free to emphasize safety in as many ways as you can. For example a pop mock-quiz might embed it deeply into the trainees' consciousness:

Trainer: What is the guiding principle?

Trainees in chorus: "Safe destruction of small arms and light weapons"

It has also proven useful to establish rules. For example Rule 1 could be "Assume all weapons are loaded", Rule 2 "Never point a weapon at a person", etc. However, trainees won't be able to remember more than 3-5 rules. Ask trainees to repeat rules once in a while, or ask what rule applies under these and those circumstances. This will help trainees to internalize safety rules.

Often the actual destruction of SALW and ammunition is just one part of a larger program. Such a program could aim at:

■
■
■
■
■
■
■
■

1.3 Safety and security

Note: one lesson to be learned from SALW destruction programs is the effects of Murphy's law: **even under the best of circumstances, things can and will go wrong.**



In all SALW control programs, there are dangers and risks involved which can, in the worst case, have lethal consequences. Thus, it is an absolute must to to achieve optimum safety and security. As PM, this is one of your main responsibilities! Section 9 will provide you with more details on safety and security.

It is your responsibility, as an SALW Destruction Program Manager to ensure, inasmuch as humanly possible, **that things go right.**

The **key objective of any concrete SALW destruction program is to eliminate collected or surplus SALW and ammunition completely,** so that they can never again present a threat or hazard to personnel and property. Thus, the preferred end point of a SALW reduction program is the **safe** destruction of small arms and light weapons.

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Summary of Section 1

- Trainees were introduced to the overall objectives of the training module.
- A brief overview different SALW control measures was given.
- Participants were provided with a working definition for the items that fall under the category of SALW.

Trainer Note



If you would like to visualize this process, you might use the graphic on the SALW Destruction Project Cycle provided in Annex II. Use it either as handout, enlarge it, copy it on a transparency or include it in a Power Point Presentation.

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Section 2

Starting the process of destruction

Objectives and Goals of Section 2:

- To establish the principles and provide guidance for the effective planning, implementation and management of weapons and ammunition destruction programs.

1. Introduction

Every SALW and ammunition destruction project is a multi-phased process. While it is not always possible or useful to follow the order suggested below strictly, it is advisable and makes the planning and implementation of the project more precise, to be aware of the different phases the project consists of.

This chapter provides an overview of efficient and well-planned destruction processes. Every destruction program is different in detail. Nonetheless, there are general elements that can be found in some form in any SALW destruction project.

The Section will look at some key processes that make up the guideline for the destruction process:

2. Assessment
3. Planning
4. Preparation
5. Implementation
6. Verification
7. Post Program Review (PPR)

Box

SEESAC recommends the following well-proven sequence for the destruction of weapons:

- a) Establishment of the type and quantity of weapons to be destroyed.
- b) Examination and selection of the most suitable destruction option (Technical advice should be taken at this stage of the planning process).



Trainer Note

If time allows, you can discuss with the participants:

- One example of a destruction sequence (e.g. use the Paraguay example), or
- Identify and compare the different stages mentioned in the text (e.g.: a + b: assessment; c+d: planning; e-g: preparation; h-j: destruction; k+l: verification).

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- c) Establishment of the financial costs of destruction. (Technical advice will be necessary here to ensure that a fair price is established).
- d) Development of a media plan.
- e) The informing of international organizations, media and NGOs of date and location of destruction operation.
- f) Establishment of a security plan for the movement of weapons and destruction operations.
- g) The conduct of any necessary weapon pre-processing operations, (removal of components, accounting procedures*, deformation etc), although these can also be undertaken at the final destruction facility.
- h) The movement of weapons to the destruction location, ensuring that all appropriate security measures are in place to protect the weapons during transit;
- i) The establishment of an effective and accurate accounting system in the destruction facility.
- j) The physical destruction of weapons.
- k) The monitoring and verification of the destruction operation should be undertaken by international observers, media and NGOs. And
- l) The maintenance of destruction records within the national SALW authority.

* Ideally, the weapon's information (i.e. type, caliber, serial number, country and/or manufacturer monograms/markings) should be registered in a database. This information could be useful in future weapons tracking.

Source: RMDS/G 05.20, 3rd Edition (2006-03-01)



2. Assessment

The destruction process usually begins with an invitation from the NA for assistance in the destruction of national stockpiles, be they weapons or ammunition. An assessment mission must then be assembled to prepare the project. The aim of the assessment mission is to determine stockpile destruction requirements, by carrying out a technical evaluation of the stockpiles, destruction options and the general infrastructure and conditions. It is essential that a suitably qualified technical person accompany the assessment mission to assist with the technical input of the program.

Main points for the preliminary assessment phase:

1. Survey the ammunition and weapons to be destroyed:
 - Quantity and state of SALW and ammunition.
 - Storage location and safety.
 - Type and technical design of ammunition and weapons to be destroyed.

Trainer Note

The assessment mission can either be carried out by a local committee, or, if the country does not have the necessary resources, by the outside agency carrying out the destruction.

Trainer Note

Assessment of stockpile destruction

The assessment of stockpile destruction requires accurate information on the quantity, storage location, type and technical design of the ammunition and weapons, the state they are in, together with information about the available destruction technologies. At this stage, costs are not dealt with.

Destruction of SALW weapons and ammunition can be accomplished by a number of means. These include:

SALW weapons destruction	
Blocking	Inserting the weapon, muzzle first, and to the depth of the open firing chamber, in quick-setting cement.
Bending	Usually done by placing weapons on a railway rail, and running a heavy tread tractor over them.
Grinding	Using a grinding or cutting disk to cut weapons up
Welding cutter	Using an oxy-acetylene or other high-temperature cutting nozzle
Shearing	Using a heavy-press shearing machine
Smelting	In an industrial smelter
Open Detonation	Using explosives
Open Burning	Using a wood/coal-fuelled fire

Note: open burning, though impressive as a ceremonial statement, is less effective, since weapons will still be usable, or at least salvageable.

SALW ammunition destruction	
Open Detonation	Using explosives
Open Burning	Using a wood/coal-fuelled fire

Sections 7 and 8 will provide more details on different destruction methods and their advantages and disadvantages. See also "Tackling Small Arms and Light Weapons. A Practical Guide for Collection and Destruction", by the Bonn International Center for Conversion (BICC) and the Program on Security and Development (SAND), downloadable from: http://www.bicc.de/publications/books/guide_smallarms/contents.php



2. Survey available destruction technologies on-site.
3. Assess and document *legal* ownership of SALW weapons and ammunition to be destroyed.
4. Discussions on the political level; drafting of an MoU/HNA for the destruction to be carried out.
5. Identification of potential partners.
6. Assessing gaps.

Note: an **assessment** is the collection and processing of information, the selection of an appropriate path to proceed and the formulation of a detailed method by which the task is to be completed.

The initial assessment needs to find out if the SALW and ammunition destruction program is 'doable'. The assessment team has to **analyze the situation** on the ground, as well as to inspect the stocks of weapons and ammunition planned for destruction at the various locations.

Note: if the team comes to the conclusion that the task is not possible, for whatever reason, then there will be no destruction program.

Ideally, the assessment and technical planning should be carried out in parallel to the political planning, this is discussion with the main actors on the political level. It is important that a formal Memorandum of Understanding (MoU) or a Host Nation Agreement (HNA) be draw up between the NAs and the LO carrying out the destruction program. This formalizes the legal responsibilities and addresses some of the difficult questions with regards to environmental considerations, safety issues and public liability and responsibilities.

Note: this should be done as early as possible, as things take time!

Without answers to the above questions, it would be difficult to compile any type of estimate for the total time and other resources required to destroy all weapons and the related components.

If the decision has been made that the weapons are to be melted, a visit to the smelter/foundry is crucial in the assessment phase to confirm the following details:

- Weight of weapons per burn as permitted by foundry.
- Time required for a complete burn cycle.
- Anticipated work stoppages for maintenance, preparation time, shift changes etc.
- Hours of work and hours of access to the foundry.
- Security as provided by site and as augmented by local authorities. Establish the relationship between plant security and local authorities. Ensure there is a security/reaction plan co-ordinated between the plant and local authorities in cases of active security threat or accident.
- Number of personnel on site with access/requirement for access to UN work site.
- Restrictions- if any- on the burning of wood, leather, plastic, aluminum, brass, and other non ferrous items, and what the requirement is for the foundry to mix those materials with steel and to what proportion.
- Number of personnel on site with access/requirement for access to verify destruction at work site.
- How the metal residue from the weapons is to be used.

Trainer Note—additional information

A burn cycle starts once the loading of the dumping container is complete. A case where restrictions on the burning of non-ferrous items might be relevant are Vickers tripods. These have brass gun mount components and spindles. One has to take into consideration what is the allowable ratio/percentage between brass and steel that may be smelted at one time- i.e.- 5-10 percent non ferrous by weight per burn only.

Box—What to do with the metal?

In Paraguay the metal residue from the smelting was to be incorporated in the manufacture of steel reinforcing rods for construction. In Albania they made manhole covers. In Honduras, iron cooking pots and frying pans were made. In Mendoza, Argentina a statue was made by a local artist to commemorate the destruction, which received very favorable press coverage.



Credit: Ian Ruddock

3. Planning

The planning process starts after the formal assessment of the countries situation. It begins with a meeting with the NA. In most cases, the actor most involved will be the National Security Forces (NSF) who are usually the custodians of the weapons and ammunition stockpiles.

The key information required from the national authorities, would depend on the type and missions included in the program. A request could e.g. include:

- The destruction of X tons of obsolete ammunition stocks.
- The destruction of Y pieces of SALW.
- The organization of a public weapons destruction event.

Below are key areas and information, which must be ascertained for at this stage:

1. Communication with national and local authorities

2. Examine storage of stockpiles.

- Location of storage areas.
- Types and quantity of SALW and ammunition natures to be destroyed.
- Accounting procedures.
- Security of stocks.
- Conditions of stocks.

- 3. Analyze levels of technical expertise that will be engaged in collection, transportation, and destruction.**
 - Personnel available.
 - Potential partners.
 - Training of personnel.
 - Documentation. (Technical Instructions/ SOP).
- 4. Analyze resources available.**
 - Infrastructure.
 - Storage and storage capacity.
 - Transport capacity.
 - Equipment and tools.
 - Destruction technology available.
 - Funding.
- 5. Location of destruction area (for ammunition, this would almost always be a military artillery or engineering range, or similar).**
 - Distance from stockpile.
 - Destruction and infrastructure facilities.
 - Range explosive limits in the case of ammunition and explosives (range orders).
 - Safety distances.
 - Nearest civilian population.
- 6. Analysis and selection of the most suitable destruction options.**
- 7. Plan logistic and administration issues.**
- 8. Environmental considerations (especially in the surrounding areas).**
- 9. Considering climatic conditions (such as the arrival of the rainy season).**
- 10. Developing a media plan.**
- 11. Information of and communication with national and international actors.**
- 12. Developing a security plan.**
- 13. Planning of movement of SALW and ammunition (if necessary).**
- 14. Planning of registration and record keeping.**
- 15. Planning of destruction.**
- 16. Planning of public event (if desired).**
- 17. Make provisions for monitoring by the international community.**

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Trainer Note (Exercise 1)

Relevant Documents for this exercise include:

- Number, types and Status of Weapons and Ammunition of the Armed forces in Carana
- Map of Carana
- Available Statistics on Armed Forces in Carana
- Carana basic documents (see Annex III)

Trainer Note

Stockpile planning

In the weapons stockpile planning process, the following key areas should be looked into:

Weapons stockpile planning

1. Storage of stockpiles:
 - Weapon storage areas.
 - Types and quantity of weapons to be destroyed.
 - Accounting procedures.
 - Security issues.
2. Safe working areas:
 - Inspection facilities.
 - Secure storage facilities after inspection and verification.
 - Access control.
3. Resources available:
 - Infrastructure/ building.
 - Transport capacity (to move weapons to destruction site).
 - Equipment and tools.
 - Destruction technology available.
4. Staffing levels:
 - For safety checks.
 - For completing inspections.
 - For verification.
 - Level of expertise.



Note: some of the tasks mentioned have already been done during the assessment phase. However, the information achieved is crucial for the planning phase.

Exercise 1:

You are to design, as a group, a destruction program for Carana, a country that has just recently emerged from civil war, and in which three armed groups (the military, the MPC and ISC guerilla groups) are still armed. Civilians also possess large quantities of weapons. The design is necessarily rough, since you must also include a preliminary assessment in your planning.



Group 1

The objective of your planning is to destroy a symbolic number of military-style SALW from each of the three armed groups. Collection is not your responsibility.

Number of items destroyed is not to exceed 1,000 items from each force. Ammunition at a rate of 150 rounds = 1 firearm is to be accepted.

Group 2

The objective of your planning is to destroy a symbolic number of mixed SALW from civilian sources. Collection is not your responsibility.

4. Preparation

Preparation includes all enabling activities that help clarify the destruction requirement, and develop the capacity of the NA and the destruction organization to carry out a destruction task.

The PM must seek confirmation from the NAs for the following information:

- An accurate account of the stockpiles earmarked for destruction.
- A MoU/HNA (Memo of Understanding/Host Nation Agreement).
- National authorization in the form of a legal instruction, for the destruction of the stockpiles. This needs to be begun early as it can take considerable time to produce.
- Agreement to the proposed selection of the destruction technology.
- Detailed agreement on funding issues.
- Preparations for training and capacity building.
- A joint strategy for a national or local public information campaign. Two PR campaign aspects must be considered: The first is a general PR campaign to inform the public. The second is a local campaign particularly in cases of ammunition destruction, where local households and people must be made aware of the hazards, and kept off a site.

Note: the weight of military firearms, especially heavy machine guns and related accessories and components, often exceeds that of similar quantities of civilian market weapons. This presents additional planning requirements for the mission process, particularly concerning their movement and transportation to the smelter location for subsequent destruction. Smelters have different requirements and allow different quantities to be smelted at each time. The PM has to clarify details with the manager of the smelter in the planning phase.

Trainer Note

- An accurate account of the stockpiles to be destroyed will avoid any surprises, once the destruction and verification process begins. This is very important and the NA should be allowed to decide without pressure, what items are to be selected for destruction. **Note:** it is not always guaranteed that the NA provides the PM with the necessary information, which renders proper planning very difficult.
- It should be clarified who is funding what. Knowing in advance who pays for what helps avoid surprises along the way. The PM should have a clear idea of the program requirements, and should have at hand clear estimates of all expenses. Professionalism is the key: it must be ensured that what has been charged is reasonably priced and necessary.
- In order to ensure successful completion of the task, it necessary to know whether training for personnel and other players (such as NSF, drivers) is necessary. If so, this must be factored in to both price and scheduling calculations.
- The general PR campaign is often a 'bonus' for the local political structure who stand to benefit from successfully advertising their public activities. From the project's side, it ensures greater compliance by the public.

Trainer Note

The use of external contractors

Often outside specialists have to be contracted for certain duties. For example, for the physical destruction itself, Explosive Ordnance Disposal (EOD) contractors might have to be employed. In this case, a contract should be drawn up and should give details of:

1. The risk and quality management procedures to be adopted during the destruction work.
2. The reporting requirements.
3. The progress of the program.
4. Financial goals to be achieved.

Ensure that these outside 'Destruction Specialists' are formally recognized as competent and able to plan and manage the program effectively and efficiently. Such companies need to be accredited and licensed to conduct destruction programs.

- Preparation considering environmental issues and regulations. A good destruction program must ensure that it limits as much as possible the environmental hazards of the destruction. It may well be necessary to bring in environmental experts who can certify how environmental issues should be handled.

Trainer Note (Key issues)

The following list is not complete. Keep in mind that the requirements depend on local circumstances and realities, and you will have to adapt to local circumstances. As the issues will be covered in other sections, it is up to you to decide whether you want to provide trainees with further information at this point.

Trainer Note

- Communications: This concerns e.g. the hiring of cellular phones. Many areas do not have cellular coverage and satellite phones or two-way radios might need to be hired.
- Banking: e.g., is the access to finances secured? Banking arrangements are necessary both to pay local workers, and for materials, lodging, and so on.
- Emergency medical services: In many areas local hospitalization and emergency services may be inadequate. Emergency medical care has to be estimated and considered.
- Accommodation: The choice of accommodation, be it local hotels, hostels, or even tents, depends on many factors, including price and comfort, the distance the personnel have to travel each day to the destruction site, and availability. Those factors should be analyzed.

Trainer Note

- Transportation: Transportation is a major point. Vehicles and drivers have to be hired. These will be needed not only for transporting the weapons to the destruction site, but also for administrative travel, moving personnel to the destruction site, and emergencies.
- Food: The program will have to cater at least to the personnel engaged directly in destruction, possibly as well to auxiliary personnel such as guards and drivers.
- Specialist Equipment: Quite often, specialist equipment must be purchased. The PM has to find out whether the equipment can be purchased or made locally (which should be preferred), or whether it has to be purchased and imported from outside.

Trainer Note

A media plan includes journalists and media to be invited, deciding upon a press strategy and a press contact person, the timing of events and visits, and so on.



Key issues

There are certain key issues you should consider in the preparation phase (they will be dealt with more detailed in other module sections). These include:

1. Administration

- Communications.
- Banking.
- Emergency medical services.
- Accommodation.

2. Logistics

- Transportation.
- Food.
- Specialist Equipment.

3. Press strategy

- The role of the media in obtaining national and international coverage of the stockpile destruction should not be underestimated. The NA, in conjunction with the LO and the PM should develop a media plan.

4. Critical personnel

You must have available a list of those key personnel with whom you must make contact if a problem occurs. This is important when an emergency or bureaucratic surprise comes up.

These may include:

- The government.
- Security personnel.
- Emergency services.
- Representatives of the Interior and Foreign Offices.
- Your own embassy (if you are not a local).
- Sympathetic police and army officers.

These contact lists should be available and updated as necessary.

5. Safety and security issues

- Having a **safety plan**, is a must. Keep in mind that there are risks inherent in all destruction activities. The better you and your personnel are familiar with likely problems and their possible solutions, the better things are going to be.
- A **security plan** is intended to ensure that no unforeseen incident such as theft of the weapons to be destroyed can happen.

Note: update the safety and security plans regularly, and ensure your staff is familiar with them.

5. Destruction

The destruction program will begin once the planning and preparation have been completed and all permissions and agreements required have been satisfactorily reached.

Note: be very conscious that the destruction process *cannot* begin until the necessary signed permission for the destruction of the stockpiles has been received from the NA and endorsed by the organization leading the program!

As the PM, you are required to achieve a safe working environment by providing effective management and supervision:

- Ensure safe working practices that contribute to risk reduction by providing the correct safety equipment, and, where necessary, training.

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- In close consultation with the Technical Specialist ensure that the destruction organization implements a Health and Occupational Safety Policy and complies with the terms and agreements in the MoU and the contract.
- Ensure that quality assurance monitoring and inspections of the operating procedures is done regularly throughout the destruction process.

The inspection should include the following areas:

- Management practices and documentation (SOPs/Range Orders).
- Worksite safety (OHS Plan).
- Medical support.
- Community liaison.
- Storage, transportation and handling of explosive.
- Investigations of incidents and accidents.
- Equipment.
- Environmental monitoring.
- Destruction activities.

Remember: all technical aspects of destruction are to be carried out by professional/technical personnel (AT/EOD officer). The PM'S job is to facilitate destruction activities.



6. Verification

Verification is one of the final phases of the destruction process. If it is not done correctly it will put in question the credibility of the program. The NA in conjunction with the LO, the Destruction Organization and the donor shall design and implement a verification system as a security and confidence building measure.

Accredited members of the International verification team should accompany the stockpile transport to ensure the integrity of the stockpiles and the number of weapons and ammunition destroyed. As PM you will be expected to appoint the independent observers (International verification personnel).

There should be enough verification personnel to cover the process to ensure verification. Ideally, there should be a minimum of two monitors, but if there are large numbers of weapons > 2000, then up to 3 or 4. Local NGOs or citizen organizations can also be invited to ensure transparency.

For further details on verification, please also refer to SEESAC's RMDS/G 04.40.



Box

Verification is an important aspect as was discovered in Paraguay in June of 2005:

After the conclusion of an international destruction program, the Paraguay Army decided to continue the destruction on their own and destroyed a further quantity of ammunition. This was done. However, once completed, they fail to properly verify the explosive pits. Subsequently a number of people decided to dig around the pit and extract the scrap metal, which they sold to a local scrap metal dealer. Amongst the debris was a live BOFORS 40/60 HE round (which is highly explosive ammunition for anti-aircraft guns). When being disarmed by the scrap metal dealer, the round exploded and killed him and another person. Two other standing nearby were also injured. So the fault clearly lies with the lack of verification of the explosive pits by the Army. A salient lesson!

Note: it is important that only the stockpiles, that have been physically seen to have been destroyed, are verified as such.

At the end of the verification process the list provided by the NA and the list produce by the international monitoring teams should be compared.

Note: the list of the international monitoring team is the only definitive one to be used to declare the final destruction of the listed stocks.

Remember: transparency is an important pre-requisite of any destruction program.



7. Post program review

It is important that a formal Post Program Review (PPR) is conducted after each mission. This helps to identify the Lessons Learnt during each of the phases: Assessment, Planning, Preparations, Destruction and Verification.

The PPR should be in a simple format. Ask all parties to submit their PPR points to you continuously throughout the program. This will ensure that in the euphoria of the completion of the mission, point are not just ignored or forgotten. Where PPR identify shortcomings in the establishment, equipment or procedures that involve 'safety' issues, these should be widely distributed and changed accordingly.

Trainer Note

For a visualization of the demilitarization cycle, see also Annex IV. It focuses on the demilitarization of mines, but if modified is also useful for the destruction of SALW and ammunition.

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Summary of Section 2

Section 2 familiarized the trainee with the different phases of a SALW and ammunition destruction program. Those phases, although covering different aspects, often interlink. Thus, failures made at one point will affect subsequent phases. In order to ensure smooth operation, the PM has to demonstrate care, foresight and flexibility in all phases.

Trainer Note

The PM might be expected to coordinate all these activities. In the case of Paraguay, the NGO who was acting as the Lead Organization (LO), had little experience in dealing with any weapons or ammunition related issues and were completely unprepared for the quantity of work these projects generated.

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Trainer Note

The PM has specific responsibilities to the various agencies, parties and organizations involved in the management of SALW collection and disposal project. She/He will be responsible for the coordination of the project by maintaining a close liaison with all the parties involved. It may seem obvious, but because of its multi-disciplinary nature, coordination, close liaison and clear communication are paramount to achieve the mission successfully and should not be taken for granted.

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Trainer Note—additional information

While in most projects more actors are involved than you would first expect, this is even more true for programs dealing with weapons. This is due to their complexity and with security being a sensitive issue with far reaching consequences. For example, states might have difficulties to reveal anything concerning their national security (which includes national SALW stockpiles) to a) outside actors and b) the public and media. This is even more so if the political situation is tense, which is often the case in post-conflict situations. If the destruction is done in the course of a peace agreement, actors from all sides will be involved in the process.

As security is not only state security, but also the security of the people, local authorities (including official authorities such as mayors, but also perhaps traditional actors such as village or clan elders, or religious leaders) may want to be involved.

Last but not least, the public will have a considerable interest in the event.

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Section 3

Actors and their responsibilities

Objectives and Goals of Section 3:

- To identify the different actors involved in SALW and ammunition destruction programs.
- To outline the skills and responsibilities expected of the PM and other actors involved in the management of SALW Collection and Disposal Programs.
- To outline the responsibilities of the various agencies and organizations working alongside the SALW programs.

1. Introduction

As a PM, you may be involved in diverse types of SALW projects. These might include destruction of ammunition, military or civilian weapons, organizing public destruction ceremonies, arranging seminars, preparing and running training sessions, and handling PR. There are many actors involved in the planning and implementation of SALW and ammunition destruction programs. All those actors have different functions and responsibilities.

2. Actors

The number and kind of actors involved in a SALW and ammunition destruction program depends on the nature of the program. Depending on its aims and components, it can include actors from the local, national, regional and international level.

In order to ensure efficient and smooth planning and implementation, to avoid duplication of work and to avoid misunderstandings and problems, the PM needs to have an insight into the roles of each of the agencies and organizations and their responsibilities towards the project. These agencies include:

- The Lead Organization responsible for running the destruction process.
- National Authorities.
- National or International Security Forces.
- Destruction organization, responsible for the actual destruction.

Trainer Note (Exercise 1)

Objective: make trainees understand how many and what kind of actors may be involved in SALW and ammunition destruction programs.

Duration: 10-15 minutes.

Material: flipchart or board; pens or chalk.

Using a large flipchart, board or other visual device, write the words "SALW destruction" in a circle in the middle. Ask trainees to come up with suggestions on which actors are relevant for SALW and ammunition destruction projects and why, each of which will be represented by a circle. This will also help identify what relationships and lines of responsibility exist between the parties. You might also ask trainees to define what roles the different actors have and if and how they are going to support (or spoil) the program.

Possible answers regarding the main actors involved in any SALW destruction project – and which the PM must deal with – are listed below. You must keep in mind that these actors might have different names or organizational structures in different countries you might be working in.

- Lead Organization
- National Authorities
- National or International Security Forces
- Destruction Organization
- National and international organizations
- non-governmental organizations
- International Donors

As well the above agencies, the PM has also certain responsibilities to the following constituencies:

- Civilian population
- Environment.

Groups of people the PM has to work with include:

- The technical specialists who are doing the actual destruction practice.
- The national or, depending on the situation, international security forces who are charged with the legal responsibility for destruction.
- Destruction specialists
- Government and political interests.
- The media.
- The populace at large, particularly those who might be affected directly or indirectly by the destruction process itself.



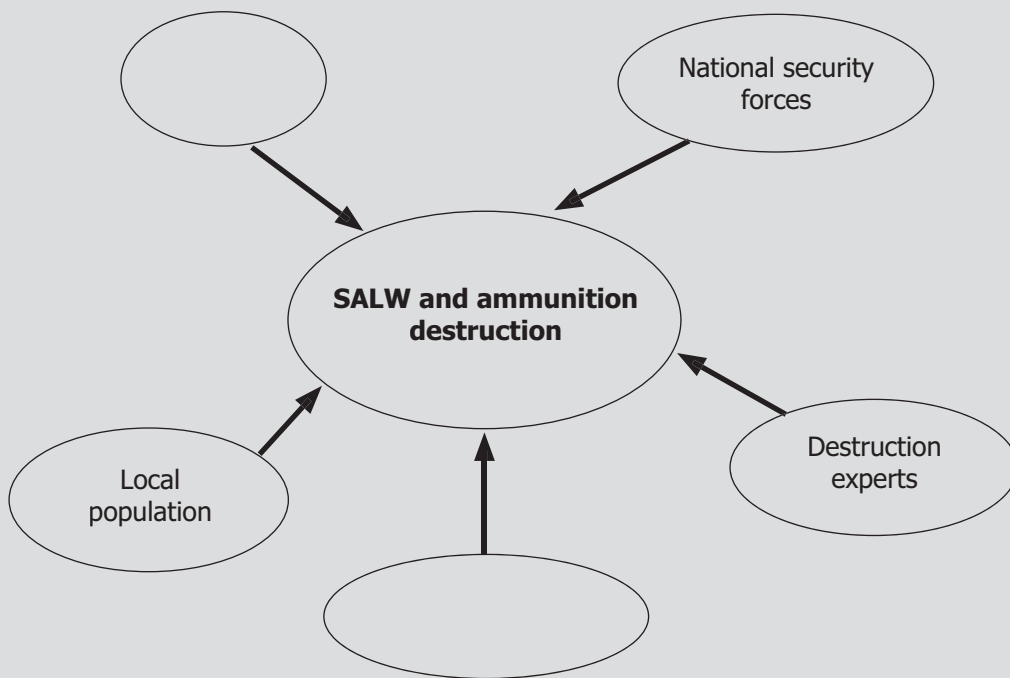
- National and international organizations involved in other aspects of destruction
- Non-governmental organizations, as witnesses and observers
- International donors

Exercise 1: Brainstorm and mapping exercise

- Who takes part in SALW and ammunition destruction projects?
- Which actors are important, and what are their general roles and responsibilities?



- Auxiliary personnel, including drivers and cooks, quartermasters and travel agents.



Trainer Note

Instead of Exercise 1 above you could also do the Optional Exercise below. Which one you choose is up to you.

Optional Exercise 1:

Based on the available Carana documents (see Annex III) ask the trainees to individually identify the various players with whom they should co-ordinate activities. What are their responsibilities towards these players?

Actor	Actors area of responsibility	Joint activity with destruction program

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Trainer Note (Exercise 2)

Objectives: to allow the trainees to reflect, in some depth, on the various skills they may need to deploy as PM.

Duration: 10-15 minutes

Material: paper, pens

Each trainee is to be randomly assigned one of the necessary skills a PM should possess (for examples, see text below). Ask them to individually come up with three reasons they think this skill is essential. You should encourage them to provide examples of a) the proper use of such skills and their necessity, and b) ideas of what happens if that skill is not available.

After presenting the list, discuss, as a group, whether this skill is truly necessary.

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Trainer Note

Please emphasize that, unless specifically authorized, **the PM does not have the responsibility for SALW collection itself**. However, if the weapons to be destroyed stem from a previous collection project, s/he should be aware of the context of the collection effort. Some issues that need to be kept in mind:

- Were the arms/ammunition collected smoothly and safely, using best practices?
- Do the arms come from military dumps/arsenals? Civilian holdings? Non-government armed groups? Criminals?
- Is the population supportive or opposed?

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Trainer Note—additional information

Logistics, especially in countries with poor infrastructure, play a crucial role, as the unavailability of a 'mission essential' item of equipment can be the difference between success and failure. The ability to think ahead and anticipate logistical problems are essential qualities for SALW PMs (see section on logistics below).

The financial and administrative complexity of SALW destruction projects can be very high, and the amount of money the PM has to deal with can be considerable. If the project is very big, it might have its own financial administrator

2.1 The skills and qualities required by a project manager (PM)

Exercise 2: Discussion

Each trainee is to be randomly assigned one of the necessary skills a PM should possess. You should individually come up with three reasons you think this skill is essential. After presenting the list, discuss, as a group, whether this skill is truly necessary. Is this skill essential? Discuss as a group.



SALW destruction programs are very complex, involving many people, a great deal of material, and some risk. It is the PM's responsibility to ensure that many of these elements, and the people that bring them into being, work together smoothly and safely.

This is particularly true given the risks and hazards associated with SALW and ammunition disposal.

Skills that a PM should possess include:

- **Enthusiasm.** This is probably the most important quality required by a PM.
- **Flexibility and patience.** In many countries, business is often done very differently and can create friction. Therefore, flexibility and patience are essential qualities for a PM necessary to help avoid frustrations and inconveniences.
- **Fairness and reliability.** These soft skills can be crucial in liaising with others, but also in keeping a good team spirit.
- **Communication, coordination and cooperation.** As PM you will be expected to liaise and deal with a range of people, and to ensure that they are working for the same goal. People you have to deal with are ranging from government ministers to local farmers.
- **Language.** The ability to speak fluently in the language of the country or region involved, or at least a language frequently spoken.
- **Cultural sensitivity.** A sound understanding of the cultural aspects will greatly facilitate the frequently difficult task of coordination.
- **Logistics.** A sound understanding of logistics will help to avoid difficulties.
- **Finances and administration.** Complex projects require sufficient experiences in finances and administration.
- **Safety.** The basic rule in dealing with firearms or ammunition is simple: **Do not take a step unless all the hazards of that step have been identified, and all the risks assessed, and you are confident they have been eliminated as much as possible.**



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Trainer Note (Exercise 3)

Objectives: make trainees think about responsibilities of possible actors involved in the program.

Duration: 20 minutes.

Based on Exercise 1, the “identification of actors/actors mapping” exercise, divide trainees into groups of 3 persons. Depending on the number of groups, provide each group with one or several of the following actors: LO, NA, NSF, etc. Ask trainees to list what they think might be a) the responsibility of the PM towards those actors, and b) the responsibilities of those actors towards the project. The results of the work will later be presented and discussed coram publico. Consulting the actors’ map might be of help (especially in terms of visualizing).

Trainer Note—additional information

Ideally, the PM belongs to the LO’s personnel. However, sometime the LO does not have the expertise and seeks assistance from outside technical personnel. In Paraguay, the PM was working as a consultant to UNDP but the authority (LO) was UN-LiREC, towards which the PM had certain responsibilities.

International or regional organization acting as LOs include e.g. the UN Development Programme (UNDP) which is one of the main agencies implementing SALW control projects; or the United Nations Department of Disarmament Affairs (UNDDA), acting through its regional centers, such as UN-LiREC in Latin America.

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2.2 Responsibilities of the PM towards other agencies

The primary responsibility of the Project Manager is to ensure the smooth, safe, secure, and eventless progress of the SALW/Ammunition destruction.

Note: it is *not* in the remit of the PM to destroy SALW/Ammunition or to engage in any of the technical activities of physical destruction.



Exercise 3: Actors responsibilities

In a SALW and ammunition destruction program, the PM has to coordinate with a number of different agencies, including the Lead Organization, National Authority, National Security Forces, Destruction Organizations, International Donors, and the Civilian Population.

In small groups, please list the following things for each of the above actors:

- The responsibility of the PM toward these agencies.
- The role and responsibilities of these actors toward the project.

2.3 Lead Organization (LO)

In most SALW destruction programs one organization takes the lead and is in effect the 'motor' that drives the program. This might be a national an international or regional body. In most cases, the PM is either a staff member of the LO, or assists the LO. In both cases you will be expected to coordinate and undertake many of the requests and demands from the Lead Organization (LO). You should be based in the country where the mission is taking place.

The LO has certain responsibilities toward the project, which include:

- Provision of the expertise for weapon and ammunition stockpile destruction.
- Provision of the required financial resources from the donor countries.
- Meeting their own and international regulations.
- Abiding by both international and national legislation
- Assisting in the development of national capacities in SALW control.

The PM also has certain responsibilities toward the LO, which may include:

- To act as a focal point to the project.
- To account for all in-Country finances.
- To provide liaison and coordination between all in-country agencies and international actors.

Trainer Note—additional information

- All agencies involved in the project will be looking at the PM for direction as the PM is likely to be the 'Subject Expert' on everything to do with the weapons or ammunition destruction project. As the 'focal point' it is the PM's responsibility to drive the project and ensure that all agencies are brought on-board and ensure that they become fully involved in the project. An all informed 'net' will ensure the success of the project.

Note: notwithstanding the fact that the PM might not be a technical specialist on SALW weapons and ammunition destruction, he is expected to have a broad overview on the situation and all project activities and to be the central contact person.

- The LO will allocate substantial funds for spending on the project, e.g. funds to procure equipment, the hiring of additional staff, hiring of vehicles for transport etc., for which the PM has to account for.
- The PM will undertake a host of Administration functions as the LO may not have the staff or the expertise to comply. Administrative arrangements may include facilitating the security clearances or arranging visas for the LO staff.
- In some countries, i.e. Colombia, there are very real security issues for all foreign personnel working in SALW Programs, especially kidnapping.

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Trainer Note—additional information

Quite often governments act in order to meet their public declarations in pursuit of their international political agendas. In many of the poorer countries the governments frequently lack the qualified personnel, institutions and possibly the resources to implement these policies, which is why they often get support from the outside. However, the PM has to be prepared to deal with circumstances that are not ideal.

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Trainer Note

If necessary, clarify to trainees that MoUs and HNAs are essentially the same thing: formal documents that outline the terms of the destruction program, clarifying tasks, responsibilities, the location and timing of the project, as well as any liability issues.

Parts of the management of stockpile destruction are the responsibility of agencies such as the Ministry of the Interior or the Ministry of Defense. National Authorities facilitate the conduct of the project by assisting with access into the country; e.g. with visas, import permissions for mission essential equipment, etc.

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- To provide administrative support to the project.
- To make administrative arrangements.
- To arrange and co-ordinate meetings of all interested parties.
- To keep a watching brief on the in-country security situation and keep all parties briefed on personnel security issues.
- To take care of media and awareness raising issues.

In some cases, you will also have to take over responsibilities that are not part of your job description. This especially concerns handling money. If you do not take an interest (as this is not in your contract), you will get ripped off and have to justify why you overspent your budget. **Therefore, make it your job.**

2.4 National Authorities (NA)

In most SALW control projects, it is the National Authorities (NA), which makes the initial approach to the LO for assistance in the destruction. Governments act through ministries, agencies, and commissions. These may well be in competition, and may not be coordinating matters at the best of times.

The PM is often seen as best placed to deal with all matters relating to the host National Government and its various organizations. It is the PM's responsibility to ensure that protocols and procedures are followed. Failure to do so can endanger the success of the mission.

The NA has a responsibility to meet the countries own laws and regulations. The PMs must be aware of what they are to assure that these are adhered to and not breached. A breach of laws could have legal implications.

The NA has certain responsibilities towards the project, which include:

- Aspects of safety and security of the national stockpiles.
- Demand and ensure compliance with national and international legislation.
- Parts of the management of stockpile destruction.
- Ensuring destruction method is benign; i.e. meets national legislative requirements.
- Reporting of SALW destruction activity to the UN DDA and other appropriate IOs.
- Facilitate the conduct of the mission.
- Establishment and maintenance of National Regulations.
- Establishment of a monitoring and verification system.

Trainer Note

An inexperienced PM might believe that he is responsible for the ammunition or weapons in the country. However, some countries are very secretive about their stocks and will only allow limited access to these items until the final destruction. The PM must respect this and accept those terms. Nevertheless, it has to be emphasized that a lack of information makes realistic planning and resource mobilization very problematic and the project is likely to fail. Usually, the PM is only assisting the NA dispose of these items. So if at the last minute the NA wishes **not** to destroy certain items, there is no choice but to acquiesce (though you are strongly advised to inform all other actors of the NA's decision).



Trainer Note

Emphasize that good communication between the Project Manager and the various National Government Departments is of special importance. It is important to have a good understanding of the country's governmental and juridical system. Build in certain safeguards, to ensure that potential problems and weaknesses do not impact on the overall mission. In certain countries, for example, the wheels of government move a lot slower than in others, so additional time must be allowed for the due process to come to fruition.



Trainer Note

The reality is somewhat different, as often NSF lack both the capacity and the fiscal resources to achieve these goals. Many NSF are very poorly resourced and therefore unable to comply with their own, often inadequate, safety and security obligations. If that is the case, the PM will have to find ways to keep the safety and security level at a maximum. The trainees should be aware of these potential difficulties and plan them in – flexibility is needed!



In formal documents such as the Memorandum of Understanding (MoU) or the Host Nation Agreement (HNA), the Host Nation accepts certain responsibilities. The project operates within the Host Nations' own laws and jurisdiction.

Governments may be unable or unwilling to meet all of these requirements. It is the PM's responsibility to ensure that these shortcomings are identified, monitored and the information is passed to the others parties/organizations involved in order to ensure a smooth operation.

Usually, the NA does not hand over the weapons and ammunition stocks to the LO. They must be kept in national armories or depots, where they are the responsibility of the NA. Very rarely does the LO take full control of the stocks. Therefore the NA has to comply with all of the headings listed below.

As a PM, you have to **be aware that it is the NA which has the last say**, and you are only assisting dispose of the items. Even if you don't like the NA's decisions, you must respect them.

The PM also has certain responsibilities to the NA, which may include:

- Maintain a close liaison with government actors involved in the project. Note that his can include the provision of information, e.g. by arranging visitor days in the field.
- Give technical advice on aspects of ammunition and weapon security.
- Give technical advice on international and regional regulations and legislation.
- Advise on best practices in SALW and ammunition destruction projects.
- Advise on best destruction methods.
- Assist in the development of national regulations for ammunition and weapon destruction with support from legal experts, if required.
- Ensure the NA follows correct monitoring and verification procedures.
- Assist the project in obtaining funding.

2.5 National Security Forces (NSF)

In most SALW programs the Project Manager will be dealing directly with the National Security Forces (NSF), e.g., police, border police and military, in relation to all weapons and ammunition destruction programs. NSF are most likely to be the custodians of these items. In theory, they are chiefly responsible for the safety and security of the national stockpile. As a PM it is important to liase closely with the NSF in order to assist them where necessary.

The NSF has certain responsibilities toward the destruction project, which include:

- Day-to-day safety and security of the stockpiles.
- Safety and security in the surroundings of stockpile and destruction facilities.

- Safety and security during transport.
- Safety and security during destruction.
- Compliance with national legislation.
- Compliance with local regulations regarding explosives and weapons safety.
- Assist the project where possible, in both equipment and personnel.

The PM also has certain responsibilities to the NSF, which may include:

- Helping draft National Ammunition Safety Regulations where these do not exist.
- Arranging ammunition and explosives safety and technical training.
- Inspecting all weapon and ammunition stocks for safety.
- Ensuring the NSF is able to complete the mission given to them. This could be financial support in the form of providing food or even in the reparation or purchase of certain 'mission essential equipment'. (On certain missions the NSF expect to be paid a daily rate and this must be considered).
- Building trust between PM and NSF as well as between NSF and citizens and other actors.
- Creating a feeling of responsibility and ownership.

2.6 Destruction Organization (DO)

PMs do not necessarily need to be SALW destruction specialists themselves. However, in order to plan and co-operate successfully they are required to have a good grounding and understanding of the responsibilities of the destruction organization.

The Destruction Organization (DO) has certain responsibilities toward the destruction project, which include:

- Ensuring explosive safety throughout all phases of the destruction operation.
- Ensuring a safe system of work (Operational Health and Safety Policy).
- Recruiting, training and maintaining staff to an appropriate level. This might require some capacity training for local organizations.
- Ensuring the security of weapons and ammunition once transferred to their storage location.
- Providing guidance and technical advice to the project manager.
- Producing explosive safety documentation, such as technical instructions, safety procedures, Standing Operating Procedures and range orders.
- Providing timely passage of information.
- Verifying destruction of weapons and ammunition.

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Trainer Note

In some countries, the UN in New York is sent a list every night of the ammunition and weapons destroyed that day, which was a time consuming endeavor, but also one of the terms of the project funding.

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Trainer Note

The Project Manager will be working extremely closely with many governmental agencies and NGOs, including the Ministries of the Interior, local councils, local schools as well as international organizations such as UNDP and United Nations Children’s Fund (UNICEF), to name but a few. The main aim is to raise the local population’s awareness by making them aware of the benefits of the SALW destruction program to the community where the events are occurring. This is crucial in winning over the ‘hearts and minds’ of the community and boosting their understanding and in the end, their tolerance levels, to the negative aspects of such programs, most notably the noise levels.

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2.7 International Donors (ID)

International Donors (ID) fund most of the weapon and ammunition destruction projects. They have certain responsibilities for ensuring that these projects are managed effectively and in accordance with national or international standards.

Responsibilities of the IDs toward the destruction project include:

- Ensuring competence of the implementing agencies and those responsible on the ground. They may be involved in the contract phase of the project.
- Ensuring that the financial resources provided are used efficiently and toward their agreed purpose.
- Ensuring quality management of the project.

Depending on the project, and consequently how much contact the PM has with IDs, **responsibilities towards them can include:**

- Ensuring that resources needed for activities planned do not exceed available funds.
- Ensuring that the money spent on the project is used correctly, and properly accounted for.
- Ensure that the standards and guidelines for quality management are applied.
- Producing regular updates on the project to keep all parties informed.
- Providing donors with intermediate and final project reports.

2.8 Civilian population

An area of responsibility that is often ignored is toward the civil population. Collectively speaking, the civilian population is an important actor and it is your responsibility to make sure that there is good communication and coordination with them, which is time consuming but ultimately, essential.

Responsibilities towards the civilian population include:

- Ensuring safety of civilian population and property.
- Keeping them fully informed and briefed for the reasons behind the program.
- Ensuring transparency.
- Building confidence between the population and other actors involved.
- Allaying their fears, both real and perceived.
- Establishing support programs and involving the civilian population as fully as possible in the program.
- Avoiding pollution.
- Undertaking noise abatement and noise awareness campaigns.
- Undertaking pollution awareness campaigns.

2.9 Responsibilities to the environment

As a PM, you must be aware of your responsibilities to the environment. It is important that you are aware of the environmental regulations of the country and a visit to the Ministry of the Environment is a must, if you are not to fall foul by inadvertently breaking some national regulation.

Remember: irrespective of national laws, the PM must strive, wherever possible, to attain the highest international environmental standards in all destruction activities.



Neglecting the environmental issues and the responsibilities the PM has towards the environment is probably the easiest way to lose your good reputation. Before any destruction begins, **the PM must ensure:**

- Written authorization from the National Authorities for the destruction.
- That all parties have agreed on the destruction method selected and that it is the best option available. (If in doubt, conduct a test and monitor the outcome).
- That the good name of the organizations the PM is representing will not be tarnished by sloppy practices.
- That the PM has researched the project and has a plan for dealing with all environmental issues, including the clean-up phase of the program.

Remember: as positive as it is to rid the population of SALW and ammunition, people don't gain a lot if in return they are left with poisoned water or polluted air and soil! As a PM, you are responsible for keeping their environment clean!



Exercise 4: Group work

Without looking at the material in this section, try to reconstruct, as a group, what are the PM's responsibilities, and to whom.

Draw a focus at the center of a flip chart. Add the names of actors the PM has a responsibility to, radiating out from this center. Under each such actor, indicate the nature of the PM's responsibilities. Check your self-generated lists against those in the section above. If there are differences, try to understand why such differences emerged.



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Summary of Section 3

The chapter has looked at the agencies and organizations involved in SALW and ammunition destruction projects. It has outlined the areas of responsibility the PM has towards those actors, and vice versa.

Trainer Note

If time allows, ask trainees whether they can still remember some of the key requirements and “soft skills” crucial for a PM (see Section 3).

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Section 4

Logistics and administration

Objectives and Goals of Section 4:

- To give the project manager an insight into the many logistics and administration issues they are like to encounter while working in SALW projects.
- Have acquired an understanding of possible obstacles.

1. General considerations

This section will look at the logistic and administration issues associated with SALW destruction projects. As the PM, you will have specific responsibilities to ensure that the myriad of logistic and administration issues are correctly coordinated and controlled. The chapter will look at the various key issues associated with both logistics and administration and give some practical examples of the realities.

“No plan survives contact with reality”

Be aware that things often work out differently and take longer to achieve than is planned. Because of the places that many of the SALW projects are taking place and the lack of proper infrastructure, which may not be able to support your requirements, simple problems can easily turn into real ‘show-stoppers’ Therefore the PM needs to be able to anticipate them before they arise. Cultural differences, bureaucracy, and different methods of doing business are also going to affect the issues.

Remember: flexibility is of key importance!

Setting unreasonable deadlines (for the area or country) will undoubtedly result in frustrations and ultimately, failure. As PM you will be involved in many planning and coordination meetings where promises are made and never materialize.

Remember: always leave yourself plenty of time to achieve goals and do not to set ‘unworkable’ tight deadlines.

You as the PM may need to pressure the NAs for a decision or a request. This needs to be done tactfully and diplomatically. Two broad issues will have a great impact on your ability to complete the project, as well as on your degree of frustration: political realities, and national infrastructure.



Dealing with politics

Bureaucracy and formal permissions are the bottlenecks of any project. Without these formal permissions, provided by the NA at their own pace and in their own way, no action can get under way.

What always takes time to materialize is the NA authorization for the project. Nothing can begin properly, until this has been signed off. Be aware that this often needs to be signed by a large number of authorities, each of which takes time before they sign. This may be frustrating, but with a little gentle pressure usually everything eventually materializes.

Remember: progress is not possible without this authorization. Include sufficient time to get these permissions into planning, and try to get authorization as soon as possible!



National infrastructure

The level of development and the infrastructure of a country affects both logistics and administration. The infrastructure is a determining factor for the selection of the destruction method. Equipment not available in the country has to be identified early in the 'Planning Phase' of the mission to allow for these to be sourced from somewhere else. This can lead to other bureaucratic complications, as a special import license may be required to bring these items into the country.

2. Logistics and administration

Box—Definitions

- **Logistics** can be defined as “the detailed planning and implementation of a complex task”.
- **Administration** is “the management of political and institutional affairs”.

The planning and execution of an SALW project will certainly be a logistical and administrative challenge to any PM.

Logistics and administration will take up a considerable amount of the PM's time, both prior to and during the project, and will involve quite a lot of high and low level politics at some stage.

The logistics and administrative issues discussed in this section will deal with:

- Transportation.
- Food and lodging.
- Healthcare.

- Communication.
- Finances.
- Personnel.
- Special equipment.
- Security.
- Liaison duties.

Box—The visa night-call

An example for poor logistical planning was the Interior Minister of Costa Rica being woken up at 1.00am in the morning, because a member of the SALW team had omitted to obtain the correct visa for entry into the country. These incidents do not endear the visiting team to the NA and can be avoided with proper planning.

Transportation

As PM, you have to arrange for different types of transportation, which includes transportation of personnel, transportation of material, and transportation of ammunition and SALW.

Transportation of personnel and equipment

There are some consideration concerning the transport of personnel and equipment:

- Have your own transport.
- Detail the vehicles for specific purposes.
- Do not allow your vehicle to be used by anyone else, as it is essential that as PM you can react to any situation.
- Have good trustworthy drivers.
- Be aware that foreign personnel are much more likely to be involved in car accidents than professional local drivers!
- The selection of the number and kind of vehicles used is determined by the project needs, cars available locally and money available.
- Cars need fuel, spare parts and maintenance – ensure availability!

Weapons and ammunition transportation

Ideally, destruction should take place at the collection site for several reasons:

- Safety: the less movement, the less the chance of accident.
- Security: the less movement, the less the chance of diversion or theft.
- Simplicity: the less movement, the less the administrative burden.
- Costs: the less movement, the lower the costs.

There may be one overriding consideration in favor of transporting large loads of collected arms to another site for destruction:

- Location of an efficient destruction device such as shredder or smelter.
- Moving weapons and ammunition is a difficult task. How to arrange it depends on:
 - Vehicles available.
 - State of roads.
 - Type of loads.
 - Security situation.
 - Costs.
 - And other factors.

The movement of ammunition natures in large quantities is best done by rail. This is usually a safe method and least likely to put the public at risk. However, the reality is that rail movement is none existent is many countries.

In order to move these arms or ammunition, the PM must have a well-thought out **transportation plan**. This should list several significant elements, to ensure proper safety, security, and efficiency.

Several elements need to be considered in your transportation plan, whether of small or large quantities:

1. Road plan
2. Loading order
3. Loading/unloading
4. Security in transit

Note: the transportation plan should be written out. Make details clear to all those involved.

Depending on the specific situation, several transportation plans might be needed:

- Collecting arms from remote sites (small quantities, little pre-processing) to a central collection point.
- Moving arms from a central site to a destruction site (large quantities of arms, preferably pre-processed).

A two-stage collection program such as that has both advantages and disadvantages.

Trainer Note

Elements of a transportation plan	Comments
<p>1. Road plan. This should include the following:</p> <p>1.1. Detailed maps in each vehicle, and at the project office, showing the roads to/from sites, and alternatives in case of blockages. Be aware of potentially mined areas!</p> <p>1.2. Road condition updates, which should be updated in a timely fashion (daily if necessary).</p> <p>1.3. Fuel points <i>which have the appropriate fuel</i> (gasoline, diesel, unleaded).</p> <p>1.4. Daily checklist for ensuring car roadworthiness.</p> <p>1.5. Scheduling list including times, for vehicle location.</p> <p>1.6. Provisions for emergency road service.</p> <p>1.7. Instructions for hours-on-the-road for drivers</p> <p>1.8. Details of nationally required road insurance.</p>	<p>1.1. Satellite photos of many areas are available from http://earth.google.com</p> <p>1.2. In some countries there are regular radio updates, in others other sources have to be found.</p> <p>1.4. Most drivers will do this automatically, however, an ounce of prevention. ...</p> <p>1.5. This is particularly important in case of breakdown, and in order to ensure vehicles are not being used for illicit purposes.</p> <p>1.7. Many drivers badly overestimate their ability to drive with full alertness for long periods of time. Drowsiness on the road, particularly with explosive loads is almost certain to lead to accidents.</p>
2. Loading order	Knowing, particularly when (a)-taking SALW arms to destruction points, and (b) moving in large convoys, what precisely has been loaded onto a vehicle is critical for safety. As a general rule, no more than one vehicle at a time should be allowed onto an OBOD site. The others should be dispersed and their security assured. In the case of SALW ammunition or explosives , only one type of ammunition, or one type of explosive should be allowed in the same vehicle.
3. Loading/unloading	Who does the loading/unloading and precisely where should be detailed and known to all. This is important for safety reasons (only trained and briefed personnel should be allowed to load/unload ammunition), and for security (to ensure no items are diverted by false unloading orders).
4. Security in transit	Generally speaking, this is a matter for the security forces, which have overall security responsibility – police, army, or international force. However, the PM should be available to advice, and should provide recommendations. It is strongly recommended that every vehicle be double-manned. You should try to bring pressure on the government or security force that a quick reaction force be available to protect large convoys.



Table 1: Elements of a transportation plan

Elements of a transportation plan
1. Road plan
1.1. Detailed maps
1.2. Road condition updates
1.3. Fuel points
1.4. Daily checklist for ensuring car roadworthiness
1.5. Scheduling list including times, for vehicle location
1.6. Provisions for emergency road service
1.7. Instructions for hours-on-the-road for drivers
1.8. Details of nationally required road insurance
2. Loading order
3. Loading/unloading
4. Security in transit

Additional information on:

- Point 1.1: Keep in mind that in many post-conflict countries, the roads are mined or suspect of mining. In such case, **the shortest route is not the best route**. Consult with the local de-mining or mine action group or national authorities before engaging in transportation in such areas.
- Point 1.3: If necessary, drivers should have petrol vouchers or cash for refueling.
- Point 1.5: A scheduling list can be drawn up as a table, with a record for each vehicle and its expected location at any given day, and tachometer readings.

Trainer Note—additional information

The MoU with the NA will detail who is responsible for feeding and lodging arrangements. However, the reality is sometimes that promises are not kept, and you should have alternatives ready to hand in case agreements fall through.

Local accommodation and facilities can be fairly basic. Items such as insect repellent, mosquito nets, diarrhea pills and other prescription medicine required by individual persons may have to be brought in.

It is the PM responsibility to ensure that the project staff gets properly fed and the money is not swallowed-up in the bureaucratic system. The PM should supervise closely the catering arrangement to ensure that those entitled to the food are being correctly fed and watered. Having those involved in the project ill with food poisoning will affect the whole project or even cause its cancellation. A considerable amount of thought needs to be invested by the PM in planning the food requirement for the foreign personnel involved in the project. This may involve bringing the food and arranging for a cook to prepare it.

It is always sensible to assume that unexpected needs – unanticipated guests, food destroyed by inappropriate packing – may need to be satisfied. It should be possible to provide morning and afternoon snacks for the entire team.

Often the international project staff will be invited to eat with the host country personnel involved in the project. If you are not used to the food or spices, this might result in stomach upsets, especially in the beginning. Of course, sharing food is usually a very pleasant experience not to be missed!

Food and lodging

"An army marches on its stomach."

(Attributed to Napoleon Bonaparte, a famous French general)



The PM has to ensure that lodging and catering are in place. Ideally, the PM would arrange for these locally, so as to enhance the perceived benefit to locals of the destruction program.

Arranging food and accommodation for the team members may be difficult:

- For projects taking longer than 10 days, it is important to have suitably comfortable accommodation where the personnel can properly rest and escape the worst of the weather; be it heat, cold, rain or the insects.
- Should no suitable accommodation be found locally the PM might have to have special accommodation erected or brought in to support the project. This needs to be budgeted for in the project.
- Identify what food is readily available and whether it is suitable for the project personnel in the initial planning phase. Keep in mind that dietary requirements in the group may vary considerably as may the availability of quality food in remote areas.
- Should no suitable food sources be available, it may have to be brought in from outside.
- Bottled water is readily available in most parts of the world. However, should none be available, alternative filtration systems need to be used.

Be aware: the most common reasons for delays on SALW projects are lost days through personnel illness, mostly stomach complaints.



Healthcare

In all SALW projects there are health risks. Having a medical contingency plan is essential and part of the PM 'Duty of Care'.

The PM should:

- Personally do an inspection of the nearest medical facility.
- Carry out an evaluation of the health risks involved in the project.

At the project site, the minimum should be a well-stocked first aid kit and at least one qualified first aid person. During more risky tasks, such as demolitions, an ambulance and a paramedic should be at the destruction site.

Note: ensure that all personnel are fully briefed as to the emergency procedures in case of an accident.

Apart from SALW specific risks, you also have to consider country-related and personal health requirements:

- Assess in the preparation phase whether the project is located in an area having to deal with malaria, poisonous snakes, yellow fever, etc. Ensure appropriate medical preparation (e.g., vaccination, stock of necessary medicine) has been met.
- Provide for a sufficient stock of medication against frequent health troubles.
- Ensure that international staff brings prescription medicine required if necessary.

Some suggestions for a First Aid Kit are provided in Annex V.

Communications

Without proper communications the PM may lose control of the project. Communication equipment is a key to the success of any SALW project. The most suitable equipment to use depends on the local situation and circumstances.

Table 2: Advantages and disadvantages of communication media

Equipment	Advantages	Disadvantages
Mobile phone	<ul style="list-style-type: none"> ■ Usually readily available. ■ Practical and easy to use. ■ Relatively low acquisition and operation costs. 	<ul style="list-style-type: none"> ■ Lack of coverage in certain areas and conditions (e.g., heavy rain). ■ Unreliability of the telephone company.
Satellite telephone system	<ul style="list-style-type: none"> ■ Good coverage. ■ Highest level of security. ■ Possibility of international phone calls. ■ E-mail transmission. 	<ul style="list-style-type: none"> ■ High acquisition costs. ■ High operation costs. ■ Unreliable in certain conditions (e.g. clouds, and heavy rain).
Hand-held radios	<ul style="list-style-type: none"> ■ Very effective. ■ Cheap. ■ Reliable coverage. 	<ul style="list-style-type: none"> ■ Only suitable for low to medium distances. ■ Transmission can be disturbed by mountains, high houses, etc. ■ Need stock of extra batteries and charger. ■ Need trained personnel.

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Trainer Note

This is especially true if the project is taking place away from centers of population where there are few banks and plastic credit cards are seldom used or accepted.

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Trainer Note—additional information

Many of the tools and equipment used for destruction are classified as 'Strategic Goods' and (as a consequence of the events of 11 September 2001) have had certain restriction placed on their importation and exportation. Some mission essential goods, such as explosives and blasting machines definitely, fall into that category. If these items are not held in the country, obtaining permits can be a difficult and laborious process. The PM will be closely involved with all parties to secure these mission essential items.

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Be aware that Internet coverage in remote areas is limited. Even where available it can be unreliable, time-limited and extremely slow.



Finances

As PM you will be responsible for purchase of many of the project's equipment and for payment of all the day-to-day expenses incurred by the project. This means that you may be carrying substantial amounts of money on you and having to account for it accurately.

A useful tip for PMs' is to have a blank receipt book with you at all times, as in many places it is unlikely that you will be issued with an official receipt. The best advice for any PM is to consolidate the accounts daily by placing all the 'days' receipts into a separate envelope. For further details on finances, see Section 5.

Personnel

Depending on the size and complexity of the SALW project there may be a requirement to involve additional personnel to cover key areas. These may include for example a dedicated logistics officer, administration assistant, a press officer and an event coordinator. It is up to the PM to decide what assistance they require to bring the project to a successful conclusion.

Special equipment procurement

On the majority of SALW projects there is likelihood that there will be a requirement for special equipment. The PM needs to identify these early in the planning phase of the project by consulting with the AT and other technical personnel. If possible it should be purchased locally, or have it made on the spot (see, for example, the ammunition burner). However, some times provision must be made for the purchase and even the importation of equipment ranging from shredders to oxy-acetylene torches. It should be kept in mind in such a case that many pieces of equipment need to be supplied with consumables: fuel for torches, saw-blades for cutters, so it may be necessary to lay in a proper supply, depending on your estimates of the numbers of guns to be destroyed.

Plan in sufficient time to make arrangements to have necessary equipment procured and transported to the project in time. If equipment has to be imported into the country, more time has to be calculated for bureaucratic formalities.

Security issues

The security issues of the country where the SALW project are taking place must not be under estimated. Ensure that the team members are fully briefed on the local situation. Should the situation dictate, a dedicated Security Officer may be needed to oversee the safety of those involved in the project and additional security personnel hired as required. The NA will certainly assist in the PM assessment of the country's situation and may also issue guidelines. For more details on security, see Section 9.

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Trainer Note

Liaising is a time consuming process and requires you as PM to attend many meetings and local dignitaries, mostly trying to ease their fears. Failure to liases with the local population could result as in Paraguay with the abrupt termination of the project

Trainer Note—additional information

It is an inescapable fact that all SALW projects will generate a lot of interest and it needs to be stressed that this is an important area, which needs to be handled well. To avoid too much disruption it is worth considering a 'visitors day' where all "VIPs" ("very important persons") are brought in at once, thus minimizing the disruption to the project. It is worth stating that this needs to be well planned and co-ordinated if you are to achieve the desired goals. 'Transparency' is an important part of any SALW project and gives the visitors a chance to see what is going on in the project. The best advice is to have it carefully planned and even 'stage-managed' to avoid any unfortunate incident. A rehearsal the day before is a must.

Trainer Note

Very closely related to visitors is that of the press coverage of the SALW project. The press coverage of the SALW project is very important to the success and exposure of the project and also need to be carefully co-ordinated as it can easily backfire if not done properly. In principle it should be done on the 'visitors day', as the VIP are present. However sometimes it is worth considering having a separate 'press day' if there is a specific point you as PM want to get across about the SALW project.

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Remember: all personnel involved in the project need to be fully briefed on the security situation of the country. These include dangers, personal security measures, safe areas, driving precautions and out-of-bounds areas.



Liaison duties

As PM you will be involved in a host of liaison issues which will take up a considerable amount of your time. However, this process is of vital importance for the acceptance and success of the project!

Liaison with local population

Establish a good working liaison with the local population prior to any SALW project.

Visitors liaison

Consider a 'visitors day' where all important actors and authorities (such as donors, government officials, media) are brought in at once, thus minimizing the disruption to the project.

Press liaison

The press coverage of the SALW project needs to be carefully co-ordinated. Ensure that there is a spokesperson and an agreed upon "press policy" in your project.

Summary of Section 4

This section provided an overview of the type of administrative and logistics issues you as PM are likely to encounter in future project. There are no hard and fast rules governing either of these subjects, and usually these are learnt the hard way through mistakes and experience. Each SALW project will have its own unique logistic and administrative issues, which will have to be resolved, and from experience, those involved in SALW projects will always look at the PM for guidance, direction and leadership in these matters. You will often find that after the day's work has finished and the rest of the team members are relaxing, you will be hard at work trying to resolve and find solutions to tomorrow's issues and problems. A sound logistic background is probably the most important quality the PM needs to have for the overall success of any SALW project.

Section 5

Financial planning

Objectives and Goals of Section 5:

- To introduce the PM to the process of cost analysis.
- To help the PM to produce an accurate Financial Planning Model for the project they are involved with.

1. Introduction

As the PM, you will be expected to spend a considerable amount of time on the financial aspects of any SALW project you may be involved with.

The factors you need to keep in mind include:

- The quantities and types of SALW to be destroyed on the project.
- Technical complexities of the project.
- The availability of national resources in the country.
- The infrastructure available.
- Environmental considerations.

2. Cost analysis

The production of a cost analysis for any SALW project is a complex subject. There are many variables to take into consideration when attempting to capture the anticipated costs. Every project is different and the PM will encounter different considerations and situations in each project. Therefore, prior to the project the PM needs to understand what costs are being accounted for by the organization they are representing.

Annex VI provides a simple example of a financial planning model that will enable the PM to produce a good estimate of the overall cost of the project. On request, SEESAC provides an EXCEL based financial planning matrix for the development of programs to appropriate organizations and individuals (info@seesac.org).

Remember: it makes no sense to compare apples with pears – we should always compare apples with apples!



3. Quantities, types and technical complexity of SALW

The function of the PM in destruction projects where small quantities of SALW weapons and ammunition are involved is:

- To estimate quantities and types during the planning and preliminary phases.
- To assess process times and ancillary costs (e.g. cost of barrels for refuse).
- To calculate costs, including possible recovery benefits from foundry, if any.

The quantities of weapons and ammunition in any project will have a considerable impact on the cost of any project.

Note: in order to estimate costs, you must have a *clear* idea of what quantities of weapons and ammunition are to be destroyed, and of which particular types.

Given that in many destruction projects, a preliminary count is often not undertaken, it is important that the numbers and types of SALW weapons and ammunition be ascertained *reliably* during planning.

Large projects are very expensive. They are often coordinated by large, experienced international organizations or NGOs, who have experience in setting up and running projects of that size. Where the quantities are large, economies of scale will greatly reduce the cost of each item destroyed.

Smaller projects are cheaper to implement globally, though they may be considerably more expensive on a unit-by-unit base.

Box—Definition

The term “Demilitarization” refers to the complete range of processes that render weapons, ammunition, mines and explosives unfit for their originally intended purpose. Demilitarization not only involves the final destruction process, but also includes all of the other transport, storage, accounting and pre-processing operations that are equally as critical to achieving the final result.

(Source: IMAS 11.10)



In some of the countries where large stocks of weapons and ammunition are being destroyed, demilitarization might be the preferred option. Demilitarization of weapons is done, for example, by plugging the barrel, cutting or smelting the weapons.

Note: because of the risks involved, the demilitarization of these items has to be conducted under strict guidelines and special safety precautions!

The technical complexities of any destruction activity will greatly affect the cost of any project. The higher the technical complexity, the higher the overall cost of the

project. The cost recovery of the dismantled parts will play a significant part in the selection of the demilitarization process and will dictate how the process is undertaken. Where very large quantities of materials are to be destroyed or dismantled, the LO has a wider selection of available technologies and cost benefits from the industrialized process.

In the case of many small-scale SALW projects, basic technologies are used, as these are readily available in most places.

Examples for the destruction of **SALW weapons:**

- | | |
|---|--|
| Small quantities of weapons | A good option is the use of an electric drop-saw. Drop-saws are readily available and inexpensive (approximately USD \$300). |
| Large quantities of weapons (<10,000 units) | The best option might be complete destruction through smelting. |
| Larger quantities (>10,000 units) | Demilitarization or dismantling options should be considered. |

Examples for the destruction of **SALW ammunition and HE:**

- | | |
|---|---|
| Small quantities of ammunition (<1 000 000 units) | An option is to purchase a quantity of empty 50 gallon oil-drums (approx. USD \$5 each) and burn the ammunition in these. |
| Small quantities of HE (<10 000 kgs) | A method is Open Detonation. |
| Quantities above those mentioned | Demilitarization or dismantling options should be considered. |

Remember: an experienced Ammunition Technician must always conduct these operations. For safety reasons, it is not the pm's job to plan or implement the physical destruction processes.



Remember: safety must never be sacrificed for of cost recovery.

4. Availability of national resources

The national resources of the country where the project is taking place play an important part in the selection of the destruction option and the costs involved. An assessment of the national resources available to assist and facilitate the destruction, the technologies and the technical expertise available has to be done during the assessment and planning phase of the project. The results will determine the eventual plan of action for the destruction or disposal method.

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Be aware that the places where projects are taking place may lack the resources and technologies necessary to support the project. Therefore, additional funds may need to be made available to support the destruction.

Clarify whether you have to remunerate the personnel involved in the destruction, and whether the NA requires international pay rates. This needs to be addressed early in the project and be included in the MoU or the HNA.

5. Environmental impact of the destruction methods

Environmental issues and concerns have moved to the fore in the past decade, and costs for reducing the environmental impact have risen.

Remember: the environmental impacts MUST always be a critical consideration in any SALW destruction project.



- It is important to examine the environmental restrictions placed on the SALW project by the NA as these could have financial implications on the cost of the project. A trip to the Ministry of the Environment is a must.
- If the legislation is complicated, an environmental impact assessment may need to be formulated.
- It is recommendable to conduct environmental monitoring of the destruction process. This also would need to be included into the overall costs of the project.

Remember: to ensure that you comply with all necessary local rules and regulations, you must secure your authority in writing from the national authorities.



If no government related legislation is available, make sure to implement as high environmental standards to your project as possible in order to minimize environmental impact. Brief the NA on the environmental impact of the project.

Summary of Section 5

It is extremely difficult to estimate the destruction costs of any SALW project, as there are so many external factors that need to be considered. It is therefore essential that a detailed assessment of the SALW project is conducted by suitably qualified technicians during the planning phase and that these costs accepted by the LO.

A more detailed example of a financial planning model can be found in IMAS 11.30 Annex E, which is broken down into the four phases of an Anti-Personnel Mines Destruction Program, but could easily be modified for a SALW project. It includes Planning, Preparation, Destruction, and Monitoring and Verification phases.

Section 6

Inventory methods and management issues

Objectives and Goals of Section 6:

- To provide for accounting, management and verification issues.
- To be aware of obstacles.

1. Technical accounting advice to SALW

As the PM, you will have certain responsibilities for the accounting process in any SALW project: These may include any of the following:

- Technical advice on stockpile accounting during weapon and ammunition collection and destruction projects.
- Collection and collation of both weapons and ammunition stocks for NA.
- Preparation of an accounting database and its continuous updating.
- Training of personnel involved in accounting, stockpile-management and verification.
- Composition of inventory management and verification teams
- Monitoring the destruction process and planning guidelines for the accounting and verification process.
- Briefing the respective agencies involved in the SALW project: NA, donor countries, sponsors, NGOs, press/ media and local communities.

Good accounting and inventory management systems, from the initial collection to subsequent destruction, are essential for complete transparency in SALW projects. This section will look at the inventory methods and management issues associated with the SALW programs.

As PM you are required to advise the NA on all accounting matters relating to the SALW project. This advice will depend completely on the type of project you are involved in. Each brings its own challenges. Accounting and verification staff will have to ensure that all stocks are safely collected and accounted for correctly prior to destruction.

Note: the accounting system imposed must be robust and efficient to ensure that no discrepancies occur and that weapons or ammunition natures do not 'disappear out the back door'.

Remember: proper verification cannot be confirmed until after the weapons or ammunition natures have been definitively and positively destroyed. This means that the LO must have an accounting audit trail from collection, through verification to the final destruction phase of any SALW destruction project.



Box—When is a weapon not a weapon?

As a rule of thumb, weapons can be deemed to have been destroyed when they have been physically seen to be smelted or cut into at least 3 separate pieces. Ammunition has been destroyed when it has been detonated or completely burned.

2. Identification of all SALW weapons and ammunition stocks

Prior to the commencement of the inventory management process, the Technical Advisor under the direction of the PM, must conduct a review of the verification and identification information prepared by the NA.

To verify and keep record of the stocks due for destruction, it is necessary to ensure reliable registration of the weapons and ammunition. Registration forms can be designed by the PM for the specific project.

Be aware: The PM is not supposed to identify weapons and ammunition! This is the responsibility of the technical specialist. However, while you should keep away from weapons and ammunition, it is useful to acquaint as much **theoretical** knowledge as possible as this will enable you to best support your weapons and ammunition specialist.



Exercise 1:

- What information is needed for a form to ensure proper registration of SALW to be destroyed?

Design a registry form. Work in groups.



There are also some useful model forms or samples of firearm registration requirements that can be used. Resources include the Firearms Reference Table⁸ FRT, produced by the Royal Canadian Mounted Police (FRT Section, Forensic Laboratory Services. PO Box 8885. Ottawa, Ontario, CANADA. K1G 3M8. Email: FRT-TRAF@rcmp-grc.gc.ca), or the OSCE Handbook of Best Practices on Small Arms and Light Weapons (<http://www.un.org/Docs/sc/committees/1373/handbook.pdf>).



Box—Firearms Reference Table (FRT)¹⁰

The Firearms Reference Table (FRT) is a comprehensive catalogue of the World's firearms. The FRT was developed by the Royal Canadian Mounted Police, beginning in 1992, and now contains listings of more than 89,000 firearm types. The RCMP continues to maintain the FRT by adding an average of 3,500 new firearm types created annually throughout the world. Each firearm type in the FRT has a unique Firearm Identification Number, or FIN. Updates to the FRT are available annually.

The FRT contains sufficient **information to identify the particular firearm**: manufacturer, make, model, caliber, barrel length, action and magazine capacity. In addition, **photographs** are provided for about 4,500 of the firearm types, with five views per type. Finally, there are **additional attributes** provided for many of the firearm types, such as finish, type of sights, and location of manufacturer's markings.

The combination of a firearm's FIN and its Serial Number is normally accepted as the minimum necessary information to identify any specific individual firearm for purposes of firearm registration or firearm owner licensing.

How is the FRT normally used?

The FRT is available as a stand-alone set of CD-ROM's sold by Forensic Technology that can be installed on a computer and used in any situation where individual firearms must be identified. For example, in national civilian firearm surrender programs, the FRT may be installed on a laptop computer for use in the field to register firearms at a turn-in site in the form of DREAM, a registration and firearms database, that can be used both to identify firearms, and to register owners or former owners who have surrendered them.

The FRT is used for **two major purposes**:

1. To minimize the amount of data required to be entered by a field officer in order to identify the firearm.
2. To ensure that each firearm is accurately identified by determining and saving only the FIN.

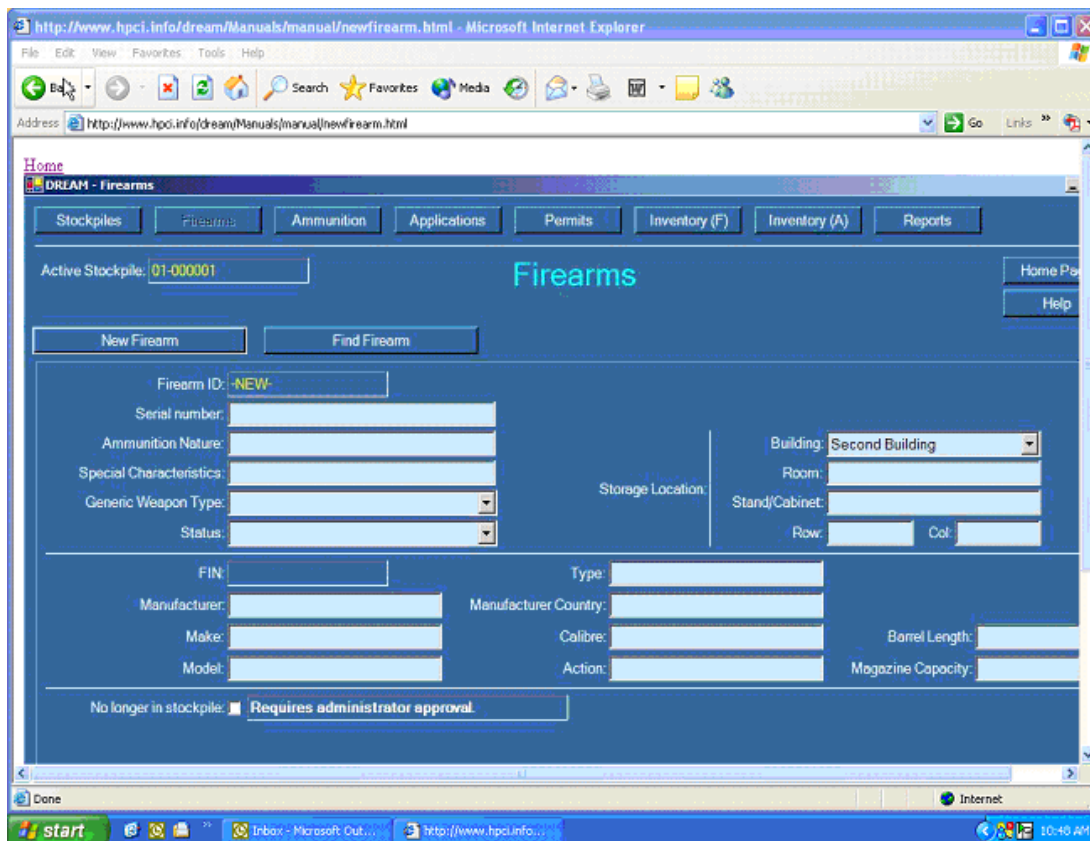
This approach ensures that the same firearm type is not entered in several different ways because attributes such as the model, caliber and barrel length are entered using different word sequences, units of measurement, or presence or absence of punctuation, at the discretion of the person doing the data entry.

Even if the destruction program does not have this software, it is important to record weapons according to the fields used by the RCMP Firearms Reference Table, so that, when the opportunity presents itself, these data can be fed into the program easily and efficiently.

Figure 1 shows an actual screen shot from DREAM (the operator's window for the FRT database). Table 1 presents the same records as a form that can be filled in by hand.

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Figure 1: DREAM—New Firearm Recording



Courtesy: Forensic Technology WAI Inc.

Table 1: Explanation of firearm registry form

Field	Comments
Stockpile	The stockpile where the firearm is located (in our case “for destruction”).
Serial number	The serial number of the firearm, normally etched or stamped into a prominent part of the firearm (see TRESA module SALW Basics-Recognizing SALW and Ammunition (SB-R05).
Ammunition nature	Type of ammunition this firearm uses.
Special characteristics	That will aid in identifying this weapon: modifications (by manufacturer or some else), marks, decorations, etc.
Generic weapon type	In the database, there are set typologies, however, on paper, you can fill in using designations such as “assault rifle”, “automatic pistol”, etc.
Status	

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Storage location: building	Building where weapon is located. If the weapon has been clearly and unambiguously identified as destroyed, this can be left blank, otherwise, indicate where stored.
Storage location: room	In which room it is stored.
Storage location: cabinet	In which cabinet or weapons rack.
Storage location: row	In which row in the cabinet.
Type manufacturer	The type of firearm, e.g. automatic pistol. Usually indicated with the serial number. It may be necessary to indicate "craft manufacture" in some countries where firearms are made locally and unofficially.
Manufacturer country	Given the vast numbers of copies, and poor regulations, this is not always obvious and may be left blank if absolutely necessary.
Make	Manufacturer's series and location. This is not always obvious (as the manufacturer may encode it in some way).
Caliber of the weapon	The inner diameter of the tube and the outer diameter of its ammunition. See TRESA module SALW Basics-Recognizing SALW and Ammunition (SB-R05).
Barrel length	Not the length of the entire weapon, but only from the firing chamber to the end of the muzzle.
Model	Many firearms have different models, depending on year of manufacture, variant types, etc.
Action	Single fire (bolt), semi-automatic, automatic, etc.
Magazine capacity	In weapons with removable magazines (e.g. assault rifles) enter maximum amount. In weapons with fixed magazines (revolvers, bolt-rifles) enter number of rounds that can be held.

For the verification and identification of ammunition natures, there is a free 'Ordata' service on the Internet (Ordata: <http://www.maic.jmu.edu/ordata/Mission.asp>).¹¹ Take note of the disclaimer and warning on the page!

A very reliable and authoritative reference guidebook for the verification and identification of ammunition natures, is Jane's Ammunition Handbook (<http://jah.janes.com>).



Note: the identification and registration of SALW and ammunition items takes a considerable amount of time. Therefore: Ensure that **all accounts and relevant information have to be passed to the PM as early as possible**. They must be available **prior** to the commencement of the verification process.

Remember: the correct identification of both ammunition and weapon natures is of paramount importance to the success of any SALW destruction Project.



- **The Technical Advisor must ensure that every *firearm* is identified and that the correct individual identification serial number is recorded and the weapon certified destroyed.**
- **The Technical Advisor must know the exact make up and composition of all the *ammunition* natures that have to be destroyed in order to limit accidental explosion and other safety issues.**

Note: it is not the PMs task to identify weapons or ammunition!



3. Preparation of an accounting database

An accounting database for the SALW destruction project has to be provided or produced. Be aware that there are a number of database on the market, the most common being Microsoft Excel. Which database to use depends on the size and complexity of the project. On large projects, where security issues are of primary importance it may be worth considering a secure accounting system, available commercially, which are tamperproof and have an audit trail.¹³ SEESAC has developed a SALW Inventory Software system based on Microsoft Access. It is available direct from SEESAC on request (www.seesac.org), but this will eventually be superceded by DREAM.



If IT resources are limited, all accounts can be held manually in binders.

4. Inventory management and verification personnel

A well-composed and well-trained accounting and verification team is essential to the efficient smooth running of any SALW weapons and ammunition destruction project. There must be a careful and systematic selection and recruitment of the personnel involved in all tasks regarding inventory and stockpile management in all SALW weapons and ammunition destruction projects. Core requirements include reliability, conscientiousness and trustworthiness in addition to having the appropriate professional and technical expertise.

Ensure that all personnel involved in this process receives proper training on:

- The regulations, behavior and procedures relating to security within SALW stockpile locations.
- The inventory management.
- The accounting procedures.

The training should be provided at the time of the assignment and should be regularly updated, with refresher training as necessary.

Remember: due to the risk involved in SALW destruction, training on safety and security regulations is crucial!



Accounting and verification teams should consist ideally of four persons. At least two of them should be Technical Advisor experts, either ammunition or weapons specialists.

Exercise 2: Design an individual inventory plan for the Carana National Police.

You have been approached by a representative of the Carana National Police with a request to assist them in designing and implementing a system for inventorying all SALW stocks in the hands of the police forces. Privately, you have also been informed that the Police Special Forces are reluctant to allow their arsenal to be exposed (for documents on Carana see Annex III).



Remember: safety is of paramount importance and all weapons and ammunition natures need to be inspected by a Technical Advisor prior to the accounting and verification process.



5. Planning guidelines for the SALW weapons accounting, verification and destruction process

In order to plan the extent (time and funds) for a weapons destruction program, the following baseline calculations may be useful.

Accounting weapons verification and pre-conditioning

The number of guns that may be verified or destroyed in a day varies significantly and is dependent on type of weapon, inventory methods used, standard of identification, weapon condition, and work site conditions.

Example

Personnel	<ul style="list-style-type: none"> ■ 1 technician ■ 2 trained assistants
Conditions	<ul style="list-style-type: none"> ■ 8 hour workday ■ safe and spacious work area ■ firearms in mid-level physical conditions ■ high level of pre-verification and inventory preparation prior to verification
Handguns	300-500/day
Long arms	300-400/day

Accounting weapons final destruction

Planning baseline figures for destruction will vary depending on the destruction method used. The following are rough guidelines. All figures are based on the assumption that the verification and pre-conditioning have been carried out in full.

Table 2: Accounting weapons final destruction

	Cutting	Crushing	Smelting
Personnel	<ul style="list-style-type: none"> ■ 1 technician ■ 1 assistant to change cutting wheels 	<ul style="list-style-type: none"> ■ 1 driver ■ assistants to prepare weapons 	Depending on smelter operations and capacities.
Equipment	<ul style="list-style-type: none"> ■ Rotary cutters ■ Electric Drop-saws 	Bulldozer (or other heavy vehicle)	2 x 2000kg smelters taking 8 metric tones of steel weight
Handguns	525/day	6500/day	12 000/day
Long arms	175/day	1650/day	3000/day

Note: crushing by a heavy vehicle does not destroy the weapon, but and is often done for public events (e.g. in Rio). After crushing, SALW have to be collected, re-checked and then smelted.

Note: it is difficult to quantify how many weapons can be destroyed in a smelter per day, and how much personnel you need. This depends very much on the specifics of the facility. This example is based on the assumption of 2 2000kg smelters taking 8 metric tones of steel weight (roughly one transport truck) for a full shift.

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Box—Paraguay

In Paraguay, the destruction was conducted by smelting the firearms at a steel foundry. Initially, the planning figure given by the foundry was that a load of 300-400kg of firearms could be destroyed per furnace (2 available at ACEPAR- Smelter in Villa Hayes) every 45 minutes. At that rate of destruction, the entire process would have required approximately 70 "burns", or a minimum of 52.5 hours of smelting time, given a total firearms weight of 25 metric tons. Simply put, three days of 24hrs per day of work would have been required to complete the destruction tasks. Given safety and scheduling concerns, this would have been a difficult goal to achieve.

On arrival at the foundry, and after the first three burns, the plant engineer was willing to allow burns of 1000 to 2000kg of firearms per burn, given the high quality of the steel and the lack of wood or plastic furniture on the majority of the heavier weapons. Without this concession, a full 24-hour shift system would have been necessary. In the end, the destruction still took three 16-hour days to complete. Despite the intent to have relief shifts available, such relief was unavailable for one day of the destruction process, and late on a second.

6. Planning guidelines for the SALW ammunition accounting, verification and destruction process

The accounting for SALW ammunition items is less complicated as they are not individually serial numbered. However it is important that this is done properly and by a technical advisor who understands the makeup of each item to be destroyed.

Usually ammunition items have to be moved to a destruction site. This requires a 'Safe to Move' certificate, which can only be issued by a technical advisor. If the ammunition boxes are 'Factory Sealed' then there is no requirement to open the boxes. If they are not, then every single item of ammunition needs to be inspected prior to destruction. This can be lengthy process and should be factored in by the PM when doing the initial planning timelines.

The final accounting for the ammunition natures is always done on the demolition range just prior to detonation. The PM or his representative conduct a final count just prior to the ammunition being primed.

Table 3: Required resources for OB or OD

	Open Burning (OB)	Open Detonation (OD)
Personnel	1 Ammunition Technician 3 assistants	8 persons (with professional knowledge and experience in ammunitions destruction)
Equipment	8 x 207 liter barrels	<ul style="list-style-type: none"> ■ Exploder (Blasting initiator) to electrically initiate the charge ■ Detonating cord ■ Electric detonators
Ammunition nature	<ul style="list-style-type: none"> ■ 7.65mm SAA: 40 000 rounds /day ■ 7.62-12.5mm SAA: 8000 rounds/day 	<ul style="list-style-type: none"> ■ Low explosive limit (<100kg NEQ): 800kg/day ■ High explosive limit (>100kg NEQ): 1332 kg/day

Remember: unless burning tanks are used, only one SAA burn is permitted a day on a site.



Note: assumptions for Open Detonation of HE Ammunition depend on the Explosive Limit (EL) of the Demolition Range

7. Integrity of the inventory management system

Security of the SALW weapons and ammunition once verified will always prove a challenge to any PM. Don't lose control of the integrity of the natures accounted for and verified. It is unlikely that the LO will be able to take total control of all the weapons and ammunition natures after verification. Therefore a compromise may be necessary between the LO and the NA, such as double security measures.

As PM you may become involved in giving advice on stockpile management issues relating to the safe storage of weapons and ammunition. It must be remembered that 'Safe Storage' is a recognized technique for the control of SALW. Safe storage includes physical security features and procedures:

Physical security

- Security guards.
- Intruder alarms systems.
- Perimeter lighting.
- Secure doors and locks.

Security procedures

- Appropriate key control.
- Access control measures.
- Written procedures.
- Accounting and audit procedures.

Note: a good source of information is the OSCE Handbook of Best practices on SALW: "Best Practice guide on National Procedures for Stockpile Management and Security", <http://www.fas.org/asmp/campaigns/smallarms/OSCEhandbook.pdf>



8. Transporting verified weapons and ammunition

An accounting problem that always needs to be addressed is that of transportation of the already verified weapons and ammunition items. In order to maintain the integrity of the accounting process, all items being transferred by road must be monitored. Ideally, there should be a LO person present at all times and on arrival a 100% inspection carried out on the seals of the containers to ensure that there has been no tampering.

9. Transparency of SALW weapons and ammunition destruction projects

In order to build confidence between the project and the population, **transparency of the accounting and verification process in all SALW projects is an essential requirement.** Often community persons returning weapons and ammunition may have concerns that these may be used against them. Consequently, the PM should strongly encourage these community leaders to attend the verification process and subsequent destruction events, where possible as confidence building measures. It is important that these people are present during the process.

Remember: community members are not trained. Thus, they should not handle or be personally involved with any of the weapons or ammunition natures being accounted for and verified.



As PM much of your time will be taken up with the passage of information. In order to avoid confusion and problems, it is advisable that there is only one official spokesperson, and that only one official figure on the amount of SALW and ammunition destroyed is released to all agencies.

Remember: only the amount of weapons and ammunition the accounting and verification teams have declared verified and destroyed should be officially declared!



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Summary of Section 6

Correct accounting and verification procedures are the key to a successful SALW project. If not followed correctly, this can severely undermine the credibility of the whole program. The inventory management system selected needs to be adapted to suit the type of SALW project and those involved must be correctly selected and trained for the task.

Section 7

Technical destruction options for SALW weapons destruction programs

Objectives and Goals of Section 7:

- To familiarize the trainee with different SALW weapons destruction methods.
- To develop skills for anticipating requirements that might arise from the different methods.

1. Introduction

This Section will examine the destruction technique available for SALW weapons and look at the advantages and disadvantages of each method.

The physical destruction techniques available to SALW weapons destruction programs range from relatively simple and relatively cheap options to very sophisticated and expensive industrial processes. The selection of the most suitable method or technology will be driven by a variety of factors.

The PM will have to arrange the process and deal with its requirements, so a reasonably detailed knowledge of these processes and their implications is necessary.

2. Weapons destruction procedures and technologies

Exercise 1: Discussion

Discuss in what way the factors mentioned influence the selection of the SALW destruction method.



The method selected for the destruction will be dictated by the following factors:

Trainer Note

Factors in selecting a weapons destruction method include:

Factors	Considerations
Type of weapons	<p>Modern weapons tend to be lighter than older ones.</p> <p>Light weapons tend to be thicker and stronger than small arms.¹⁴</p> <p>Modern weapons include Kalashnikows, G3 or M-16, older ones e.g. old hunting rifles.</p>
Quantity of weapons	The greater the number, the more cost-effective it is to use higher-tech devices.
Resources and technology available	<p>Will determine time.</p> <p>Will determine manpower needed.</p> <p>Will determine whether weapons can be returned to use.</p> <p>Will determine whether material can be recycled.</p>
Financial considerations	<p>Lower tech requires more manpower and time.</p> <p>Higher tech requires more funds.</p>
Security constraints	Slow destruction of SALW can lead to diversion and theft.
Political, psychological and publicity	A showier, though less effective means such as burning is often used to publicize the destruction.
Final disposal	In large quantities, destroyed SALW can be sold as scrap, recovering some costs. Small quantities can be sued by e.g. artists. Final disposal as waste can be a problem.

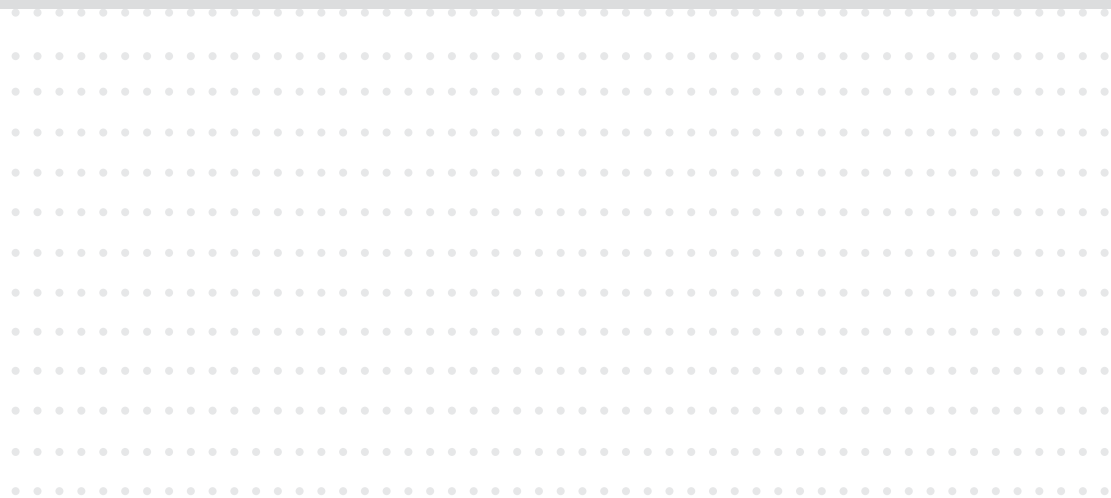


Figure 1: Factors in selecting a weapons destruction method include:

Factors	Considerations
Type of weapons	
Quantity of weapons	
Resources and technology available	
Financial considerations	
Security constraints	
Political, psychological and publicity	
Final disposal	

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Trainer Note

The method of burning has been used in Mali, Kenya, Cambodia, and other countries, mainly as a symbolic statement.

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Note: the final decision must be made by the National Authority, with input from the technical experts, the donors, and the government concerned.

The available methods for the destruction of weapons range from extremely simple and cheap methods to fairly expensive.

Simple and cheap techniques

- Burning.
- Sawing: band-saw or electric circular saw (table-mounted or hand held).
- Cementing weapons.
- Hand method.
- Crushing by tracked vehicle.

Low technology and medium cost techniques

- Cutting with oxyacetylene or plasma torch.
- Open Detonation.
- Cutting/shearing.

High technologies and high initial capital costs

- Shredding.
- Smelting in industrial foundry.

Simple and cheap techniques

Burning

Burning provides a visible and tangible statement in symbolic and real terms which has a political and psychological impact. In sheer technical terms, it is the least effective: firearms, notoriously of the Kalashnikov family, will survive a poorly constructed pyre in usable form. While burning does twist and misalign barrels, the weapons can often be repaired and used again. Mass burning of large amounts of guns may also have severe ecological constraints: availability of fuel, and air and ground water pollution.

Note: burning will not destroy, but only damage weapons! You have to provide for a final destruction option, e.g. smelting!

Sawing: Band and circular saws

The use of saws is labor-intensive. It requires several cuts to ensure that all parts have been cut through (barrel, bolt or slide, receiver) so new weapons cannot be reassembled from the parts.

Trainer Note

Being labor-intensive can also be an advantage. For example, in DDR programs sawing SALW can be used as short-term employment. Training may also be used as springboard for later job training

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Trainer Note

Hand methods would obviously not be practical for destroying more than a handful of weapons. However, for a collection program that moves around a country or region, collecting only a few weapons at each site, this might be a consideration.

Again, being labor intensive can be a desired side effect of this destruction method: for example, if used as part of a DD&R or voluntary weapons collection program it a) can serve as short term employment option, and b) has symbolic value as the former gun owners have the opportunity to destroy their weapons themselves.

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Trainer Note

With tracked vehicles, each weapon to be destroyed is hit twenty or thirty times as each cleat passes over it.

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Sawing may also be material expensive, as saw blades have limited lifetimes, particularly against toughened gun metal, though they Performing this destruction in public can be used as a ceremonial act.

Cementing

A cheap and simple way to render weapons unusable is to place them in barrels or containers of quick setting concrete (1 part cement, 1 part sand, 1/2 part lime). The result can be used for some construction purposes. The cost of work is low. Cementing doesn't destroy the weapons, but re-commissioning the weapons is extremely difficult.

Hand method

There are of course numerous "low-tech" methods that could be used to destroy a small handful of weapons. These include using hand saws and sledgehammers. These methods should be used in conjunction: cutting barrels and receivers, then bending them with hammers.

Crushing by tracked vehicles

Any heavy, metal shod vehicle (e.g., bulldozer, tank, steam-roller) can be used to bend SALW in such a way that they are rendered inoperable. The procedure is simple: Weapons are placed muzzle up against a railway rail or some other hard raised surface (concrete blocks, for example), and the vehicle rolls over them.



Credit: Ian Ruddock

Note: a visual inspection by a competent authority is necessary to ascertain the firearm is destroyed or whether the process needed repeating. For complete destruction, weapons residue has to be brought to the smelter.

You can find a table on simple and cheap techniques in Annex VIII.

Low technology and medium cost techniques

Cutting: oxy-acetylene torch and plasma cutter

Oxy-acetylene or plasma cutting is a well-established and proven method for destroying weapons of all types and sizes. It is relatively simple to use. Personnel can be trained in a day to use the cutting torch, including safety lessons, and these skills are transferable to the civilian market. Local contractors can be employed under supervision, or the equipment can be purchased or leased for use.

If procedures for cuts are followed (at least one cut through the receiver) the cut plus the resulting slag from the congealing of the metal renders the weapon useless. Two cuts would ensure that the weapon is useless. The procedure is time consuming.

Oxyacetylene cutters are relatively cheap, as are their fuel canisters. Plasma cutters, which are relatively easier to use, are also far more expensive to buy/lease and operate.

Open Detonation

Open detonation is a technique that can be used in conjunction with ammunition/explosive remnants of war (ERW) disposal. It involves the placing of collected arms under explosives placed to destroy the weapons.

Note: open detonation destruction absolutely requires the professional guidance of a professional AT. All the practices for OBOD must be applied.

Though large numbers of weapons can be decommissioned at once, OD has the disadvantage that not all weapons may be destroyed, and verification of destruction may be difficult. Also, environmental considerations have to be considered.

Cutting/shearing: hydraulic shears

Shears are specialized power tools, either electric or diesel driven. They run in cost from a few thousand dollars to tens of thousands of dollars, depending on their size, speed of operation, and the gauge of steel they are to shear.

You can find a table on low technology, medium cost techniques in Annex X.

High technologies and high initial capital costs

Shredding

Shredding is perhaps the quickest and most effective way to destroy small arms and light weapons. Capacity is very great, and all weapons that pass through the process are rendered completely unusable. Shredders produce scrap metal, which can be recycled. On the other hand, shredders are expensive pieces of equipment costing several million dollars, and are usually located in central locations, ideally near smelters.

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Smelting in industrial foundry

Many shredders, in industrialized countries are located near smelters, which accept the output of the shredders. Smelting is the ideal way of dealing with weapons, since weapons are rendered 100% out of commission, and there is the benefit of recycling. Smelters must be assessed for capacity, and they are not always available. Moreover, gun metal is particularly tough, and not all smelters are able to handle it.

Box—Recycling

Recycling the scrap from weapons destruction programs usually has little effect on costs. Destruction programs examined leClerq (1999) did not recover much funds from recycling. Prices for the metal depend on the degree of contaminants, ranging from plastic and wood to metals used in barrel alloying. Clean shell cases (without powder or primers) fetch high prices. Cost of transport must be factored in as well. The value of recycling is likely to be in its community service/public relations aspect. The most successful SALW recycling project – Arms into Ploughshares in Mozambique – is successful because the collected arms are recycled into art works, not for the value of the scrap metal.

Exercise 2: Recycling

Provide three potential ways for recycling destroyed small arms, keeping in mind the methods likely to be used in your country.

Write a brief PR release for one of your solutions to encourage people to adopt it.

You can find a table on high technology, high cost techniques in Annex XI.



Summary of Section 7

This chapter has looked at the various procedures and techniques available for the destruction of SALW weapons and outlined their main advantages and disadvantages. Choice of the destruction method depends on calculations of cost, effectiveness, and quantities of weapons, at the least. One should be aware that the destruction of SALW weapons is potentially dangerous, unless all safety requirements are fulfilled.

Section 8

Technical destruction options for SALW ammunition destruction programs

Objectives and Goals of Section 8:

- To familiarize with different SALW ammunition pre-processing methods.
- To familiarize with different SALW ammunition destruction methods.
- To develop skills for anticipating requirements that might arise from the different methods.

1. Introduction

This Section will examine the pre-processing methods and destruction techniques available for SALW ammunition natures and look at the advantages and disadvantages of each method.

As is the case with weapons destruction programs, there is a variety of physical destruction techniques available to SALW ammunition destruction programs. Also, one can choose among several methods for pre-processing ammunition. The selection of the most suitable method or technology will be driven by a variety of factors.

The PM will have to arrange the process and deal with its requirements, so a reasonably detailed knowledge of these processes and their implications is necessary.

2. Pre-processing ammunition

Explosive SALW ammunition should be pre-processed before destruction to make the explosive/propellant charge more accessible to the burn or detonation. The need for preprocessing will be determined by the AT. Should it be determined that pre-processing is necessary, you should be guided by the written recommendation of the AT.

Light weapon ammunition of the warhead + cartridge type (that is, guns from 20-100 mm caliber) needs to have the warhead separated from the brass case for burn's to work safely and effectively. Ideally, too, the explosive warhead should be drained of its explosive. Given the realities in many countries, it is unreasonable to expect this process to use some of the high-tech processes.

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Trainer Note (Exercise 1)

Duration: 10-20 minutes

Objectives: repetition of already learned knowledge and brainstorming on other considerations.

Similar to Exercise 1 in Section 7, ask trainees to discuss how the factors mentioned in the table influence which ammunition destruction method to select. They can fill discussion results into their table. Consult the trainer table for some considerations.



Remember: safety is the most important consideration. Pre-processing should only be done by an expert!

Where pre-processing is not possible, ammunition may need to be destroyed in small lots to avoid major explosions.

The pre-processing options available are:

Low Cost - low technology

Manually: Semi-skilled labors physically dismantle the ammunition nature. This is slow, labor intensive and potentially dangerous, unless properly supervised.

Medium cost – low technologies

Mechanical breakdown: Mechanical means are used to expose the explosive fillings.

High cost - high technology

- Cryofracture: Liquid nitrogen is used to change the mechanical properties of the ammunition casing to a more brittle phase by cooling it to -130°C . The case is then easily shattered using a simple mechanical process. This machine is very environmentally friendly, but has high operating cost for liquid nitrogen.
- Hydro Abrasive Cutting (HAC): Abrasive particles are suspended in water under pressure (up to 1000BAR), which is directed at the ammunition nature. This slices through the ammunition casing, exposing the explosive filling.
- HAC is an effective procedure. There are environmental considerations as the contaminated wastewater is a problem and requires a complex system of filtration to clean. It has a high initial capital investment.

You can find a table on pre-processing options in Annex XII.

3. Ammunition destruction procedures and technologies

The most influential factor for the selection of the best method for the destruction of SALW ammunition natures is likely to be the economies of scale: The more ammunition there is to destroy the wider the selection of options and technologies become available.

Exercise 1:

Discuss in what way the factors mentioned influence the selection of the SALW ammunition destruction method.



The following factors need to be taken into account before deciding on the most suitable way of destroying an ammunition stockpile:

Trainer Note

Factors in selecting an SALW ammunition destruction method: Technical considerations

Factors	Considerations
National legislation	<p>Details of any applicable legislation needs to be discussed in detail with the National Authorities.</p> <p>National legislation will dictate the technology required to achieve the destruction.</p> <p>A special agreement might have to be negotiated for an environmental exemption.</p>
Stockpile make-up	Detailed knowledge of the make-up of the stockpiles is essential for the formulation of a safe destruction plan. This too must be supplied by the AT.
Chemistry of the ammunition and explosives	Stockpiles need to be examined by an AT to decide the condition and stability of the stockpiles. Stockpile conditions may dictate how far the stocks may travel, as explosives and ammunition natures suffer from degradation if not stored correctly.
Quantities	Economies of scale play an important role in the formulation of the destruction plan.
Availability of technologies	The lack of technologies available will severely limit the destruction options. Logistics constraints for obtaining key mission essential items such as blasting machines, good quality serviceable explosives, or thermite charges have to be taken into consideration.
Financial factors	Finances are a limiting issue and should always be taken into account when planning.
Final Disposal Options	It has to be decided what is to be done with the residual waste products, which should be classified as 'Hazardous waste'. The cost for the safe disposal should not be underestimated and include in the planning figures.

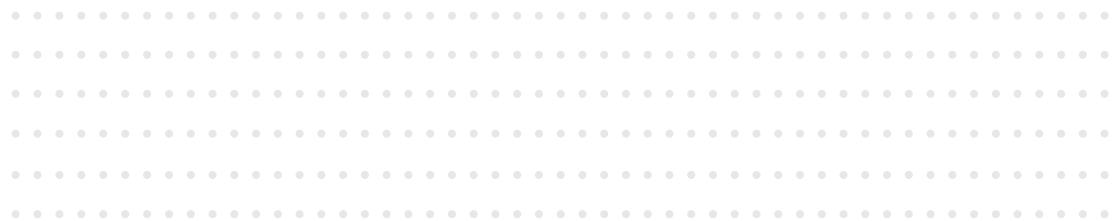


Figure 1: Factors in selecting an SALW ammunition destruction method: Technical considerations

Factors	
National legislation	
Stockpile make-up	
Chemistry of the ammunition and explosives	
Quantities	
Availability of technologies	
Financial factors	
Final Disposal Options	

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OBOD

Note: a number of Western Countries have passed a new OBOD legislation, banning these procedures outright.

Open Detonation (OD)

This is still the most cost-effective way of destroying ammunition. An additional HE charge is used (Donor charge) to initiate the target ammunition by detonation. High rates of production can be achieved and the logistic cost per round of ammunition can be relatively low.

The disadvantages are that there will always be an environmental consequence: ground and air pollution. However, if managed properly and responsibly these effects can be minimized by the use of monitoring equipment. There will always also be a certain amount of noise pollution associated with OD, but these can be monitored and managed through the use of tamping.

OD projects require large danger areas and suitable qualified personnel to ensure the procedure is conducted correctly. The process can be dangerous if multi-item demolition techniques are not fully understood fully. Finally, OD operations can only be conducted during daytime hours.

The role of the PM here is to assist the AT who is responsible for the detonation and preparation. Associated issues such as communication, logistics, security and PR all fall under the PM's domain.

Open Burning (OB)

There are a number of OB techniques, which can be used to destroy ammunition natures safely and efficiently. These include open pit burning to the use of specially build burning boxes, either static or mobile. The use of readily available materials, such as disused 50-gallon oil drums provide excellent containers to burn SAA.

The advantages are that high production rates can be achieved at very low costs. However, subsequent burns do have to wait 24 hours to allow the container to cool.

The main disadvantage of OB procedures is the air pollution they can cause. However, if the temperatures exceed 850°C all Volatile Organic Compounds (VOC) are destroyed. To increase the heat of the OB process, certain termite charges can be used.

Industrial Destruction Technologies

A wide range of industrial technologies are available for the destruction of ammunition natures. The two principal systems are the Plasma Arc incinerator and the Rotary Kiln. Both are well proven incinerators. They require a certain amount of pre-processing of the ammunition, prior to incineration. These precautions are necessary because of the limitations on the amount of 'contained' explosives that can be incinerated and the risk of the ammunition exploding in the process.

Plasma Arc Technology

Plasma Arc Technology is ideally suited to: bulk explosives, fuzes, primers, bulk propellants, pyrotechnics and bulk smoke compositions. It has been around for over 40 years. This technology was first used to dispose of highly dangerous toxic waste material. The importance of the technology is the very high temperatures being produced (+7,000° C), which can totally destroy all organic compounds.

Importantly, both the emissions and the slag from the process are minimal. As with other emerging technologies, the Plasma Arc system does not have a blast chamber and is not designed for high order detonations (A *high order detonation* is when the round of ammunition explodes as intended to function. If this happened inside a confined space like a plasma arc cylinder, then it would be totally destroyed). Therefore, pre-processing is required prior to destruction.

Rotary Kiln Technology

Rotary Kiln Technology is designed specifically for the destruction of SAA and bulk explosives. It has a rotary furnace with internal spiral flights, which move the ammunition down the cylinder through the number of burners. The cylinder is approximately 1 meter in diameter and six and a half meters long. The walls are up to 8mm thick and able to withstand small detonations. The speed of the kiln can be controlled as can the temperature of the burners and the flights provide some charge segregation. The technology is well proven for the destruction of certain types of ammunition. Pre-processing is required for heavy cased ammunition natures.

Rotary Kiln Technology requires a high initial capital investment.

Contained Detonation Systems

Contained Detonation Systems are used for the destruction of small amounts of explosives in an enclosed chamber. All the gases are captured and processed by an integral Pollution Control System (PCS). A number of other technologies are being investigated and trialed, including laser-cutting, microwave explosive melt-out, biodegradation and molten salt oxidation. These have not yet been used commercially.

Box—Safety and security

- OB can be dangerous.
- Don't burn any blackpowder or high explosives due to the risk of violent explosion!
- Assure sufficient ventilation!
- Adhere to the safety distance of 200m, as there might be toxic gases!
- Have a fire extinguisher on hand and, if in a high 'fire risk' area, have a fire brigade present.

You can find a table on the destruction of ammunition in Annex XIII.

Trainer Note (Exercise 2)

Objective: to promote the trainees understanding of relevant questions, information and processes.

Duration: 10-20 minutes.

You can use the information provided in Annex XIII to test and 'challenge' trainees. Turn it into a quiz, ask specific trainees or the whole group.

Trainer Note—additional information

Issue	Question	Source for information	Chosen process
National legislation	Is there a national law that demands use of particular disposal technologies?	Government liaison. Police Liaison.	
Stockpile makeup	How would you classify the different items in terms of their nature: 1. Small Arms ammunition (relatively inert). 2. Light weapons (RPG) in sealed boxes. Explosive but relatively safe. 3. Grenades, loose. Explosive. Unknown. 4. TNT. Safe. 5. Detonators. Highly explosive.	AT	1. Open burning or box burning. 2. Open Detonation. 3. Open detonation with (2.) 4. Open burning. 5. Open detonation.
Explosive chemistry	Is the ammunition stable enough to travel to a distant site?	AT	
Quantity	What technologies would be useful and economical for destruction?	Your survey	OBODBox burning
Technologies	Which technologies are available locally?Is there any value in transporting the material to some central disposal site?	Your survey	
Financial	How much would local disposal cost (include, for instance, notifying locals). Is distant disposal an option (include transportation costs)?	Your survey Local liaison	
Final Disposal	What is to be done with the residue?Are there local ecological issues that need to be dealt with? How can this be done?	Government liaison.	

Exercise 2: Quiz: Ammunition destruction— information and processes

- Do you know the answer?



Summary of Section 8

This chapter has looked at the various procedures and techniques available for the pre-processing and destruction of ammunition and outlined their main advantages and disadvantages. The choice of the methods and technologies to take depends on calculations of cost, effectiveness, and quantities of ammunition. Be aware that the pre-processing and destruction of SALW ammunition is dangerous, even if all safety requirements are fulfilled!

Section 9

Evaluation of destruction sites for open burning and open detonation

Objectives and Goals of Section 9:

- To provide an overview on key factors and principles for the evaluation of an OBOD site
- To provide basic information on principle hazards that need to be taken into account when selecting the site.
- To look at the ways to minimize the environmental effects of OBOD procedures in SALW programs by adopting sound and tested methods and good practices.

1. Introduction

In any major SALW weapons and ammunition disposal program in which OBOD is used as destruction option, the identification of a suitable OBOD site is of great importance. There are many factors to consider. It is unlikely that an ideal site meets *all* the criteria. Therefore, certain compromises will have to be made to meet all the local conditions.

Note: it is the technical specialist who has the knowledge and experience required to choose the destruction method as well as the destruction site. However, we consider it as relevant for the PM to have some basic understanding of the considerations and problems involved.

Note: 'safety' is one area that can never be compromised on.



The destruction by OBOD is one of the most cost-effective methods for the disposal of SALW ammunition natures and offers one of the most complete solutions. However, it must be very carefully co-ordinated to ensure that it is achieved in the safest way possible.

There is no completely environmentally friendly procedure for the destruction of SALW. To avoid, reduce or minimize negative effects on the environment, there are a number of steps that must be taken. Pollution control measures are a must. It has to be aimed at returning the site to as near as possible to its original condition.

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Trainer Note—additional information

An option might be to select an area where previously OBOD destruction has already taken place as this area is already contaminated. However, this has to be considered carefully: if people are living in the surrounding, renewed pollution might pose a danger to their health and well-being!

Note: in some countries, OBOD is forbidden by law due to its ecological impact. Make sure you don't break laws. If allowed to use OBOD, consider carefully whether if there isn't another option, which is less environmentally harmful.

2. Factors that need to be considered when selecting an OBOD site

A destruction site is an area authorized by the National Authority for the destruction of ammunition and explosives by detonating and burning. These sites need to be formally licensed by qualified Ammunition Technicians (AT) to meet the international safety standards.

The PM is responsible for the various logistical issues around the disposal, you must be acquainted with the requirements that arise from the disposal process.

Explosive danger area

The explosive danger area is the area determined by the distance the fragments from the detonation will travel. The explosive limit of the range will determine the safety distances and quantity of ammunition that can be safely destroyed on the site. It will be calculated by the AT on the basis of his experience, and of local national regulations for the particular site.

Infrastructure

There should be good road, possibly rail tracks leading into the facility. This will greatly assist with the movement of the ammunition from the storage location and the rapid evacuation of casualties, should an accident occur. There should also be good administration facilities at the location to assist with security, accommodation and feeding arrangements. A (natural or artificial) water source should be available in case of fire.

Human resources

The scale of the operation will determine how many personnel are required. This includes properly trained and qualified AT, medical staff, labor force and guards. Keep the number of personnel inside the danger area to a minimum. Additional refresher training prior to the destruction phase of the program may have to take place.

Environmental considerations

Ensure that impacts on the environment are avoided or reduced to a minimum. NAs will have to be consulted on this sensitive issue.

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The quantity of SALW ammunition to be destroyed in conjunction with the selected site, range explosive limit, the labor force available and its training needs, and the transport and storage requirements will enable the planner to draw up a time scale for how long the program will take to complete.

Hazards of a disposal site

There are six basic hazards, which affect any demolition site when conducting OBOD destruction:

■ **Flash / Heat**

These effects are localized but are still significant. Flash and heat can start fires, which if not controlled could get out of control and cause a major emergency.

■ **Blast**

Depending on the quantity of explosives and the distance from the seat of the explosion, a blast wave can cause death or injury to persons and damage to buildings.

■ **Noise**

Whilst not fatal, at close range noise can cause ear damage. At a longer range it can be the cause of nuisance that will generate complaints from the general public.

■ **Ground Shock**

The main effect will be on persons relatively close to the detonation. Certain terrain and soil can transmit the ground wave considerable distance. Sandy soils are the best, while bed rock transmits most. Ground shock only really applies to buildings and foundations damage. A trial should be conducted to determine groundshock.

■ **Fragmentation**

This is the limiting factor for all OBOD sites as fragmentation kills. The maximum range of the fragments from the detonation site determines the size of the "danger area" around the OBOD site. All persons and equipment that is within this distance and not adequately protected are in danger.

■ **Toxic smoke and fumes**

Certain types of ammunition natures give off toxic fumes when burnt or detonated. These are at their most dangerous when the disposal takes place in a confined environment. A safe waiting period must be observed before approaching the demolition site to allow any residual gases to vent.

Table 1

Hazard	Effect
Flash/heat	These effects are localized but are still significant. Flash and heat can start fires, which if not controlled could get out of control and cause a major emergency.
Blast	Depending on the quantity of explosives and the distance from the seat of the explosion, a blast wave can cause death or injury to persons and damage to buildings.
Noise	Whilst not fatal, at close range noise can cause ear damage. At a longer range it can be the cause of nuisance that will generate complaints from the general public.
Ground shock	The main effect will be on persons relatively close to the detonation. Certain terrain and soil can transmit the ground wave considerable distance. Sandy soils are the best, while bed rock transmits most. Ground shock only really applies to buildings and foundations damage. A trial should be conducted to determine ground shock.
Fragmentation	This is the limiting factor for all OBOD sites as fragmentation kills. The maximum range of the fragments from the detonation site determines the size of the "danger area" around the OBOD site. All persons and equipment that is within this distance and not adequately protected are in danger.
Toxic smoke and fumes	Certain types of ammunition natures give off toxic fumes when burnt or detonated. These are at their most dangerous when the disposal takes place in a confined environment. A safe waiting period must be observed before approaching the demolition site to allow any residual gases to vent.

Note: have fire fighting and medical equipment and personnel on site! Ensure sufficient means of transport and communication in case of an emergency!

Properties for the selection of an OBOD site

Since there are several ways of disposing of ammunition, there is also need to select the area chosen for disposal very carefully. There are some general selection procedures that must be observed, and, in addition, special consideration must be given for the selection of ground for explosive demolition versus that for burning. The selection of the site is made by the AT and the PM, the decision by the NA.

Trainer Note (Exercise 1)

Make sure the trainees have considered all relevant factors in their design. These should include safety, security, media, and ecological issues.

Trainer Note—additional information

All areas selected as demolition or burning grounds should have the following properties

Properties	Relevant action to be taken
Isolation from built-up areas, centers of population, and natural and historical treasures.	Carefully examine area on ground, or using aerial photographs to ensure no permanent population or residences, important nature reserves or archaeological sites.
Away from secondary hazards: Overhead or underground cables and wires. Without drainage schemes and underground pipelines.	Check with local authorities, particularly water and electricity authorities and telephone/cable companies. Carefully examine area on ground, or using aerial photographs.
Away from radio or radar transmitters, which could induce currents, causing the premature firing of electric detonators and igniters.	Check with military and civil aviation. Check with transmission authority. Carefully examine area on ground, or using aerial photographs.
Located on high ground: This reduces the effects of the blast wave. It is important to note that high ground will increase the fragment range.	Use topographic map.
Good access. From a logistical prospective, the site should be as central as possible to maximize the use of resources such as transport and storage locations.	Examine on ground and check local large-scale maps.
A good water supply for fire fighting purposes.	Consult with local fire authority.
Adequate ' Safety Danger Areas'.	Consult with NA and with your AT.

Trainer Note—additional information

It has to be carefully decided whether to choose OB or OD. If the shell is cased, then detonation is the preferred option, unless you can break the shell open remotely. This is possible, but you must always have HE safety distances in place. It is easier to just detonate the round.

SAA may be destroyed on the range, but not at the same time. HE detonations require large safety areas: 5 kg of HE (or the NEQ) requires 830 m safety distance, SAA only 200m.

Exercise 1:

Background

Following an amnesty declared by the garrison commander in Cereni, a small rural fishing town, civilians have started turning in arms and ammunition. Explosives have been in high demand in the town since they are used illegally by fishermen. The amnesty was triggered by an explosion, which killed the three men trying to disassemble a mine, and two passers-by, both children. A group of local women supported by CARING International have pressured the garrison commander into offering the amnesty and destroying stocks of explosives. It is well known that many of the local fishermen oppose handing in explosives. Nonetheless, acting on an anonymous tip, police have identified a stockpile of old ammunition, including 122-mm shells and anti-tank mines.



Task

You, as the PM for destruction, and in consultation with your Ammunition technician and local authorities, must select a site for OBOD, and deploy a destruction team. Keep in mind that technical decisions are the prerogative and responsibility of the Ammunition Technician.

Please fill in the table in this section in identifying the site. Some questions e.g. "4. Accuracy of existing hydrocode predictive models" are not easy to answer and should be referred to the AT. This should be noted in the table. Even unanswerable questions need to be addressed, and the issues in them flagged for later/professional response.

Carana documents

1, 4, 11-13, 25, 30, 41 (see Annex III).

For major ammunition destruction projects it is advisable to use existing military range facilities as these usually have the advantage of being located in isolated areas, away from centers of population. It also prevents the explosive contamination of a new location.

Demolition

The ideal ground for demolition should have the following characteristics:

- Deep soil.
- No sandy or peat underground.
- Free of rocks, undergrowth, bushes or trees.
- Above, rather than below, the surrounding areas to minimize the blast effect.

Types of ammunition that may be destroyed by demolition:

All ammunition natures which contain High Explosive compositions, such as:

Trainer Note

The presence of rocks generates hazards from flying debris, whilst undergrowth, bushes and trees present a fire risk. Whenever possible sandy ground is to be avoided because of the difficulty in digging trenches with undercuts. Ground containing peat is not to be used because of the risk of fires.

Trainer Note—additional information

Burning is usually less of a problem than demolition, since the safety distances can be reduced to around 100 m. Sites located under steep cliffs are to be avoided because of the possibility of burning debris being carried by convection currents to the top of the cliff, where fires might start. Ground containing peat is not to be used for burning ammunition natures because of the fire risk. If required, the site should be large enough for propellant and other explosive material to be laid on a different area of ground for successive burns on any one day

Trainer Note—additional information

Many countries have national standards for explosive safety, but each country has differing interpretations of the safety principles, to suit their own needs and environmental considerations. There are some common standards, like the NATO publications AASTP1 and AASTP2, which are excellent publications, but have not been adopted by non-NATO countries. UNMAS have produced a set of recognized standards for OBOD mine operations, which are now being recognized as the international standard in OBOD operations. These are readily available at:
http://www.mineaction.org/countries/_refdocs.cfm?doc_ID=2072&country_ID=&name=United%20Nations%20Mine%20Action%20Service%20%28UNMAS%29&from=misc%2Fdynamic%5Foverview%2Ecfm%3Fdid%3D377&catsearch=UNMAS). See also section 9 on "Safety and security".

- Artillery.
- Mortar.
- Grenades.
- Mines.
- etc.

Burning

The ideal site for the burning of propellants and explosives should have the following characteristics:

- Sandy, barren soil.
- No peat soil.
- Free from trees, undergrowth or any other combustible material.
- No cliffs.
- Water readily available.

Types of Ammunition and explosives, which may be destroyed by burning:

- Bulk propellants/ gunpowder.
- Smoke generators and smoke grenades.
- Pyrotechnics.
- SAA.
- Lachrymatory Ammunition.
- Commercial Secondary Detonating Explosives (High explosives, detonating cord and many nitro-glycerine and ammonium nitrate based explosives).

3. Further requirements

International Best Practice mandates that prior to any demolitions taking place, all OBOD facilities need to be licensed by the National Authorities. The licensing best practice insists on a set of certified documents and other requirements, which must be available at the facility. It includes the following:

1. Reference publications

It is very advisable for the PM to prepare documents on the following matters:

- Standing Operation Procedures (SOP).
- Technical ammunition instructions.
- Range explosive limit.

- Range orders.
- Orders for Sentries.
- Accident procedures.
- Records and reports.

These are International Best Practices and if one follows these guidelines, the AT and the PM will be legally covered.

2. Maps and grid reference of the range area, marking exact locations of range and danger areas

3. Location of guards and observation posts

The locations of these are important in preventing persons entering the range during OBOD operations, and in ensuring the safety of the security personnel concerned.

4. Range area markings

Notice boards need to be erected on the range boundary fence-warning people of the dangers.

In addition, it is necessary to ensure two factors, which are not part of the formal documents, but which become the PM's responsibility:

5. Communications

Good communications are fundamental in all OBOD range facilities. Suitable means of communication for all personnel engaged in the actual demolition, as well as communications to the security detachment and safety personnel are a must.

6. Explosive Limits

These are determined by the technical experts (the Ammunition Technician or TA crew) based on two factors:

- Maximum fragmentation distance. All fragments must be contained within the range area.
- Ground shock and noise effects; these are judged on the local tolerance level.

Note: ensure that such an estimate be carried out professionally!

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4. Environmental issues associated with ammunition destruction programs involving OBOD¹⁵

Introduction

It would be wrong to suggest that OBOD is 'environmentally friendly'. OBOD does produce air and ground pollution and atmospheric particulate. In many western countries, OBOD procedures are banned outright by law or are severely restricted and highly regulated by environmental legislation. However, whilst there is a move in many industrialized countries to develop sophisticated demilitarization processes for the disposal of ammunition, the reality is that OBOD will inevitably continue to play a major role in SALW weapons and ammunition destruction programs in less developed countries. Scientific research suggests that the environmental impact of the destruction of certain natures of ammunition can be minimized if the correct procedures are followed. Also, the toxicity of the emission from these operations, which are inherently dangerous to human health in large concentrations, is dependent on the raw materials used in the design and construction of the ammunition. It is therefore important for the PM to understand the environmental facts behind OBOD, and how to minimize negative environmental effects.

For further information on environmental impacts of OBOD, please have a look at: SALW ammunition destruction - environmental releases from open burning (OB) and open detonation (OD) events, SEESAC, 2004 (http://www.seesac.org/reports/OB_OD_Report.pdf)



The full impact of ammunition destruction on the environment can only be realistically assessed if the 'full environmental system model' is examined. For OBOD this is relatively straightforward, as only the impact of the target explosive, donor charge and transport fuels need to be determined. For industrial demilitarization process, it is a more complex equation, because the environmental impact of the whole logistic process necessary to operate the process needs to be determined.

The reality of OBOD Procedures

While there is the perception amongst environmentalist that OBOD processes are archaic and based on sloppy technologies, in reality OBOD operations are based on sound scientific principles and ammunition design. All qualified ATs will have a sound background of the make-up of the ammunition to be destroyed, which ensures that the best method is employed in their destruction. However, often the people carrying out the destruction have only been trained in Explosive Ordnance Disposal (EOD) and can not provide this special qualification and knowledge. **As a PM, it is your responsibility to ensure that your personnel have the necessary qualifications and that the optimal methods are selected.**



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Box—Scientific emission studies

There have been a number of scientific emission studies conducted with regards to environmental concerns. The chief findings have been the following:

- The emissions from OBOD operations are the common constituents of air:
- Particles larger than starting molecules are not formed when: Firstly; the OB process is rapid and at a high temperature. Secondly; if the OD is a high order detonation. The studies have found that the large molecules only occur when they are already present in the ammunition, such as plastics. (These are seldom included in either OB or OD operations).
- That small-scale chamber based experiments can predict the emissions from large-scale OBOD events, therefore can provide better data at a lower cost than expensive field trials.
- Finally and very importantly, that hydrocode model, which predict emissions are not very accurate. (A hydrocode model is a computer based program that predicts complex dynamic events).

These findings whilst not admonishing OBOD procedures completely, are significant.

There is a wide range of technologies and methods to minimise or even avoid harmful effects:

1. Avoid items of ammunition, which contain significant levels of toxic materials and metals.
2. Ensure high order procedures are rapid when conducting OD operations.
3. Ensure burning temperatures in OB operations are high enough to destroy Volatile Organic Compounds (VOC). (In excess of 850°C).

Assessment of the best destruction method

In order to reduce the environmental impact, the AT is required to assess whether OBOD is the best technology for the destruction. The AT in conjunction with the NA and the PM will look at the following areas, before making an informed decision:

- 1. Quantities, types and locations.** When looking into the best method to destroy the SALW and ammunition stockpiles, economies of scale will play an important part in deciding the eventual process. If the quantities are large, some type of demilitarization process could be considered, providing there is sufficient industrial capacity available in the country. The type of ammunition will also influence the destruction process. Some items of ammunition lend themselves to demilitarization, while heavy-cased items require a pre-processing operation before demilitarization and are possibly best suited to OD methods.

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- 2. Physical condition of the ammunition.** If the ammunition is in a dangerous condition and cannot travel or be moved by road vehicle, the only option is to destroy them by OBOD. This is still allowed in all countries, despite the legislation banning OBOD procedures. OBOD can be used in emergency situations if the ammunition is deemed too dangerous to move.
- 3. Design and materials of construction.** From the technical information of the make-up of the ammunition, a decision on the best or most suitable method for destruction will be selected.
- 4. Chemical composition and condition of the explosive.** The explosive filling of the ammunition will dictate what method is used. Certain fillings are highly toxic and require special disposal procedures. If these are not available in the country, the ammunition item cannot be destroyed, unless a special dispensation from the NA is given.
- 5. Can ammunition be separated from packaging?** Ammunition should always be separated from its packaging. This is important as the packaging can prevent the full effect of the high order detonation and cause harmful emissions.
- 6. Are suitable donor materials present?** This is an important factor as using high strength, high velocity of detonation commercial explosives, will ensure that a complete high order is achieved, which minimizes environmental impact of the destruction.

Information about the disposal site

Information about the disposal site is just as important to minimize the environmental effects. The principal one being the location.

Trainer Note

Relevant information about the disposal site

<p>1. Physical dimensions, size and ease of use</p>	<p>The explosive dangerous area of the range will be determined by the range explosive license. The distance of the nearest civilian dwelling determines the license, which is the limiting factor. Other factors to consider are population densities, prevailing wind directions (smoke should be blown away from centers of population), and previous destruction experiences (complaints by the population).</p>
<p>2. Present contamination level</p>	<p>A virgin site should not be used for OBOD if possible. It may be prudent to have an environmental impact assessment made of the proposed OBOD site, prior to commencement of demolitions. This will measure the previous contamination levels and ensure that a quality management system is in place, tied in with the NA and the civil population.</p>
<p>3. Ability to remediate the site at project conclusion</p>	<p>This is tied in with point 7: sufficient resources must be allocated to return the site to as near normal condition as possible. The planting of trees and other project should be considered, as should the retesting of the site.</p>
<p>4. Accuracy of existing hydrocode predictive models</p>	<p>These are tools that should be examined. However, these hydrocode models are not particularly accurate at predicting emission, so they should be used with caution.</p>
<p>5. Monitoring capabilities</p>	<p>There are a number of relatively cheap computer-based monitoring systems available to assist with the monitoring of the destruction. The PM along with the NA should take a lead on this.</p>
<p>6. Identify and locate sensitive receptors within the impact area</p>	<p>e.g., noise monitors.</p>
<p>7. Are resources available to take the project through to final completion?</p>	<p>This is an important consideration as many agencies involved think the program is finished once the last item of ammunition is destroyed. This is not the case and the clearing up is as important as the destruction program. This is an area that can be easily neglected and sufficient funds should be allocated to ensure that the site is returned to as near normal as before. Very importantly, the area must be fenced off with warning signs placed to prevent access. Note: It is virtually impossible to declare an area 'free from explosives' after OD has taken place.</p>

Table 1: Relevant information about the disposal site

<p>1. Physical dimensions, size and ease of use</p>	
<p>2. Present contamination level</p>	
<p>3. Ability to remediate the site at project conclusion</p>	
<p>4. Accuracy of existing hydrocode predictive models</p>	
<p>5. Monitoring capabilities</p>	
<p>6. Identify and locate sensitive receptors within the impact area</p>	
<p>7. Are resources available to take the project through to final completion?</p>	

Important rules to follow for good Open Burning practices

- **Know the design and composition of the ammunition**
This is crucially important, not only for calculating the safety distances, but knowing what chemical composition is inside the projectile. Without this information, accidents will occur.
- **Know the emission products and the potential impact on health and the environment**
Certain compounds in ammunition natures are extremely toxic. They should not be disposed of through OB procedures, unless special considerations are applied, such as the use of thermic compounds to increase the burning temperatures to above 850°C.
- **Remove all packaging prior to burning the ammunition**
- **Conduct burn in a container on a concrete pad**
This avoids ground contamination.
- **Ensure a rapid, high temperature burn**
- **Recover residues, test for explosive content and dispose of as hazardous waste**
- **Avoid throw-out of partially or unburnt materials**
- **Avoid using wood, plastic or oil**

Important rules to follow for good Open Detonation practices

- **Know the design and composition of the ammunition**
- **Know the emission products and the potential impact on health and the environment**
- **Remove all packaging prior to detonating the ammunition**
- **Understand multi-item demolition procedures and principles**
- **Avoid interstitial boundaries (density / composition) and air gaps**
Interstitial boundaries are the complex boundary layers formed when a wide range of waves collides with each other. Air gaps acts as an attenuators of the shock and blast waves, thereby reducing their effectiveness to transfer a detonation wave from one munitions to another.
- **Use high quality donor explosive to avoid low order detonations**
- **Good distribution of donor charges to ensure detonation reaches maximum velocity as soon as possible**

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- **Detonate on surface or in a pit**
- **Avoid sub-surface or buried detonations. Consider water suppression**
- **Recover metal scrap, test that it is free from explosives before scrap disposal**

The points covered above are not exhaustive. Should the PM require further assistance he/she should, in conjunction with the AT and NAs, consult the following aids and publications:

- IMAS (11.10 and 11.20).
- Emission products databases.
- Emission products measurement systems.
- Air pollutant dispersion models.
- Noise distribution dispersion models.
- SOPs.



Box—SEESAC

The South Eastern Europe Clearinghouse for the Control of Small Arms and Light weapons (SEESAC) has commissioned a study to examine all of the advantages and disadvantages of industrial demilitarization versus OBOD for ammunition stockpiles of varying levels, which has been completed in 2004. The terms of reference for the study can be found at www.seesac.org. If you wish to find out more information on this subject should visit the following sites:

- <http://www.mineactionstandards.org>
- <http://www.iso.org>
- <http://europa.eu.int/scadplus/leg/en/lvb/121199.htm>
- <http://www.epa.gov/ttn/emc>
- <http://www.enviro-engrs.org>



SALW and ammunition destruction through OBOD has negative environmental effects. If OBOD is the only possible or best suitable destruction method, the PM has to ensure that the best methods are applied in order to reduce those environmental impacts to a minimum.

Summary of Section 9

In order to minimize the risks of SALW and ammunition destruction through OBOD, the OBOD site has to be carefully chosen. Several aspects have to be taken into consideration.

Remember: safety always comes first!



Section 10

Safety and security

Objectives and Goals of Section 10:

- To provide an understanding of the fundamentals of safety and security issues in SALW weapons and ammunition destruction
- To enable to design a safety plan
- To enable to design a security plan
- To provide an understanding on how to oversee the implementation of your plans.

All personnel involved in SALW programs must be fully aware of safety and security issues surrounding stockpile destruction activities.

This chapter will cover the areas of safety and security with the aim of looking at rules and regulations, which will enhance safety and security on SALW programs.

1. Safety

Box

Safety refers to taking action against the hazards and risks posed by the materials – ammunition and firearms – that are dealt with in the destruction program, as well as risks posed by the actions and tools used to implement the destruction.

"Safety is achieved by reducing risk to tolerable levels. Tolerable risk is determined by the search for an optimal balance between the ideal of absolute safety and the demands to be met by the product, process or service, and factors such as benefit to the user, suitability for purpose, cost effectiveness, and conventions of the society concerned. It follows that there is a need to review continually the tolerable level, in particular when developments, both in technology and in knowledge, can lead to economically feasible improvements to attain the minimum risk compatible with the use of the product, process or service."

Source: SEESAC RMDS/G 5.10

Safety is very much the responsibility of the technical advisor. The position of the PM is to provide support and to ensure that all personnel is familiar with safety regulations.



Remember: there can be no absolute safety. Many of the activities undertaken during SALW control programs have a high risk associated with them.



In all SALW control programs safety means that the hazardous effects of an undesired event within ammunition or explosives are avoided or at least minimized.



Safety is achieved by reducing the risks.

1.1 Safety measures for SALW weapons storage and transport

All weapons are dangerous and should be treated as loaded unless properly cleared and declared as 'Safe'. Once separated from the ammunition and after 'double checking' that there are no magazines fitted or rounds in the barrel, they can be treated as only *potentially* dangerous. **However, there is almost always the likelihood that someone, somewhere, has left an item of ammunition in a gun.**



The critical issue in firearm safety is to ensure that the weapons have been emptied of their ammunition. The PM does not have the responsibility for checking the safety of the weapons collected or transported for destruction. Nonetheless, a PM should ensure that national and other regulations are being followed for safety. As a minimum:

- All weapons received must have their magazine (if any) removed.
- Each weapon must be checked visually and by touch by a competent person to ensure there is no round in the receiver.
- Loaded magazines must be unloaded by a competent person, preferably by removing the lower retainer plate, spring, and spring head.

Box

In 19XX an army officer was tasked to command a UN force engaged in SALW collection and destruction in Africa. Upon the officer's arrival, he was shown a large pile of firearms that had been collected from militias and civilians, and was slated to be destroyed. The local and international officers and men were justly proud of what they had accomplished. The guns were scheduled to be burned in a Flame of Peace ceremony later.

The new commander immediately demanded to know whether the firearms had been thoroughly checked for the presence of ammunition. He was assured that all firearms had been checked, and that no ammunition had been found. The new commander promptly selected one rifle from among those in the pile, and, pointing it to the sky to ensure safety, squeezed the trigger.

The gun fired off a round.

Be aware: there is *always* a risk that a gun will still have its ammunition. Guns are *always* a hazard, and must *always* be checked.



Remember: ensure that firearms are not loaded and are thus unable to fire. Reduce injury from the mechanical effects of heavy objects and of the spring-tension of gun mechanisms.



It should go without saying, but always keep the following in mind, and impress it strongly on the destruction team:

Remember: never point a firearm at anyone, even in play, demonstration or fun.



Not only is violating this injunction dangerous, but should images of the team playing with the guns reach the public, it might jeopardize the entire program's credibility

1.2 Safety measures for SALW munition and explosives storage and transport

There are many examples of SALW ammunition and explosives that have been stored inappropriately, resulting in major explosions with often lethal consequences.

The main destructive effects of an explosive event are:

- Blast.
- Fragments.
- Gases.
- Heat.
- Ground shock.

Therefore the best measures to ensure safety are:

- Limit the number of personnel within the danger zone.
- Reduce the chances of one explosive event spreading to adjacent stocks.
- Take measures to avoid or minimize the chance of an initial explosive event in the first place.
- Limit the effects of an explosive event, by protective measures and by adequately constructed buildings and barricading.
- Loose ammunition must be stored in a container, with each caliber of ammunition stored separately.
- Only ammunition which is stable enough must be stored or transported

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Trainer Note

IQD and OQD numbers are not to be used to calculate safety distances for OBOD, but only for static storage facilities. Note that even by observing those distances, some damage and injuries might still result, but are minimized, and propagation will be avoided.

Ammunition safety of storage areas is governed by two principle factors:

- **Inside Quantity Distances (IQD).** These are the minimum distances, calculated on the basis of explosive trials, which are required to prevent propagation of one explosive site to another. (Note that some damage will result, but not propagation).
- **Outside Quantity Distances (OQD).** These are the minimum distances required to afford protection to facilities, personnel, roads and local population. (Note that some injuries and damage might still result).

The NATO publication AASTP-1 is an excellent standard and explains the explosion danger areas that should be established for all ammunition and explosives storehouses.



For an example of demolition orders, see Annex XVI.

Safety Regulations for ammunition and explosive storage

A number of safety regulations exist on the national, regional and international level. Find out whether and what kind of national security regulations exist in the project country. This should be done during the initial assessment mission. Ensure that all national safety regulations involving ammunition and explosive are checked and adhered to during any SALW program. Ensure that a copy of these national regulations is made available, and is known to the Technical Advisor.

National regulations take legal precedence over international ones. Where National Regulations are less stringent than 'International Best Practices,' it is advisable to implement a more stringent regime from the Internationally Recognized Safety Regulations listed below. However, you have to ensure compliance with the national regulations!

For international safety standards, see Section 10.

Safety measures

The environmental requirements (e.g. temperature, humidity) of ammunition and explosives vary, and are dependent on their storage, handling and transportation conditions. Ammunition safety is affected and governed by the following measures:

Condition of the ammunition

A sound working knowledge on the origin, design, age, stockpile history and physical condition of the stocks is crucial for safety. All ammunition and explosives are affected by environmental influence throughout its life. The packing of the ammunition will also have a bearing on the condition.

In storage, the following fluctuations will scientifically affect the life expectancy of the stockpile:

- Humidity and ventilation.
- High temperature variations.

- Exposure to sunlight.
- Poor handling and transportation methods.
- Poor storage conditions.
- Vibration and shock.

Storage buildings

There are no specific international regulations for the storage of ammunition and explosives. However, storage buildings should have the following characteristics:

- A permanent structure, either above or below ground.
- Weather, bullet, fire and theft resistant.
- Adequate ventilation to prevent excessive heating and humidity.
- Wall constructed of concrete, stone or brick, which are fire resistant and structurally sound.
- Concrete floor, coated with a non-sparking material.
- Adequately constructed and weatherproof roof with a thermal shield to maintain temperatures below 40°C.
- Well fitting metal doors.
- Doors secured with steel padlocks.
- Lightning protection.

For further information on weapons and ammunitions storage you can also consult RMDS/G 05.40 (www.seesac.org).



Fire prevention

The NAs responsible for storing ammunition and explosives should establish fire preventive policies and measures. These should include the following:

- Set of Standing Operating Procedures for fighting fires.
- No smoking policy within 20 m of any storage location.
- Maintain grass and undergrowth around the storage locations under control.
- Remove all spark and flame producing material and equipment away from the storage locations.
- Have adequate fire fighting equipment on site to deal with incidents. This equipment must be fully maintained and checked.
- Good husbandry; all paints, oils or flammable materials must not be stored in the vicinity of the storage locations. This applies to empty ammunition containers.
- Strict contraband rules, outlining the materials, which are prohibited in the storage facility, such as cigarettes, lighters, radios.

- Correct electrical installations. All electrical lighting should be checked regularly and be correctly earthed/ grounded.

Storage measures

Following the correct storage measures are fundamental to the safe storage of ammunition and explosives. The key ones are:

- Not to exceed the explosive Limit license for the storehouse: These are calculated using the IQD and OQD.
- Correct application of segregation compatibility group. Adhering to ammunition and explosives storage regulations controlled by HD and CG (see Section 10) will significantly reduce the effect of the unintended detonation.
- Additional construction measures within the storage location, like building earth barriers between the storage locations will reduce the impact of an unintended detonation.

Box—Explosion of ammunition depot in Juba

On 23 February 2005, a store of ammunition at a military depot exploded in Juba, southern Sudan. Estimates for the numbers of persons killed goes up to 80, and more than 200 persons have been wounded. According to an official statement from the government of Sudan the explosion was caused by high temperatures. 900 houses in a nearby residential area were damaged and destroyed by the explosion and the ensuing fire. The explosion also destroyed the market, disrupting the livelihoods of thousands of people who depend on it.

1.3 Safety of the population¹⁶

If you are doing the destruction outside of a military or industrial facility, be aware that you are responsible for the safety and security of the people living in the area.

Remember: people are curious, and an event like this will attract audience. Be prepared to handle this. Measures include the construction of barriers and warning signs, and you might need a member of your staff taking care of the security of uninvited visitors.



If you have to do the destruction in a more densely populated area, you might consider warning the population about security risks, but also the noise and shock waves they might experience.

You can make use of:

- TV.
- Radio.
- Newspapers.

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- Handouts.
- Public announcements.

General rules for the use of media are:

- Keep it short and concise – don't confuse your audience with too much information
- Use simple, straightforward language
- Offer specific, practical advice
- Organize the information clearly and logically
- Repeat the information.

2. Security

Box

Security is the means by which ammunition, weapons and explosives are protected against any malevolent actions (theft, sabotage, damage or tampering) by an individual or group of individuals.

In all cases, SALW weapons and ammunition must be secured while they are being made ready for destruction. There are a number of reasons why stealing weapons might be attractive:

- Tensions or insecurity in the country you are working in might make the weapons seem attractive to armed gangs or political interests.
- If the weapons are collected in a buy-back program, recycling weapons can lead to higher incomes for some.
- Armed gangs and criminals might seek to enhance their arsenals with the collected weapons.
- Explosives are attractive for civilian pursuits ranging from illegal fishing to quarrying.

Security is a primary consideration, whether for a few weapons or a mass of them. It is almost always the PM's responsibility.

The most effective method to ensure security is to limit the access to unauthorized personnel. This can be achieved through a variety of ways:

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Trainer Note

Emphasize: it is the NA who is responsible for maintaining the standards and regulations regarding security. The National Standards or Regulations should be the minimum level provided; however, there may be a requirement to enforce tighter security measures if deemed necessary. Ideally, an authority independent of those involved in the destruction process should supervise the accounting process.

Dotted grid area for notes.

- Controlled access measures.
- Fencing and external lighting system.
- Inventory control measures, including audits and stock-checks.
- Purpose built storage facilities.
- Installing surveillance equipment.
- Guarding the site (patrols and dogs).
- Alarm system.

A best practice guide to securing arms and ammunition is the OSCE Best Practice Guide on National Procedures for Stockpile Management, downloadable from: <http://www.un.org/Docs/sc/committees/1373/handbook.pdf>. Though this guide refers specifically to regular military storage, rather than to the kinds of adaptations you will have to make during the course of a weapons collection and destruction program, the same principles iterated in the handbook apply in an SALW destruction program as well.



Security regulations

Security regulations for storing arms and ammunition are always a national responsibility. The PM must ensure that these national regulations are adhered to throughout the program. National security regulations are a *minimum* standard for security. Where formal regulations appear lax or insufficient, the PM may feel it necessary to add to them.

Security measures

Organizations involved in SALW programs must provide the appropriate levels of security for ammunition and explosives in their possession during storage, transportation and use.

Aspects to consider include:

- The immediate physical security provided by the storage facility.
- The accounting procedures.
- Controls.
- Access.

Trainer Note

Hand out the Trainee version of the Model Security Plan to trainees. Assist them to fill the Comments column in by discussing the subject issues with them.
Duration: 10-15 minutes

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3. Model security plan

The PM should draw up a security plan. Provisions made should be reviewed from time to time. Ensure that all members of the destruction team have refreshed their knowledge of these measures, particularly if some changes have been made. This is *particularly* important in lengthy destruction programs of weeks or months, when routine and laxity can creep in.

For a model security plan, see Annex XVII.

Summary of Section 10

Safety and security measures represent an important part of all SALW control programs, and even more so in SALW weapons and ammunition destruction activities. Anyone directly involved in the program must be aware of the importance of safety and security and have the necessary background knowledge in the subject.

An AT should always be employed to ensure compliance at every stage of the destruction process with safety principles. AT's have received specialized training in the science of explosives, the design of the ammunition natures and safety principles, which enables them to give an expert opinion on the physical condition, stability and safety of the ammunition and explosives. The job of the PM is to ensure that these safety precautions are indeed carried out, and that the AT have the necessary resources to ensure safety.

Section 11

Destruction ceremonies

Note: there are a number of other ceremonial destruction options, such as crushing weapons by tracked vehicles or organizing an event in a smelter foundry. In this section, we merely provide **one** example for how to organize a destruction option which has proven to be extremely popular, even if not terribly effective: burning weapons on a pyre, often referred to as “Flames of Peace”.

Objectives and Goals of Section 11:

- To provide technical instructions and some suggestions for preparing a Flame of Peace and arranging a ceremony around it. This includes:
 - Technical information on building a pyre for SALW.
 - Administrative requirements you will likely face.
 - Preparations you will have to do for the public.
 - To make aware of the potential for such ceremonies to help the destruction process.

1. Introduction

Destruction ceremonies, such as crushing weapons by a tracked vehicle or “Flames of Peace”, have become a popular and effective way to indicate publicly that the violent past and use of small arms are done with. They are often not terribly effective *technically* as they are not destroying SALW, but they serve an excellent purpose in PR, in obligation towards the actors involved, and in psychological effect.

Depending on the situation, a ceremonial public destruction event can be an important part of the weapon destruction process. Most countries involved in SALW programs will request a ceremony. As a PM, you will be closely involved in the planning and execution of such events. Public safety is the principal overriding factor in the all-public events of weapon destruction.

Note: burning weapons on a pyre **does not always** destroy them, given the low temperature of the flame (heat) produced and its short duration. A *Final Destruction Solution* still needs to be identified for the weapons, ideally melting in a smelter.

For further information on how to organize destruction ceremonies we suggest to read the TRESA module Civil Society Action on SALW Control (CSA05).



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Trainer Note

Point out that the people who are actually doing the destruction (the technical experts and the destruction team) may be completely sidelined, as politicians and diplomats want to stand in the spotlight and often take the credit for the destruction. This should be taken with good grace, even if the person trumpeting his virtues loudest had nothing to do with it.

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Trainer Note

The PM has to make sure that representatives of all potentially interested bodies (the military, police, Ministry of the Interior, firefighters, and office of the environment) are represented at the discussion. He/she will find that different agencies and/or government departments will try and outdo each other and try to exclude others. If possible, the PM should take control of the meeting and chair it, otherwise it will get high jacked by one of the agencies or departments.

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Trainer Note

The plan for destruction should include the location and space for the burn (sometimes a local stadium is most appropriate), how long the burn takes, and a safety plan. Dates can be determined by weather, the religious and national calendars, the harvest season, and other events. The PM should be aware of those restrictions and should be prepared to offer several dates.

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Trainer Note

The budget for technical issues includes fuel, transport, personnel and working time. The budget for the ceremonial event includes decorations, food, bands, flags, erecting a marquee for the VIPs, etc. Ideally, the political echelon, which is interested in the ceremony and wants to show off, should foot at least part of this budget.

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2. Preparations for a weapons destruction ceremony

Destruction ceremonies require preliminary preparation and anticipation of all possibilities. Preparations include *administrative-political* preparations, *technical* preparations, and *public* preparations.

Administrative-political issues

Since the destruction ceremony is intended as an important and significant event for the country destroying weapons, it also becomes automatically a *political* event. The national government, and most likely, the official representatives of other countries, who may have contributed to the destruction program, will want to take part. This means that you will have to defer to some very delicate, but long-established protocol requirements.

To start, you must coordinate with local authorities, and likely with national authorities about the details of the ceremony.

1. Arrange one or more formal coordination meeting to get the key players together

This will limit later objections, which often arise because a powerful office feels they have been slighted. Be diplomatic, but take control of the meeting and chair it if possible.

2. Ensure that you bring the following to the meeting

- The official permissions and licenses for destruction.
- A record of all weapons to be destroyed.
- A detailed plan and description of the technical side.
- Likely dates.

3. A firm date should be set to organize a Flame of Peace ceremony

4. Budget

- The technical side of the budget should have been budgeted for in your destruction plan.
- The budget for the ceremonial event must be agreed on. You should have a budget plan ready in which all elements of the event are accounted for, as well as expected sources of revenue.
- The coordinating meeting should agree on a final and complete budget (For a draft budget plan see Annex XIX).

Trainer Note

Find a draft for an agreement between the Lead Organization and the Government for a Weapons Destruction Ceremony in the Annex XX.

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5. Following the coordination meeting, an **agreement in writing** should be signed by the civil authority (and whichever other offices are involved in the coordination meeting) and the PM stating:
 - The tasks that will be undertaken by each partner
 - The sums allocated to each task
 - The total budget. The budget plan for the ceremony will be attached to the agreement.
 - Which office is responsible for inviting which guests.

Box—Whom to invite?

The coordination meeting is a good opportunity to decide who is inviting whom. As a matter of protocol:

The Government invites:

- Heads of State.
- Government Minister.
- Ambassadors.

The Ministry of Interior invites:

- Government Officials.
- The national press.
- Officials from security forces (army, police).

Head of the provincial/county government invites:

- Local authorities.
- Local religious figures.
- Local NGOs.
- Representation of the population.

The destruction team (PM) invites:

- Organizations and people involved in their activities.
- Local guests they have interacted with to a great degree.

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Technical issues

In order for the ceremony to progress without problems, you should be prepared to invest time in the planning and preparation. This includes:

Selecting a site

The site selected should have a number of necessary qualifications.

1. **Size.** The size of the site should be sufficient for the actual pyre, a reasonable safety distance around it, space for the guests and local audience, and, if planned, space for events (performances, music...).

On the assumption of 1000 weapons to be destroyed, a **safety perimeter of 50 meters MINIMUM** around the pyre is required!

2. **Safety.** The site should be away from dwellings and not be overhung by trees or other material that could catch fire. Fire-fighting equipment must be placed nearby and checked for operability.
3. **Access.** Access must be ensured for delivering the wood and the firearms from wherever they have been collected.
4. **Security.** There should be some form of control to ensure that no problems occur between different groups of people, and to ensure that no weapons are diverted before the burn.

Preparing the ground

1. Once the location has been determined, it may be necessary to check the ground for mines by a demining organization. **This is particularly important under the burn site!**
2. Prepare a schematic sketch of the ground indicating location of:
 - The pyre.
 - Location of volatiles (diesel or kerosene) for fire starting.
 - Emergency services locations (e.g., medical aid, fire-fighting equipment)
 - Greeting and control location. This serves as the central coordinating point for any problem that might arise. Ensure that this is manned the entire time of the ceremony, and well equipped with whatever is needed for communication with the technical, safety, and security elements, and with the outside).
 - Entrances.
 - Stages or performances areas (if required).
 - Stands or locations for guests.
3. Outline the destruction pyre on the ground using tape, staked string, or spray bombs.

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Preparing the weapons

Remember: all weapons have to be checked once again before being laid on the pyre.



The check **must** include:

- Checking the weapon visually and tactually to ensure no ammunition is present.
- Recording the serial number.

Requirements of material and services

The following material is needed for the ceremonial burning of 100 SALW:

- Wood for the structure (rough lumber for the construction of four ladders, pyramidal shape).
- Wood as fuel (small firewood, 2x pick-up load equivalent).
- Wood chips/shavings for ignition train and initiation for base of pyre (5x large bags, about one meter high by 50 cm in diameter).
- Nails 3" (7.5 cm in length).
- Metal Wire/Strap (50 meters).
- Shovel.
- Diesel for pyre (diesel, 30 liters).
- Diesel for ignition train (20 liters).
Note: gasoline is too volatile to use for the pyre!
- Plastic containers to throw diesel on pyre (i.e. wash basin).
- Broom handle and old shirt (for the torch to light the ignition train).
- Matches.

Services that have to be provided include

- Carpenter to build the structure on site.
- Trucks for transport of weapons.
- Trucks for transport of work force and security personnel.
- Ambulance on-site.
- Fire truck on-site.

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3. The weapons destruction ceremony

Pyre construction

1. The pyre is constructed of wood (rough lumber). It consists of four ladders in the shape of a pyramid (i.e. wider at bottom than top).
2. Each ladder is built with two vertical posts (5 m high x 5 cm thick x 10 cm, approximate dimensions).
3. Starting from the bottom horizontal braces are placed every 75 cm apart (total of four).
4. On each of these braces, nails are spaced every 8 cm on which to hang the weapons.
5. **Hang the weapons on the nails provided, muzzles pointing upwards.**
6. Place the best weapons facing the VIPs.
7. The ignition train is built by digging a small trench (10 cm deep x 10 cm wide) in which wood shaving are placed (one bag). These are then soaked with the gasoline, but just prior to the lighting with the torch (as gasoline is volatile).
8. The pyre is lit at a safe distance (6-10 meters) by the ignition train.



Credit: Source of Pyre_picture (which shows a pyre in Kenya), Story from BBC NEWS, <http://news.bbc.co.uk/go/pr/fr/-/2/hi/africa/2853213.stm>, published: 2003/03/15 17:34:20 GMT, © BBC MMVI

Note: it is very important that the structure be very solid for the personnel climbing on the structure to place the weapons!

While the smoke is not toxic as you are only burning a bit of wood with some diesel, it is not pleasant if it drifts over the audience. 50m distance between pyre and audience is a god working calculation, but this depends on the size of the pyre and local conditions.

There are other possibilities for pyre construction, for example by placing the weapons horizontally on layers of wooden poles. However, this always involves the risk of a shot going off, hitting the crowd. By hanging the weapons on ladders, as described

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above, bullets which might still be inside the weapons are fired vertically into the air, not horizontally.

For a good example of how to organize a weapons destruction ceremony, we recommend you to have a look at the EU ASAC "Modus Operandi for a Weapons Destruction Ceremony" (EUASAC .2001. Phnom Penh.

http://www.eu-asac.org/programme/weapons_destruction/modusOperandi.pdf



Weapons destruction ceremony schedule

For a proposed schedule for a weapons destruction ceremony, see Annex XXI.

Trainer Note—additional information

Prior to 2002, there were no international recognized standards that related to any Small Arms and Light Weapons (SALW) destruction program. The guiding principles for the destruction program were left entirely to the discretion of the NGOs and the 'technical experts.' Clearly this was a matter that needed to be addressed with some urgency to establish a set of principles, which could be adapted to provide a national standard.

In response to this, during 2002 the United Nations Mine Action Service (UNMAS), produced a set of International Mine Action Standards (IMAS), though specifically relating to mines clearance operations, its procedures could be applied safely to SALW programs. IAMS addresses the technical aspects of carrying out de-mining operations and ensures that the International Community addresses its 'Duty Of Care', during the program. Although IAMS has no legal standing the NA can make the decision to adopt and tailor to their specific needs.

These standards were developed from existing national ammunition and explosives regulations and incorporated the principles from other organizations, such as the North Atlantic Treaty Organization (NATO), this provided a framework for a 'code of conduct', therefore bringing some consistency to SALW programs. SEESAC used the IMAS concept to produce the South Eastern Europe Regional Micro-Disarmament Standards (RMDS/G) for use specifically on SALW programs in South East Europe. This development is an important step in the creation of an accepted international standard SALW programs. It is evolving in response to strategic direction and field experience.

Trainer Note—additional information

ISO, the International Organization for Standardization, is the world's largest developer of standards. Its principal activity is the development of technical standards, but ISO standards also have important economic and social repercussions. Most of the international standards follow the basic format and language used in ISO series, which has the added advantage of consistency of layout and internationally recognized terminology.

Source: www.iso.org



Section 12

Introduction to international standards for SALW weapons and ammunition destruction programs

Objectives and Goals of Section 12:

- To give the PM understanding of the relevance of international standards in establishing the guiding principles for all NGOs and International organizations involved in the planning and implementation of current SALW programs.

In response to strategic direction and field experience, international standards for SALW control programs are being developed to increase safety and efficiency of the programs.

This Section will look at the purpose and guiding principals of the international standards. As a PM, it is important that you have a sound understanding of the basic principles behind the international standards available and the reasons behind their application.

Box

The ISO defines "a standard" as a documented agreement containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics to ensure that material, products, processes and services are fit for the purpose".

The main purpose of **international standards** is to assist in the development of a set of **national standards**, which can be applied and adapted to meet **local conditions**. The international standards are based on sound and safe principles. They are developed to improve safety and efficiency by providing guidance by defining the requirements and specifications involved in such programs. They provide a frame of reference for those involved in SALW programs to achieve the agreed levels of safety and efficiency. As stated these standards have no legal standing, unless they have been adopted by the National Authority as their national standard. All SALW programs should encourage the NA to adopt them if no other standards are available.

The guiding principles behind the need of international standards are outlined below:

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- The requirement for the NA to apply national standards to national programs, by establishing a frame of reference.
- To protect those most at risk.
- To develop and build a national capacity to maintain and apply the appropriate standards for future SALW programs.
- To ensure there is consistency with international standards and ensure 'International Best practices' are maintained.
- For compliance with international conventions and treaties.

It is important to stress that **international (or national) standards are not Standard Operating Procedures (SOP)**. While standard are norms to be adhered to generally, SOPs are specific to a specific location and place. SOPs give specific instructions for a location, i.e., range explosive limits, where guards are locates, specific instructions on fire risk at that location, etc. This aims to improve operating effectiveness and safety. SOPs are a set of instructions, which define the best or current established methods of conducting a task. They take the principles of the international standard and apply them to the local circumstances. It will be the PMs' responsibility, in conjunction with the Technical Assistant (TA) and the NA to incorporate these into the MoU or a Letter of Agreement.

For an example on standing operating instructions see Annex XXII.

There are a number of safety regulations available for all aspects of ammunition storage, transportation and handling that must be observed when involved with SALW programs.

Table 1: Safety regulations

Title	Comments
IMAS	Despite being specifically designed for de-mining operations, these are internationally recognized standards. Principles for storage and transportation of mines equally apply to other natures of ammunition.
NATO AASTP Series	These are an excellent publication and cover in detail all safety issues relating to ammunition. The principle documents are: AASTP-1 "Manual of NATO Safety Principles for Storage of Ammunition and Explosives" AASTP-2 "Manual of NATO Safety Principles for the Transportation of Ammunition and Explosives". AASTP-3 "Manual of NATO Principles of the classification of Ammunition and Explosives". AASTP-4 "Manual of NATO on Risk Assessment Techniques applicable to the Management of Explosives Safety".



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STANAGs	These are publications from the Standardization Agreements, which review and constantly update their publications. These will cover various fields of ammunition and explosives safety.
RMDS/G (Regional Micro-Disarmament Standards and Guidelines)	These publication have been produced by The South Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons (SEESAC) for use in dealing with SALW issues in South Eastern Europe, but are been used globally and are now a normative reference within IDDRS.
United Nation Classification System	<p>All articles and substances designated as 'Dangerous Goods' categorized under the UN system for hazards classification are assigned to one of nine classes. Class 1, comprises explosives, which cover all types of ammunition and military explosives. Ammunition natures are further sub-divided into Hazard Divisions (HD). These are used to simplify regulations for the safe storage and transportation of ammunition and explosives and to assist identification. In addition to the HD, each article of ammunition has been assigned to one of 12 Compatibility Groups (CG), to ensure correct segregation during storage and transportation.</p> <p>HD are as follows:</p> <p>HD 1.1; Ammunition which has a mass explosion hazard. HD 1.2; Ammunition which has a projection hazard, but not a mass explosion hazard. HD.1.3; Ammunition which has a fire hazard with either a minor blast hazard or a minor projection hazard. HD 1.4; Ammunition which presents no significant hazard. Will not contribute to the fire. HD1.5; Ammunition which does not present a significant hazard, because of it insensitivity.</p> <p>The CGs are indicated by the letters A to H, J,K,L and S. For safety reasons, all ammunition natures must be stored and transported by HD and CG. Advice must be sought from the AT.</p>

Summary of Section 12

So far, there are no recognized international standards concerning SALW weapons and ammunition destruction programs. In the meantime, PMs have to make use of the IMAS, which have originally developed for mine action, and the RMDS/G, which are limited to South Eastern Europe. To date, the United Nations has taken the lead in the development of a set of recognized international standards. Until then, the PM has to develop standards best suitable to his/her specific project, based on the existing standards, experiences and lessons learned from other SALW weapons and ammunition destruction programs.

Section 13

Media support to SALW destruction programs

In this section, only a broad overview on how to work with media is provided. For more information and guidelines, we recommend referring to the SEESAC study report "Media Operations During SALW Control Interventions". Although this is designed for SALW control activities in general, we consider it as very helpful for SALW weapons and ammunition destruction activities as well. For a downloadable version, see <http://www.seesac.org/reports/Study%20-%20Media%20Operations.pdf>.



Objectives and Goals of Section 13:

- To get a general understanding on how to maximize the potential for positive exposure of the destruction program
- To provide guidance on how to deal with media representatives and how to brief media representatives
- To provide basic understanding on the most important elements of a media plan.

1. Introduction

Destruction projects operate very much in the public limelight. Most things that the PM is responsible for *may* appear in the morning papers, and all mistakes and accidents *definitely* will appear there.

Positive coverage in the media is important for a number of reasons:

- To reassure the public.
- To ensure public support for the weapon destruction.
- To reassure the political echelon.
- To lay the foundation for continuation of the destruction effort if needed.

2. Media types

There are two major media types that you are likely to encounter. Each of these types has slightly different interests.

Visually oriented media (Television and photojournalists)

Visual media representatives will be interested in activities that are visually arresting, such as pictures of a massive explosion or burning weapons.

Your objective here is to offer the visual reporter visually arresting, interesting, and unique images. The more varied and exciting the images will be, the happier your relationship with the journalist is likely to be.

It is important to note that images will convey what you are doing – well or badly – far better than words, and that you should devote considerable thought to these images.

Remember: one picture is worth a thousand words!



Safety issue

Be aware: Visual photographers have been known to take unreasonable and dangerous risks in the pursuit of the perfect shot. You should make yourself aware **at all times** of the whereabouts of any camera or TV teams during OBOD. Make photographers and camera persons aware of dangers.



Text oriented media (newspapers, journals, radio reporters)

Journalists dealing with some form of text will often be interested in short, effective statements. It is useful to think out, and sometimes to even practice, what it is you or the project want to convey. It is also helpful to be straightforward and unequivocal.

Some journalists write longer opinion or investigatory articles, and will be interested in lengthy interviews with destruction personnel. Make sure that members of the destruction team are aware of the issues, and have the understanding of how to present the project and its activities in the best light.

Remember: a word once spoken is like the wind: it can never be recalled. Choose your words carefully!



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Keep in mind that in your dealings with the media you are trying to accomplish a number of objectives:

Understanding	You want to ensure that the media and their audience understand your point of view.
Public support	You want to generate public support for SALW destruction.
Accountability and transparency	You want to ensure that the public, the national authorities, and the donors feel that all actions in the program are transparent, and that it is accountable for actions it takes.
Fund-raising	Among other things, good and positive press coverage will help determine whether funding will continue. Bad press coverage will almost always bring about suspension of funding 'pending investigation'.

3. Media action plan

To help manage the media issues in a destruction project, it is useful to develop a **media action plan**. The media action plan is intended for you to manage the image of the project to the degree possible.

It should include:

- Identification of local, national, and international media.
- Identification of high-points in the program that you wish to be presented via the media with approximate dates.
- Preparing and providing background information kits.
- Designating a press liaison.
- Policy on press conferences, interviews, and press releases.
- Media monitoring.
- A crisis contingency plan.

Local, national, and international media

Start your planning by identifying local, national, and international media that might be interested in the story you are generating.

Local media	<ul style="list-style-type: none"> ■ Are interested in stories that involve local people or affect them. ■ Are interested in stories that involve things that happen in the surroundings. ■ Are good channels of communication to the local public.
National media	<ul style="list-style-type: none"> ■ Interested in stories that have a national bearing. ■ Are a good channel to inform the public (including officials) countrywide. ■ Are important to attract national support.
International media	<ul style="list-style-type: none"> ■ Are interested in broader aspects. ■ Are interested in stories that illustrate the picturesque and things such as local curiosities. ■ Are good channels to make the event known internationally. ■ Are important to attract international support and funding for similar activities.

Identify these various media reporters, and make sure you are able to contact them if necessary, to feed a story, report an event, or make an invitation.

Program high-points

Identify expected high-points in the program. Make sure the various media are aware of the event, and of its significance *for their interests*.

Table 1: Such high points include

High-point	Media interest		
	Local	National	International
Starting the program	X	X	X
Hiring local people	X		
An OBOD event	X	X	
Destruction ceremony	X	X	X
Reaching a milestone	X	X	
Finishing the project	X	X	X
Destruction ceremony	X	X	X
Visit by national personality	X	X	
Visit by international personality	X	X	X

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- Dates for particular known high points should be included, if possible, into press kits.
- Media should be informed of a photo opportunity or an occasion for reporting, according to their interest.
- Attempt to document unexpected events, hopefully on film, and make this documentation available to the press.

Preparing and providing background information kits

Destruction programs are highly technical affairs. Journalists do not have the knowledge or technical information involved with SALW destruction at their fingertips.

Press kits, for distribution to visiting journalists, should include factual information reporters might find useful in writing a story:

- Names of those involved, their positions, and a sentence about their experience. Make sure names are correctly spelled!
- An address/telephone/e-mail the reporter can reach. Provide only *one*: that of the Press Officer or whomever is fulfilling that role.
- The background for the program (e.g., "Prevalence of SALW in the region that are causing destabilization. Estimated number: 10,000 SALW.")
- What the program is going to do (e.g., "Destroy 5,500 previously collected SALW"), when ("by 15 May"), and how ("by crushing with a bulldozer")
- Indicate highlights and their dates.
- Include some necessary *real* numbers (e.g., "X guns, and Y kg of explosive will be destroyed each day of operation. Totals: XY")
- Safety distances required for the OBOD being planned.
- Names and degree of participation of donors (e.g., "XYZ Foundation has contributed €10,000 towards the preparations and buying a cutting machine.")

Policy on press conferences, interviews, and press releases

A firm policy on reporting to the press must be established, and made clear to all members of the team. The policy should include:

- Who may speak on what issues.
- Which issues should be highlighted, if possible (events, successes, crisis solutions).
- Which subjects must be returned with 'no comment' or polite refusal (security arrangements, personnel privacy).

Reporting to the press can take three forms:

1. Press Conferences

A press conference is an opportunity to gather media reporters together, to provide them with facts about the program or about a highlight (or about a crisis), and to answer their questions.

- Make sure those who are presenting the program are thoroughly grounded and knowledgeable about their subject.
- Be as honest and as forthcoming as possible.
- Call a news conference when there is something newsworthy to discuss (a highlight or event) and not to report routine action (“Today we are marking 3 months since the program began. Nothing unexpected has happened”).
- Ensure that the team speakers do not become too technical or longwinded.

2. Press releases

A press release is a brief written statement that is sent to the media, informing them of something you think they ought to be aware of.

A press release should have: the title “PRESS RELEASE” at the top, the subject or item of interest, the name of the organization making the release, a brief text, and a contact name and telephone/address for follow-up.

Make sure the press release is:

- **Newsworthy:** It must interest those you sent it to enough for them to publish the story, and hopefully follow up on it.
- **Targeted at the right recipients:** Local stories for local press, visual events for appropriate media, etc.

Box—Sample press release

PRESS RELEASE

Over 5,000 SALW destroyed in one week: A Carana record

From: Carana Small Arms Destruction Program

The Carana Small Arms Destruction Program, which has been tasked by President Wanjau to destroy small arms collected after the establishment of peace, has successfully destroyed 5,127 firearms using a shredder donated by World Against Small Arms (an International NGO). This number represents the greatest number of small arms ever destroyed in the country in such a brief period of time. “We expect the program to contribute materially to the peace and security of the country,” said President Wanjau.

For further information: Ms. T. Oneone (Program Manager) t11@hotline.com;
Tel: 077-567890

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3. Interviews

In an interview, one more people from the team will be questioned individually by a reporter.

You should brief those being interviewed, or at least make sure they are aware of the following:

- The media policy agreed on.
- Do not try to hide things.
- The tone of an interviews is decided at the start. Make sure you get the important facts/positive message across immediately.
- Avoid acronyms and technical terms.
- Remain on the record "off the record" exists only in films. *Everything* you say can be reported.
- Be concise.
- Admit what you do not know.
- Don't be afraid to tell the bad news.

Designating a media/information officer and/or a press liasion

Ideally, a dedicated **media/information officer** would be part of the destruction team. That officer would have the professional background to deal with media issues. However:

- There may not be a media officer for budgetary or other reasons. In this case, one person, often the PM, must take responsibility for media relations.
- The media officer may not know the professional aspects of a destruction program. It will then be up to the PM to oversee the work and prepare appropriate information.

Establish a **press liasion**. This individual serves a double function:

- *The* authoritative source for *all* information about the program.
- *The* known point of contact for *any* reporter wanting information about the project.

Clearly, you cannot muzzle members of the destruction team. Nonetheless, you must impress on them that:

- Anything they say might be reported. As reporters rarely know the technical details of destruction programs, something said in jest may very well be reported as factual.

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- Mis-reporting based on non-authoritative statements can and is likely to harm the project, its reputation, its success, and its relations with the public.

As a consequence,

- Members of the team should refer reporters to the Media Officer for information.
- All members of the team should know the policy on interviews and releasing news to the media

Box—The Paraguay experience

One faux pas, which nearly cost us dear, was made by a team member. Speaking with a journalist, he mentioned the value of the weapons we were destroying in the USA on the collectors market. (We destroyed nearly 100 Vickers Heavy machine guns, whose value on the US collectors market is approx. \$25,000US each). There were also a number of other valuable guns, whose value totaled somewhere between 5 & 8 Million US dollars on the collectors' market. The journalist latched onto this and it very nearly hit the international headlines. The sale of these weapons would have provided a lot of valuable aid. However, if the military had known this, the weapons would have probably gone out the back door. Our job was to destroy the weapons and that is what we did. The lesson here is that those involved in SALW need to be discrete as there is no such thing as off the record discussions.

The second fall-out from this inopportune comment was the historical value of the weapons to the country. Many of these weapons were captured by Paraguay from Bolivia in the 'Chaco War' (1932 –1936). As one senior government minister who waded into the fray stated that the 'Heritage of Paraguay' had been destroyed. This dragged on long after we departed and was again brought up when we returned to conduct a centralisation of stocks in 2004 for a further destruction planned for 2005. Fortunately, the LO had no input into the selection of the weapons for destruction. This was a purely internal matter.

Media monitoring

In parallel with identifying and contacting media reporters, you should systematically monitor the media. Often stories are printed in a way that you feel is untruthful, distorted, or plain wrong. Sometimes important (for you) stories may be ignored.

Ensure that reports that do not reflect the facts are corrected: call up the journalist and editor in question, and set the facts straight, calmly and briefly.

Ensure that you are responsive to journalists' questions and concerns. You must have *factual* grounds to challenge a report that is untruthful or slanted. Sometimes, showing that you are being responsive to media reports can increase and improve coverage.

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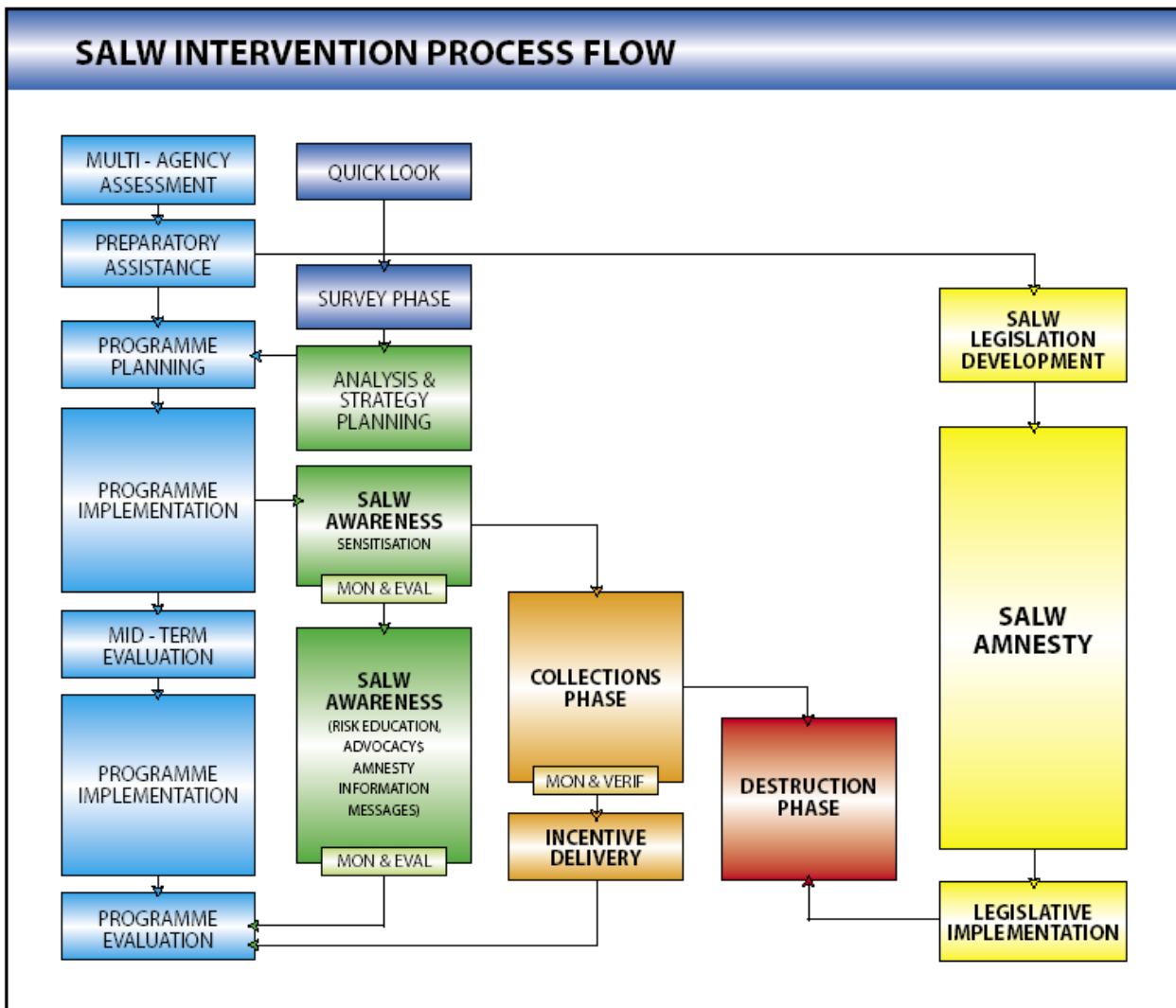
4. Crisis management

No plan survives contact with reality. It is likely that even in the best planned programs, there will be serious problems. Some of these may be the result of the teams actions, through carelessness, error, or lack of foresight (accidents, delays). Others might be the result of external factors that could not be foreseen (flood, rains). Have a 'crisis management plan' up your sleeve in case of a 'worse case scenario'. This must be discussed this openly with your team and ways must be worked out for reporting on such issues.

If you report on a crisis, make sure to be honest and complete about its dimensions.

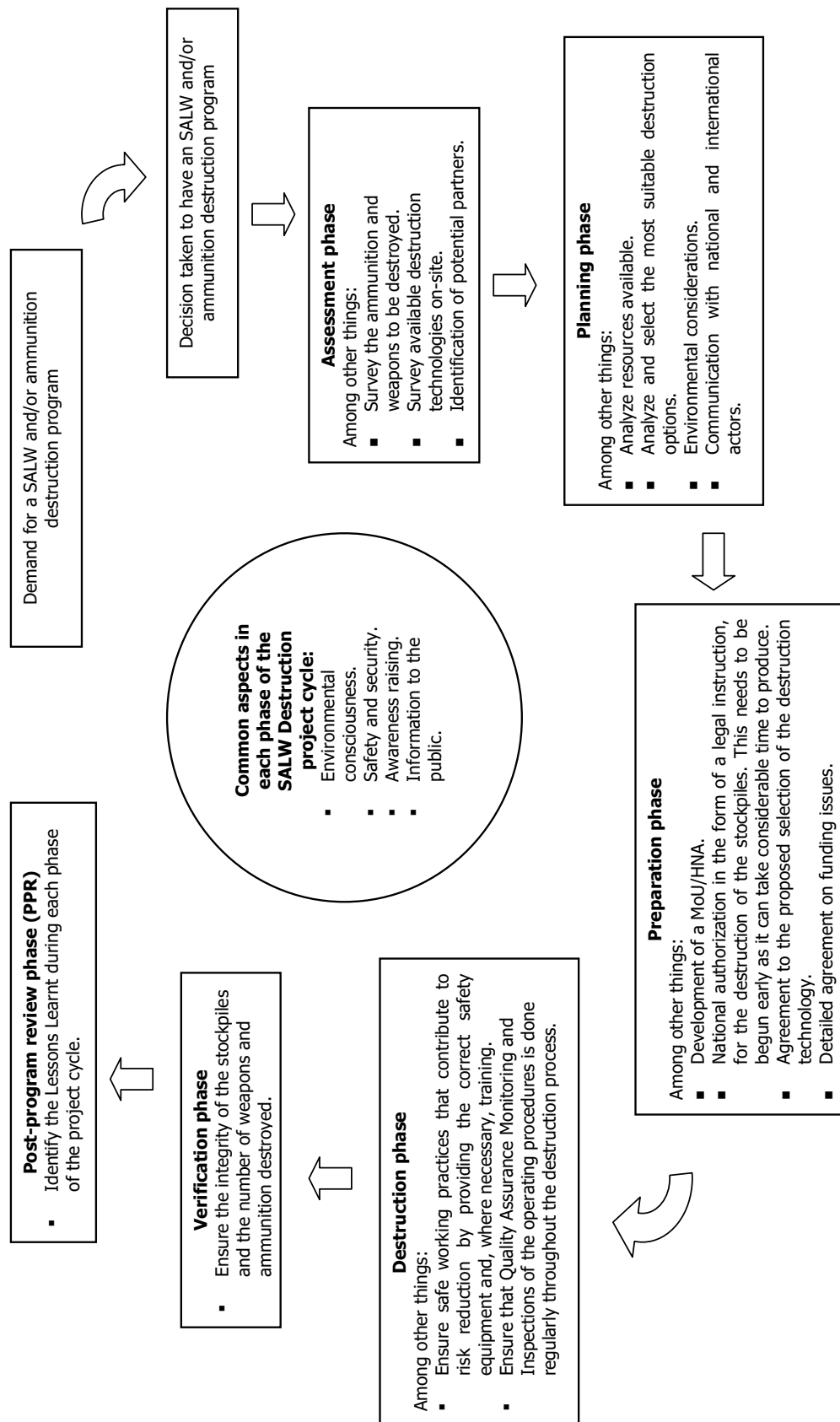
- Ensure those discussing it are calm and unflustered.
- Most importantly, concentrate on what you **are** doing to solve the crisis (not on what you **would like** to do, or plan to do), and on what you plan to do to ensure the same crisis does not reoccur.
- Once you are certain you have the crisis under control, and have a plan for the future in place, you may consider calling a press conference to report to the media.
- Provide sufficient information to the press in order to ensure that their reporting can be informed and fair and does not cause misunderstandings or even panic.
- Don't try to hide facts. The press are not stupid, and honesty and transparency are crucial if you want to be trustworthy.

Annex I: SALW intervention process flow



Source: www.seesac.org

Annex II: Destruction project cycle



Annex III: Documents on Carana



Document 1—Country profile of Carana

Introduction

Background: In May 2005, a peace agreement ended 5 years of civil war and a legacy of ethnic discrimination and conflict. Despite the cessation of violence, Carana remains a politically unstable country and a transitional government under the leadership of President Ogavo has had limited success in re-establishing order and the rule of law in the country. Small uprisings and violent clashes still occur in the rebel-controlled regions of west and south Carana. The United Nations Security Council recently mandated the creation of an Assistance Mission for Carana (UNAM) to assist in the country's transition into a secure and peaceful democracy.

Geography

- Area:** 455,000 km²
- Border countries:** Rumosa (southern border), Katasi (western border), Sumora (northern border)
- Climate:** Diverse and varied. The west of Carana, or "Gondvana" (Gondwanaland) experiences rain and colder temperatures throughout the year. Long winters are common in this part of Carana where the land is illuminated by northern lights. In summertime, one sees colorful contrasts between rainbows and Rocky Mountains.
- The north of Carana, also called Latva-Gondvana, has a milder climate. There are pine forests and many trees, though it is also possible to find rough deserts and mountains. The northern coast of central Carana has deep fjords and for most time of the year the weather is cold.
- In the east and south of Carana the weather has lots of sunshine and is often hot. Palm trees and desert plants are typical vegetation in the southern part of Carana. However, there is also very green highlands and the presence of the Torongo River enriches the region with minerals like diamond and copper.

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Landscape/ Terrain:	Carana has many different kinds of landscapes with a wide variety of flora and fauna. The west is filled with big mountains and volcanoes, while the north is mainly wetland. The highest peaks are Molle and Xoxi Mountains. The huge Kalesi River is very salty like the Dead Sea and is located at the center of Carana, almost dividing the country into equal halves.
Rivers:	Kalesi, Torongo, Mogave
Major cities:	Galasi, Kalei, Jumi, Lisbo, Maroni, Tekkla, Amsan, Balkro, Torta, Arum, Cereni, Lora, Turen, Maldosa, Eres, Corma, Kika, Muka, Xalksa, Maui, Folas, Akkabar, Karo, Sureen, Norke, Alur, Lukor, Maki, Perkes, Faron, Mia.
Natural resources:	Arable land, alkali metals (lithium, sodium, potassium, etc.), diamond, copper, oil, solar power, wind energy, hydropower.

People

Population:	26,024,698
Population growth:	1.1% (annual growth rate)
Ethnic groups:	Kori, Tatsi, Falin
Religions:	Christian (55%), indigenous beliefs (45%)
Languages:	Carananese (official) 90%, French 62%, Italian 14%, Portuguese 3%
Literacy:	70 - 75% of total population can read and write; 77.5% males, 62% females

Government

Country name:	Republic of Carana (conventional long form); Carana (short form)
Government type:	republic
Capital:	Galasi (1.1 million legal inhabitants)
Districts/Provinces:	Fellari, Guthar, Leppko, Barin, Hanno, Mahbek, Tereni, Koloni
Independence:	March 4, 1976
Executive branch:	Chief of state: President Jackson Ogavo Head of government: Prime Minister Jackson Ogavo

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- Legal system:** Based on the national constitution and a legal code. Customary law is also observed based on unwritten traditional practices for the indigenous sector.
- Political Parties:** Parti Democratique de Carana (PDC)
- Flag description:** Green, blue and white. A sailing wheel in the middle represents the Portuguese heritage (found on their flag as well). The writing in the Wheel Says: Notre (French = Our) , Patria (Italian = Country), Carana, as well as the Year of Self-Governance (not independence). Within the wheel are three diamonds, which not only symbolize one of the country's natural resources, but which also represent each ethnic group. The cross is also indicative of Carana's colonial history and Christian roots.

Economy

Economy Overview: Agriculture is a relatively large sector in the economy of Carana. The Gondwanaland region produces large quantities of agriculture that not only feed the people of Carana, but are also used for export. Other minerals such as alkali metals are present in high amounts, as are diamonds and copper. Oil is also found in the Labta Sea in the southeast of Carana. However, the circumstances for exploited both copper and oil resources are relatively hard.

GDP: 164.3 billion (purchasing power parity)

GDP per Capita: \$5,500 US dollars

Labor force: 10.2 million

Labor force by occupation: agriculture (60%), industries (10%), services (30%)

Unemployment rate: 14%

Population below poverty line: 20%

Agriculture – products: fruits, vegetables

Export commodities: fruits, vegetables, textiles, mineral goods

Export partners: US, France, Italy, Germany, Sumora

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Imports:	machinery equipment, transportation equipment, communication equipment, manufactured goods, foodstuffs
Import partners:	France, Italy, Portugal
Currency code:	Carana Franc (CF)
Industries:	<ul style="list-style-type: none">■ Metallurgic industry (creating useful objects from metals): both heavy and light (e.g. machine building, shipyards).■ Textile industry: all major cities have a clothing factory.■ Food industry: food-preparing factories are built across the country to bottle and can many things. Food storage facilities (silos) are mostly located in the northwest region of Carana.■ Mining industry: Kika produces diamonds from the Gachal and Herla swamps; Oil is found in Maldosa. Copper is also produced in Lora.■ Agriculture industry: Vast areas of the country are suitable for many kinds of crop. The soil is enriched on a big scale by using the "slash-and-burn" technique.

Communications and transportation

Communication:	Supported by telegraphy, telephony and whining radio connections.
Railways:	Two railway tracks operated by Carana Rail (CR), from Galasi to Akkabar and the other from Maldosa to Mia. There are also 'land-trains' hauled by enormous tractors.
Highways:	A number of paved roads and highways remain in tact, though there are a number of unpaved roads and tracks that are fairly robust. Car and coach are the most predominant forms of transportation.
Airports:	2 international airports (Galasi, Corma), 4 local (Alur, Folsa, Amsan, Mia)
Ports and Harbours:	3 (Galasi, Cereni, Maldosa)

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Military

Military Branches: Caranese Defense Forces (CDF): Army, Navy, Air Force

Military Manpower - availability: 5,248,621 (males age 18-49)

Military Expenditures: 2.7% of GDP

Transnational disputes

Disputes – international:

The quest for mineral and other natural resources of Carana is being fought amongst 45 foreign companies (mainly from Anglo and Western Europe). They have directly or indirectly been responsible for the suffering of the Caranese population. What is more, France has provided military support to political movements in neighboring countries, who are interested in bringing back the military regime in Carana. This regime was better for conducting international business with minimal bureaucratic tape.

The neighboring countries have also played key roles in influencing the political environment in Carana. Katasi is currently supporting the MPC by providing them with small arms in the hopes that the fall of the Ogavo regime will lead to better trade relations in natural resources with Carana. Rimoso has a large population of Tatsis and remain loyal to the Tatsi population in the province of Leppko. Given the presence of oil in Maldosa, Rimoso has an even greater interest in annexing Leppko and its interests in doing so are widely known. Sumora is the main trading partner of Carana in the region, and are currently importing materials from the area controlled by the MPC, thereby indirectly funding the insurgency.

Refugees in Sumora and Rimoso have been consistently discriminated against and often under attack by local police and armed forces.

Refugees and Internally Displaced Persons

(IDPs): 30,000 refugees (20,000 in Sumora, 10,000 in Rimoso); 700,000 IDPs in camps around harbour cities, namely Galasi.

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Political history

Three different countries (Portugal, Italy and France) settled Carana, each with a different interest in the country's natural resources. The Carananese language is therefore a mixture of all three languages, but with more vocabularies from Portuguese, Italian and other ethnic influences of Carana.

During the 17th Century, the Portuguese landed on the coast of Galasi. This was the period of slave trade and invasion by the Portuguese, which was made even more lucrative given the presence of diamonds and copper in the country. The slave trade was specifically intended for the criminals who were sentenced by local courts. The Portuguese settlement lasted over a hundred years, during which time the port of Galasi prospered and grew into a large city. The Portuguese, however, were known for their brutality against the local population and eventually faced fierce opposition from a variety of local groups. At the same time, financial difficulties back home were forcing the Portuguese to give up a large number of their foreign business holdings. As a result, the Portuguese decided to leave Carana; but before doing so they tried to plunder its minerals and recruit Carananese civilians to join the workforce in Portugal by promising them a better life. The Portuguese area of influence was mainly concentrated in the southeast, while the western region was generally left undiscovered and undeveloped.

Prior to the departure of the Portuguese, Italian missionaries came into Carana in 1898. They approached from the western side of Carana (given their presence in the neighboring country of Katasi) and established themselves in the city of Lurok. The Italian missionaries moved quickly to establish schools and hospitals all over the western region and even spread the gospel to the east by setting up some of the best schools and hospitals in the region, where there was a tremendous need. At first, the Portuguese did not consider the Italians to be a threat since they were only missionaries; however, this changed with the interference of the Italian government following the discovery of Carana's diamond and copper resources. The Italian government began to take an active interest in the country and a more concrete role in the general administration of the west and eastern regions.

During the period between 1898 – 1918, Carana experienced a great deal of economic and educational growth and development. With the end of the First World War, the Italians pulled out and left Carana to the French who, according to their policy of "assimilation", developed the country to suit the policies of the French government. Similar to the Portuguese, the French established Galasi as their capital city. However, Carana was not considered a French colony, but rather a part of France's realm of governance due to the large numbers of French nationals who had migrated to Carana after the First World War.

Carana was finally granted full independence from France on 4 March 1975. Given that the French sphere of influence had extended from coast to coast, the French language became the "unofficial" second language of Carana and is seen as the language of the 'bourgeoisie'. Only some parts of the east and mainly the south speak Italian, and very few people know or speak Portuguese. These languages are in addition to the Carananese language, which is the official language of the country. The three main ethnic groups in Carana (the Kori, Tatsi and the Falin) all speak Carananese. The Kori and Tatsi are the two largest ethnic groups in Carana, while the

Falin is a small but key group involved in the mining of copper and diamonds in the southern region. They are especially known for their copper handicrafts.

After gaining independence, Carana experienced what can only be termed as teething problems. Language is one of the key problems: while Caranese is the official language, French is considered the best way to further one's career prospects. In fact, some government offices only deal in French. This was further agitated by the fact that tribalism is rampant. The Italians favored the Tatsi whom they found living in the east, while the French favored the smaller population of Falin and offered them key posts in the government. This favoritism not only created a rift between the peoples of Carana, but also led to the growth of nepotism and corruption in the government. A number of small uprisings against the Carana government developed into armed protests and organized violence, which led to the military taking control of the government in 1976 to re-establish order.

Rather than return the government to civilian control, however, the military continued to rule Carana until 1986. Under General Keplo's military regime, the country's economic, political and social development was stifled – civil and political rights in particular were not observed and resources were directed toward the military sector. The death of General Keplo in 1986, however, created an opening for the country's first democratic elections in 9 years, where Jackson Ogavo from the Parti Democratique de Carana (PDC) was elected President. Ogavo was re-elected for three consecutive terms (1991, 1996, 2001), though opposition to his regime began to grow in 1996 due to a lack of economic growth and increasing discrimination against Kori and Tatsi members by the ruling (and predominantly Falin) party. Key government positions have been generally open only to those of Falin decent, as well as French speaking Caranians. Small uprisings occurred between 1996-2000 against the Ogavo regime, and rebel groups were mobilized to challenge the government's hold on power. All opposition to the government was met with either the threat or use of armed force, and eventually escalated into civil conflict in 2000.

The civil conflict in Carana was fought between government forces, the Movement Patriotique de Carana (MPC) in the western district of Tereni and the Independent Combatants of South Carana (ISC) in the south. Both the MPC and the ISC took as their initial aim the removal of President Ogavo from power, though cooperation between the two groups has been minimal. All parties have suffered numerous defeats, though the civilian population of Carana has been particularly targeted by all parties, leading to an estimated 150,000 killed from violence, famine or disease. The ISC's exploitation of resources in the south has helped fuel their efforts, while the MPC has received external support from the neighboring country of Katasi. A combination of war-weariness and strategic maneuvering led the leaders of the MPC and ISC, as well as President Ogavo, to negotiate a cease-fire, which was reached on 19 May 2005 in Kalari. The Kalari Treaty (peace agreement) mandates all parties to disarm and establish a power-sharing arrangement in a new transitional government, including integration in a new Carana Defense and Security Force (CDSF).

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Document 4—Peace Agreement (Kalari Treaty)

Signed 19 May 2005

The parties therefore agree to the following:

ARTICLE I

1. A ceasefire is hereby established throughout the territory of Carana, between the belligerents as defined. The ceasefire shall enter into force upon signature and the implementation will be effected as soon as possible.
2. The final cessation of hostilities shall enter into force within seventy-two hours after the signing of the ceasefire.
3. The **Ceasefire Agreement** is the first stage of the peace process, which shall serve as a stable platform for further negotiations with the aim to reestablish complete peace and security in Carana.

ARTICLE II

1. The Peace Agreement will imply:
 - 1.1 The suspension of supplies of ammunition and weaponry.
 - 1.2 Banning the distribution of lethal logistical supplies to or from any of the forces.
 - 1.3 Upon signing of the Peace Agreement, the parties will discuss the issue of prisoner of war, political prisoners, and camps for displaced persons. The parties undertake to release all civilian abductees and to demobilize combatants who are less than eighteen years.
 - 1.4 A complete ban on any mine-laying operations and the hindering of operations to remove mines.
 - 1.5 Cessation of all domestic and external propaganda between the parties and incitation of ethnic hatred.
 - 1.6 Cessation of all acts of violence against the civilian population; acts of revenge; summary executions; torture; harassment; detention and persecution of civilians on the basis of ethnic origin, religious beliefs, or political affiliation; arming of civilians; use of child soldiers; sexual violence; sponsoring or promotion of terrorists or genocidal ideologies.
 - 1.7 Cessation of all attacks by air, land and sea, as well as all acts of sabotage.
 - 1.8 Cessation of any actions likely to impede the normal implementation of the process.

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ARTICLE III

1. The verification and control of the ceasefire may be conducted by a United Nations mandated Mission. This process will be accompanied by the establishment of the Joint Liaison Teams (JLTs) that will function at national, provincial and local levels.
2. The UN Mission could set up the organs and machinery required for the control and verification of the ceasefire and all in this treaty agreed issues. It may draft its own rules of procedure. It shall enjoy the status required to enable it to perform its mission that is provided in the Peace Agreement, including privileges and immunities enjoyed by the United Nations personnel.
3. The parties will facilitate the monitoring of the human rights situation throughout Carana by the United Nations and other international monitors.

ARTICLE IV

1. The Joint Liaison Teams will be composed of representatives of all signatories, the UN and may be led by officers of the UN. The Joint Liaison Teams will be responsible to the Joint Commission for the Ceasefire (JCC).
2. The Joint Liaison Teams, amongst other roles, will share information and facilitate communication between parties in order to reduce the likelihood of violations of the Ceasefire Agreement and to clarify alleged violations of the agreement. They will thereby assist in building confidence amongst signatories and help create trust in the peace process.
3. The duties and tasks of the Joint Liaison Teams will be established by an internal rule of order that will define the attributes, way of functioning, rights and general duties of this structure.

ARTICLE V

1. The Joint Commission for the Ceasefire (JCC) will be composed of appointed representatives of all belligerents and the UN. It shall be established immediately upon signing the Peace Agreement.
2. The Commission shall be based in Galasi and shall be headed by the UN, which will define its tasks and duties.

ARTICLE VI

1. The signatories of the present agreement accept the following principles whose modalities of implementation specified in the Kalari Peace Agreement and Reconciliation Agreement for Carana states.
 - 1.1 Establishment of the rule of law based on national unity, democracy, pluralism in all its forms and respect for human rights.
 - 1.2 Formation and composition of the new Carana National Defense and Security Forces shall consist of Government forces and combatants of the Armed Political Parties and Movements.
 - 1.3 Establishment of power sharing within the framework of a broad-based inclusive Transitional Government.

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Obligations

1. All belligerents will exchange documents about the strength and locations of their forces.
2. All armed formations of CDF, MPC and ISC will stop hostile acts and stay at their reported locations.
3. CDF forces will withdraw all armored vehicles and weapons larger than Caliber .50 outside Tereni, Koloni, Mahbek and Leppko.
4. All CDF soldiers and MPC and ISC members shall be registered.
5. MPC and ISC will disarm as soon the security situation allows.
6. 1000 MPC members will be integrated in the new national army
7. The government of Carana will undertake any effort to conduct free elections within 12 months.

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Document 11—Number, types and status of weapons and ammunition of the armed forces in Carana

SALW

Carana Defense Forces: 20,000 soldiers > **60,000 SALW** (multiplier 3), of which 2,500 – 3,000 are heavy machine guns and other light weapons; the rest are automatic and semi-automatic rifles as well as 3,000 modern assault rifles (M-16); the assault rifles are of good quality; of the remaining SALW, 50% are of older makes, but nonetheless functional (a mix of Belgian and British made FN FAL, and some German G3).

MPC: 10,000 soldiers > **15,000 SALW** (multiplier 1.5); mainly old semi-automatic guns and rifles, some automatics; 150 heavy machine guns; 10% of the SALW are hunting rifles.

ISC: 3-5,000 soldiers > **6-10,000 SALW** (multiplier 2); 1,000 new automatic; the rest are old automatics, semi-automatic and hunting rifles, and 100 heavy machine guns or other light weapons.

Police forces (MoI): 18,600 SALW of which 15,000 are pistols and 3,600 rifles
8,288 uniformed police = 6,630 SALW (multiplier 0,8)
3,000 Special Forces = 9,000 SALW (multiplier 3)

Ammunition

It can be estimated that the **Carana Defense Forces** carry a stock of 150 rounds of ammunition per small arm (SAA), and 1000 rounds per heavy machine gun (LAA).

- SAA: from 4,050,000 to 4,125,000 ammunition
- LAA: 3 million rounds of ammunition

The National Defense Forces are known to have used mines, but there is no information about quantities.

The **ISC** has received ammunition supply from the neighboring country of Rimosa through the illegal trade in diamonds; thus, the same average of rounds of ammunition per SALW can be estimated as for the National Defense Forces.

- SAA: 900,000 – 1,500,000
- LAA: 100,000

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The amount of ammunition owned by the **MPC** is lower: 100 rounds for small arms (SAA), 50 for hunting rifles, and 800 for heavy machine guns (LAA).

- SAA: 1,335,000 (13,350 x 100)
- LAA: 120,000
- Hunting ammunition: 75,000 (1500 rifles x 50 rounds)

Estimates for ammunition in the **Police Forces** are 50 rounds per pistol and 150 rounds per rifle. Keep in mind that the Special Forces tend to be more heavily and better armed than the regular police force.

- 1,290,000 rounds of ammunition

Explosives

The Carana Defense Forces (CDF) have exhibited a minimal use of modern explosives, lacking the technical expertise to deal with them. In the later stages of the war, many Improvised Explosive Devices (IED) were used by all sides. Moreover, government troops were known to have sold shells and other explosive ammunition to the various armed groups. As a result, the explosive picture is chaotic and there are no reliable estimates of the amounts of explosives available.

Nevertheless, there is evidence of the use of the following:

- Anti-personnel mines.
- 120mm mortar shells.
- 122mm howitzer shells.

As IEDs and booby traps.

To add to the problem, mines, shells, and other explosive ordnance have had their explosive contents removed, either for use in the conflict or for 'civilian' use. This problem is particularly prominent in Tereni and Koloni, where IED have been used to dig for minerals, and in East Leppko, where explosives have been used by fishermen.

Mines

A number of areas in Carana were mined during the war. Due to lack of expertise in mining operations, many of these suspected and known minefields are haphazard and constitute a significant risk. Suspected mined areas are indicated in a map.

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Document 12—Number, types and status of weapons and ammunition of civilians in Carana

SALW

There are **25,784 SALW registered** in Carana which belong to civilians; this is mainly for people in sport shooting clubs and for self-protection (=urban, rich people)
> These are small-calibre rifles, air arms, and pistols and revolvers.

Civilians are not allowed to own military arms.

No licenses were required for hunting rifles, but a hunting license (of which 560,000 have been issued before the war) recorded the weapon to be used.

Price of a new hunting rifle (before the war): circa USD 130.

It is estimated that the number of illegal hunting rifles is much higher, and that many families (40% of households) especially in rural areas own at least one hunting rifle (mainly old).

As a rough guess (16 million rural population > 6 persons/household > 2.6 million households > 1.04 million households estimated to own at least one hunting rifle)

- 1.04 million SALW in civilian hands (multiplier 1)
- 1.56 million SALW in civilian hands (multiplier 1.5)

These are hunting rifles, many of them comparatively old, but well-maintained.

Additional illegal SALW (other than hunting rifles) in civilian hands:

It is estimated that 5% of the households own at least one other type of SALW [total of 4.3 million households]

- 216,000 other types of SALW (multiplier 1)
- 324,000 other types of SALW (multiplier 1.5)

These are mainly semi-automatic rifles as well as pistols and revolvers; often in a good state.

>> total of **1,816,000** (multiplier 1) and **2,724,000** (multiplier 1.5) **SALW without license** and permission.

Ammunition

The number of rounds of ammunition in circulation is an **estimate**. For hunting rifles: from 52 million rounds of ammunition (lower margin) to 78 million rounds (upper margin) on the basis of the assumption that every owner of a hunting rifle has 2 boxes of ammunition (usually 24 rounds per box) at home.

For guns, pistols and other civilian non-hunting SALW, 50-75 rounds can be estimated per weapon.

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Document 13—Available statistics on armed forces in Carana

National Defense Forces:	20,000 (before the war)
MPC:	approx. 10,000
ISC:	approx. 3-5,000
Other groups:	?

Composition

National Defense Forces

- 16-17 yrs: 7%
- 18-29 yrs: 63%
- 30-39 yrs: 20%
- 40-49 yrs: 10%
- Officially 5% female soldiers (above 18).
- Official recruitment age is 16, level of under 18 year olds is 5% (boys only); officially no children recruited.

There is evidence that in the last phases of war, there has been increasing recruitment of under 16, so the estimated number of under 18 year olds is 10% (boys only).

MPC

- No solid information on age composition.
- Min. 15% female soldiers (above 18).
- Approx. 20% under 18 (boys and girls), of which the youngest actively fighting are estimated to be 14 years of age. There are children attached to armed forces of younger age (supporters or children of soldiers). * There has been increasing recruitment of civilians in the last phases of the war, partly forced.

ISC

- No solid information on age composition.
- Only very vague data available on ISC; there is a small number of female soldiers above 18.
- Approx. 20% under 18 year olds (boys and girls); there are some special youth-squads terrorizing the area. Forced recruitment of civilians is frequent.

* All information on the estimated number of children attached to armed groups has been obtained from the international NGO "Group Against Child Soldiers."

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Document 25—Carana administrative organization

The state of Carana is divided, following the French model, into six districts (Tereni, Koloni, Mahbek, Hanno, Barin, Fellari, Guthar, and Leppko) and a special capital zone of Galasi. Each district is headed by a Governor, appointed by the Prime Minister in consultation with local notables and the Minister of the Interior.

Districts are divided into Counties, usually from 4 to 6 counties, depending on population density. The Capital district is divided into arrondissements, of which there are seven. County heads are appointed by the district Governor, though the methods of selection vary. In Fellari County heads have been appointed from among the **honcho**, the chiefs of traditional clans. In Tereni, following local custom, County Heads have been appointed through consultation with local land-owning groups. In all other districts the awards of the position of County Head has been seen as a prerogative of the Governor. The central government has intervened particularly in Hanno, Barin, and Leppko counties to assure the selection of Heads, sometimes from among the Falin group, and often outsiders. Appointments to Head arrondissements in Galasi have been at the demand of the President, and usually awarded to cronies (close associates and friends of the government).

Each County is divided into neighborhoods of between 40 (in the centre-east) and 120 households. Neighborhoods are headed by a locally elected (in some cases) or approved (in others) chief, who is usually a senior male. The neighborhood chief is responsible for reporting on infractions, assessing taxes, and adjudicating in minor cases. He is supported by a government-appointed neighborhood secretary, who is paid by the central government, and by a constable (**askari**) who is responsible for ensuring order. For the past decade, due largely to lack of government support, the position of askari has not been filled in most neighborhoods, though older residents still speak nostalgically of the practice as a way to ensure the obedience of the young, and generally to maintain social order.

Legal system

The legal system before 2000 was based on three levels of courts.

Lower courts dealt in civil matters and minor criminal offences. Courts were located in most of the larger towns [named on the map]. Judges were rotated between counties, and there was a reluctance to allow a judge to work in his birthplace, thus ensuring a modicum of impartiality. This has fallen into disuse since the military takeover, and the number of courts was reduced to allow for military trials.

The Middle court, with one bench in each district, dealt with all matters civil and criminal. The Middle courts were all disbanded and dismissed, and many of the more independent-minded judiciary arrested, disappeared, or were exiled, during the period of military rule. They were replaced by military and security officers with little to no legal training.

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The High court, with one bench in Galasi, has traditionally been staffed mainly by members of the Falin ethnic group (with a few minor exceptions). Less independent than the Middle court, this court has continued functioning, and has been the cause of contention, since members of both the Kori and Tatsi have argued, with much justification, that its decisions favor the Falin. The current administration has announced that changes will be made in court appointments, but to date no changes have been made in practice.

The legal system has been supported by a corps of lawyers (**avocats**) mostly trained in Europe and North America. There is no law school in the country. Judges need not be members of the bar before their appointment.

Civil security

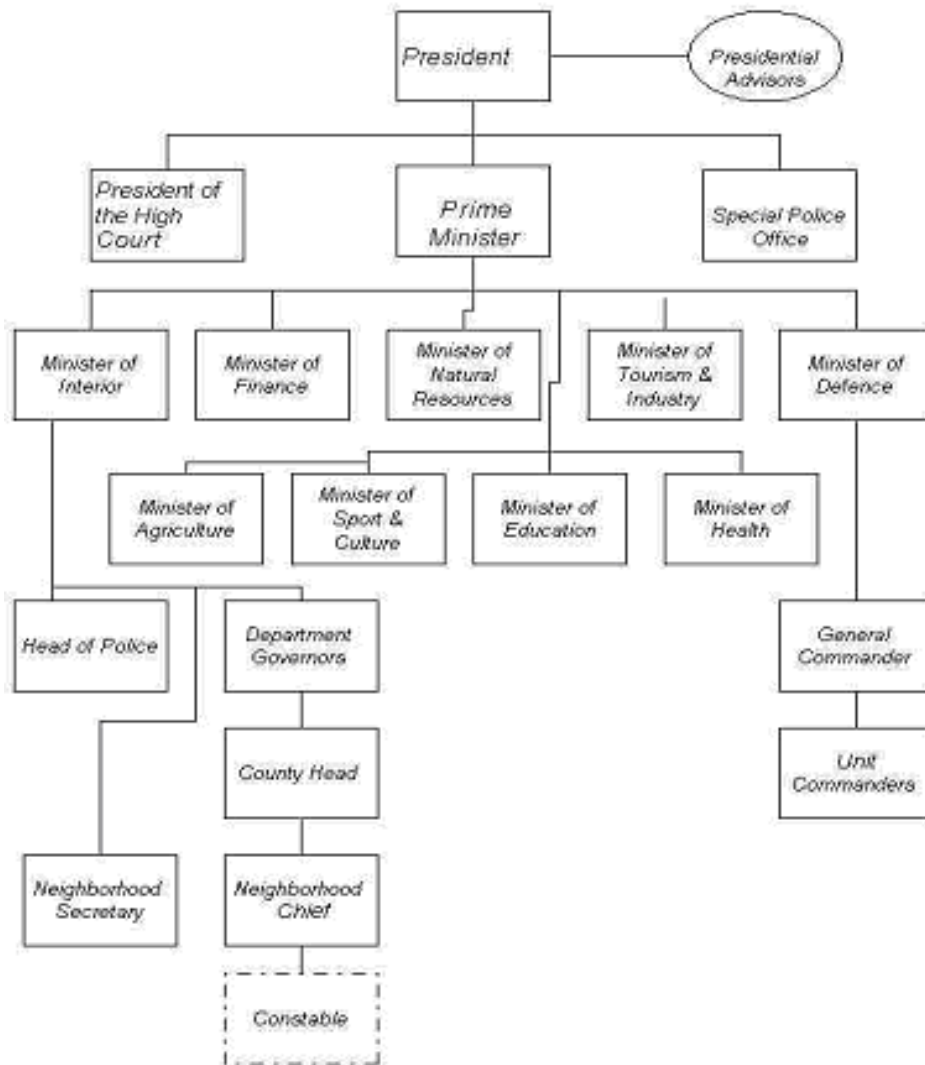
The country has a police force of 11,288 (including administrative personnel) of whom 3,000 are Special Police, subordinate directly to the President's office. Before 2000 the Interior Ministry also ran 10 jails, with room for 20,000 inmates, though among these, only three are still in operation with a nominal capacity of some 2,000 inmates.

Government

Figure 1 represents the overall structure of the Carana government. It must be kept in mind that each Ministry functions in a highly autonomous and sometimes authoritarian manner, and that horizontal communication between different ministry departments is almost completely absent. Moreover, many functions can be overridden by the executive authority of the President who also appoints all judges, including the Chief Justice.

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Figure 1: Carana government structure



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Document 30—Available information on Carana's Banking, Post and Telecommunication services

Banking

The heart of the banking system in Carana is the Bank of Carana, which is the primary monetary authority and custodian of the country's gold and foreign exchange reserves.

The Bank of Carana's primary functions are to protect the value of the Carana Francs and to control inflation. The Bank of Carana regulates the money supply by influencing its cost--i.e. interest charged on loans to other institutions. It is technically independent of government control, but in practice it works closely with the Treasury and helps to formulate and to implement macroeconomic policy. The Bank of Carana issues banknotes and is responsible for the sale and purchase of foreign exchange for the government, as well as for the administration of the treasury-bill tender system. Its major customers are government agencies, private banks, and discount houses, although it also performs clearinghouse functions for private banks and assists banks that experience liquidity problems. Finally, the Bank of Carana is the authorized buyer of gold bullion, thereby acting as agent for the gold-mining industry in effecting sales on their behalf in the private market.

The private banking sector was controlled by commercial banks until the 1950s when banking services began to diversify. Until then, commercial banks had avoided services such as personal loans, property leasing, and credit-card facilities. New institutions--including discount houses, merchant banks, and general banks--emerged to meet this demand, and in reaction to these changes in the banking sector, commercial banks increasingly entered into medium-term credit arrangements with commerce and industry and acquired interests in hire-purchase firms and leasing activities. In addition, they expanded their operations into insurance and even invested in manufacturing and commercial enterprises.

Postal service

The Caranan Post Office provides postal and money-transfer services, as well as postal savings accounts. Its 1,580 post offices and other facilities handled more than 7 million items each workday in 1994, delivering mail to some 5 million addresses. In its first year in power (1994-95), the new Government of National Unity opened at least seventy new post offices and upgraded many others in previously ill served areas. It also installed an estimated 700,000 new mailboxes at private addresses and in post-office box locations. Carana was readmitted to the Universal Postal Union in 1994, enabling it to participate in international technical assistance programs and accounting facilities within the union.

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Telecommunication

- Advanced, modern system managed by Telecom Carana Ltd., kept on serving during the civil war.
- Carrier-equipped, open-wire lines, coaxial cables, radio relay links, fiber optic cable, and radio communication stations. Key centers: Galasi, Maldosa, Kika, Folsa, Corma, Faron, Norke and Sureen.
- State-owned Caranan Broadcasting Corporation (CBC) is subject to an independent review for political neutrality; increasing competition is also being created from independent stations.
- Radio service from fourteen amplitude modulation (AM) stations, 286 frequency modulation (FM) stations; near-universal access; estimated 7 million radios, not licensed.
- The government funds Channel Carana, 203 hours weekly broadcasts outside Carana.
- At least 2.2 thousand televisions are in the country.
- There are three main TV channels: English, Caranan broadcasts in above languages plus Italian and French.
- Three satellite earth stations.
- Telephones: more than 5.3 thousands (1996), priority on service to rural areas; cellular telephone service expanding rapidly.

Source: Carana- A country study

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Document 43—UN Field Mission, Carana, Hazard Assessment

Ammunition stockpile in Galasi

The following stockpile, a mix of old and new ammunition and explosives is located 2 km north of the city center in a thinly populated scrub area. Given the likelihood of an accident, we are most anxious to have the stockpile removed.

We have surveyed the site to the best of our ability. The survey was undertaken by Senior Sergeant Max Maximov Maximovich, Republic of Slobovia Armed Forces, a qualified Ammunition technician and Explosive Disposal Expert.

The ammunition is composed of the following (see Table 1 below)

Table 1: Ammunition Natures at Site "Zebra"

122 mm artillery propellant	100	Sealed boxes.
20 mm rounds	628	Linked loose on ground.
7.62 x 39 ammunition, ball	3,000 approx.	Two sealed tin boxes, one box open.
12 gauge shotgun, 0.3 buckshot	60 approx.	Scattered in box.
TNT 100 gm blocks	15	In sack.
TNT flakes (1 kg bags)	5	In pile. Some sacks are leaking.
Detonator cord	150 m coil approx.	Loose on shelf.
x 51 ammunition, ball(?)	200?	In magazines for FN Automatic rifle (10 magazines).

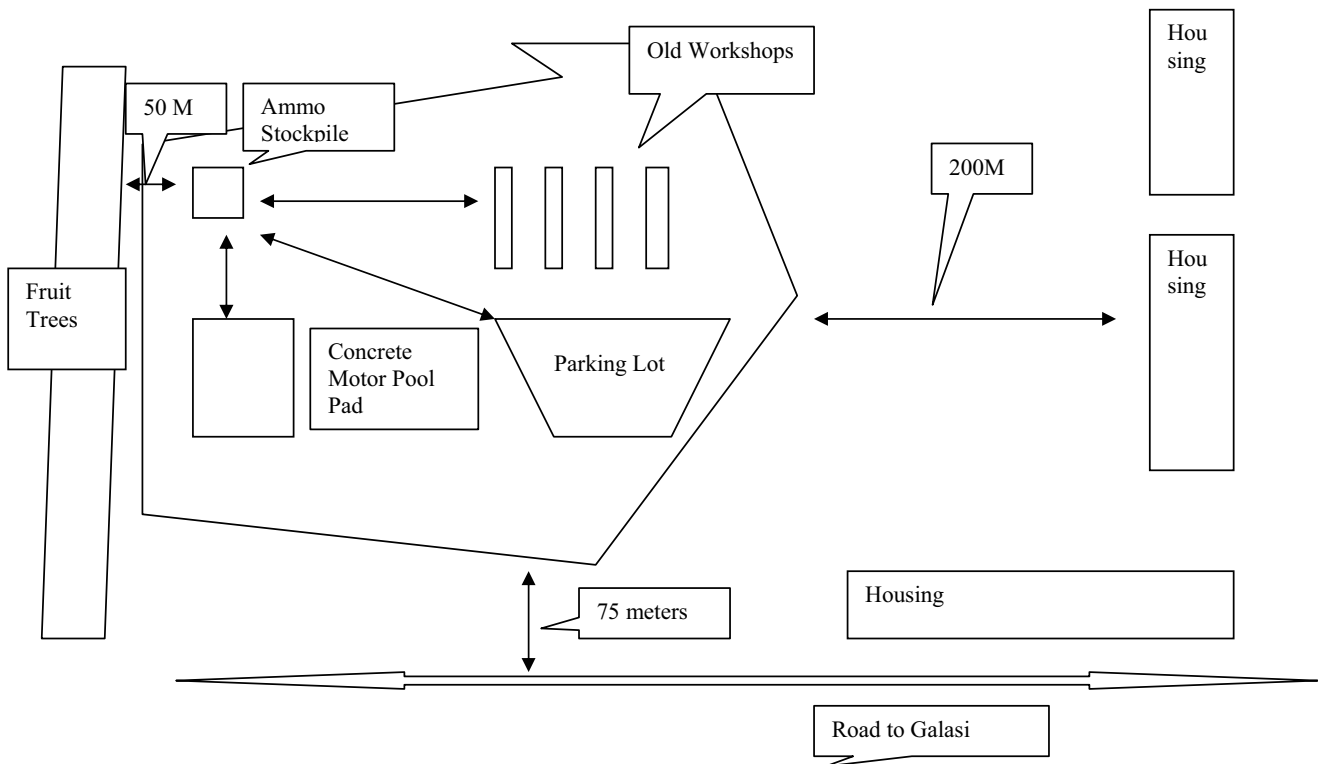
The stockpile is located on the grounds of an abandoned factory in a small prefabricated shack. The site is about 400 m x 400 m, and the perimeter is defined by a single-strand barbed wire fence in poor repair. There are residential areas about 200 meters to the east of the site. The main road from Galasi runs directly south of the site. To the west are groves of cultivated fruit trees, about 50 m from the shack and about 10 meters or less from the perimeter fence. The site is largely empty, though some residents of the nearby areas come to scavenge metal scraps (they have alerted the mission to the presence of the ammunition that had been hidden by a sheet of corrugated iron).

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To the south of the ammunition stockpile is an old motor service area comprising a concrete apron about 60 m x 60 m. There are the remains of an oil sump and two petrol pumps, but the cisterns are dry.

The stockpile is found on the floor, in a small shack. Some of the ammunition is scattered about. Most is in a mixed pile of various ammunition natures. It has not been disturbed for a long time as much of the exposed ammunition has rusted.

Figure 2: Map of site



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Document 44—Large ammunition stockpile found in Cereni

Carana Star

"For the People, Of the People"
Published Overseas since 2000

04 November 2005

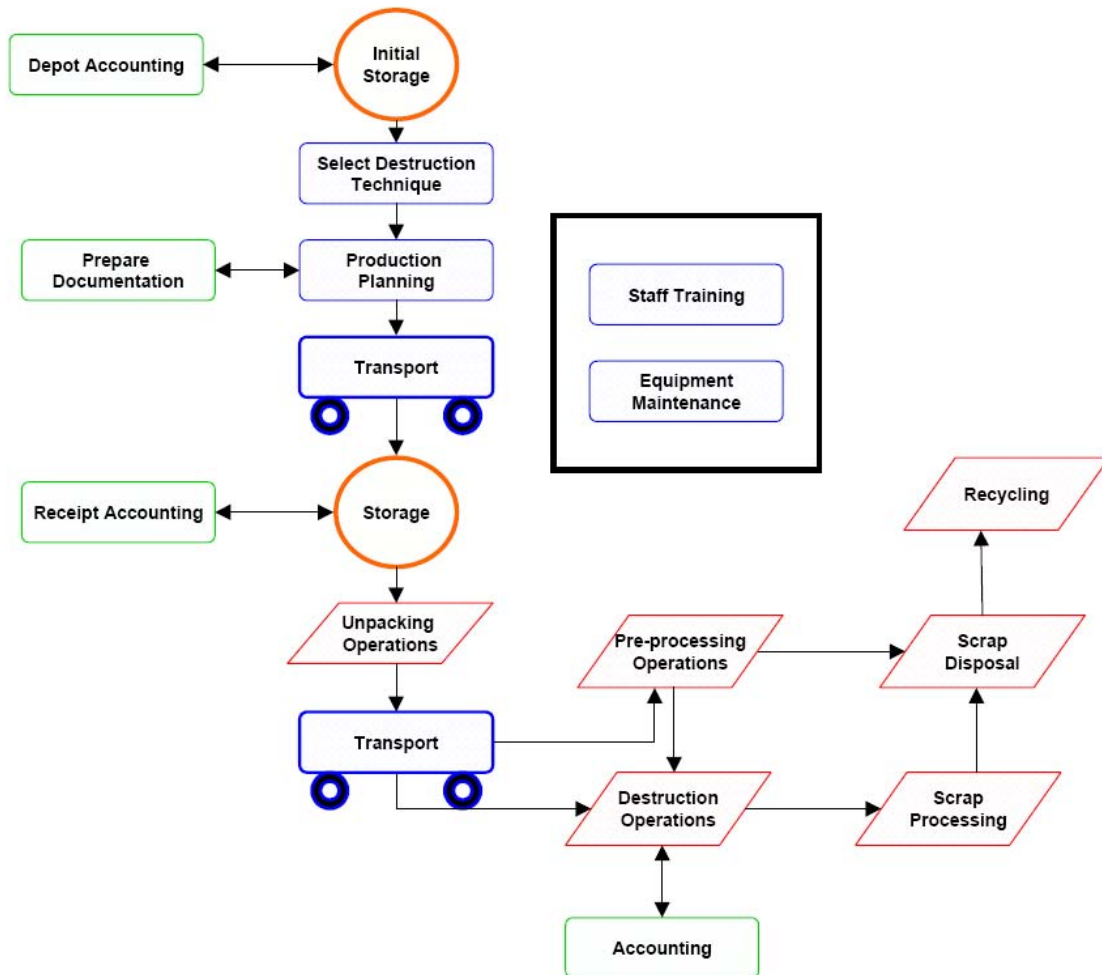
Large Ammunition Stockpile Found in Cereni

(Cereni) A large stockpile of old ammunition has been found in a pit in Cereni. The stockpile includes 122 and 120 artillery ammunition, and some old antitank landmines. A NAFC spokesman in town, Major Obde, has stated that the ammunition appears to be very unstable. The military have counted some thirty 122 mm shells, each one capable of destroying an entire city block if it explodes. These ammunitions are the remains of material left in the field by retreating MPC forces during the conflict. The find follows a local campaign to turn in explosives, which has been initiated by the Cereni Women's Action Group, an offshoot of the international NGO CARING International, based in London. The CWAG campaign follows the tragic events of 25 October, when three people, including two school children were killed by an explosion. It is known that local fishermen are avid collectors of old ammunition, as they extract the explosives to fish with, a practice that

the local wildlife and fisheries authorities are trying unsuccessfully, to suppress.

We trust that the authorities will be able to destroy these dangerous items. At present they present little risk as they are in a pit, about 400 meters from the nearest housing, but there are fears that thieves may try to steal the shells for their explosives. The police declined to comment on whether they will be able to destroy these ammunitions.

Annex IV: Demilitarization cycle



Source: Geneva International Centre for Humanitarian Demining (GICHD): A Guide to Mine Action. January 2004
http://www.gichd.ch/fileadmin/pdf/about_gichd/guide_to_MA/Guide_MA_ch9.pdf

Annex V: First aid kit

First Aid Kit contents:

Suggestions for basic items you should have in your medical kit:

- Aspirin or paracetamol pain killers.
- Skin ointment.
- Water purifying tablets.
- Sticking plasters.
- Antacid tablets.
- Sleeping tablets and anti-diarrhea tablets.
- Anti-inflammatory tablets.
- Clean needle and syringe for developing countries.
- Insect repellent.
- Safety pins.
- Sterile scalpel for wound care.
- Forceps to help remove splinters and ticks.
- Oral thermometer.
- Antibacterial wipes.
- Antibiotic ointment.
- Bandages and dressings for larger wounds.
- Butterfly wound-closure clips which can be used in place of stitches.
- Surgical gloves.
- Electrolyte rehydration powdered solution to help treat vomiting and diarrhea.
- Tourniquet for extreme bleeding.
- Waterproof matches.
- Adequate medication for pre-existing health conditions.
- Prescription medicines.
- Adequate medication for locally occurring diseases (e.g., anti-malaria pills).

Source: The Medic8® Family Health Guide
<http://www.medic8.com/healthguide/articles/firstaidkit.html>

Annex VI: Financial planning model sheet

Items to include in the creation of the model			
Serial	Activity	Costs US \$	Remarks
1	Development of project and estimate documentation		
a	Personnel		
b	Administration		
c	Project management		
d	Development of logistic and operational plan		
2	Production of technological equipment		
a	Destruction of SAA		
b	Destruction of High Explosives Natures		
c	Destruction of Weapons		
3	Purchase of standard equipment		
a	Detonator/ blasting equipment		
b	Explosives accessories		
c	Incinerators system		
d	Fire-fighting equipment		
4	Construction and assembling work		
a	Personnel		
b	Infrastructure		
c	Administration		
5	Installation and adjustment of the equipment		
a	Personnel		
b	Repairs /infrastructure		
6	Personnel training		
a	Personnel		
7	Work in an experimental regime - Trial		
a	Personnel		
b	Logistics		
8	Adaptation of technologies according to the experiment results		
a	Personnel		

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Management of SALW Weapons and Ammunition Destruction Programs

b	Equipment		
9	Author control/supervision		
a	Personnel		
10	Ecological Costs/ tests		
a	Personnel		
11	Monitoring research		
a	Personnel		
12	Development and approval of the ecological passport		
a	Personnel		
b	Administration		
13	Putting the production into operation		
a	Personnel		
b	Administration		
14	Insurance		
15	Legal		
16	Communications		
a	Mobile Phones		
a	Satellite Phones		
17	Transportation		
a	Vehicle hire		
a	Drivers		
a	Fuel		
18	Administration		
19	Logistics		
20	Operation costs		
	Sub total		

Annex VII: Firearms Reference Table (FRT)

Firearms Reference Table (FRT)

The Firearms Reference Table (FRT) is a comprehensive catalogue of the World's firearms. The FRT was developed by the Royal Canadian Mounted Police, beginning in 1992, and now contains listings of more than 89,000 firearm types. The RCMP continues to maintain the FRT by adding an average of 3,500 new firearm types created annually throughout the world. Each firearm type in the FRT has a unique Firearm Identification Number, or FIN. Updates to the FRT are available annually.

The FRT contains sufficient **information to identify the particular firearm**: manufacturer, make, model, caliber, barrel length, action and magazine capacity. In addition, **photographs** are provided for about 4,500 of the firearm types, with five views per type. Finally, there are **additional attributes** provided for many of the firearm types, such as finish, type of sights, and location of manufacturer's markings.

The combination of a firearm's FIN and its Serial Number is normally accepted as the minimum necessary information to identify any specific individual firearm for purposes of firearm registration or firearm owner licensing.

How is the FRT normally used?

The FRT is available as a stand-alone set of CD-ROM's sold by Forensic Technology that can be installed on a computer and used in any situation where individual firearms must be identified. For example, in national civilian firearm surrender programs, the FRT may be installed on a laptop computer for use in the field to register firearms at a turn-in site.

The FRT is used for two major purposes:

- To minimize the amount of data required to be entered by a field officer in order to identify the firearm.
- To ensure that each firearm is accurately identified by determining and saving.
- Only the FIN.

This approach ensures that the same firearm type is not entered in several different ways because attributes such as the model, caliber and barrel length are entered using different word sequences, units of measurement, or presence or absence of punctuation, at the discretion of the person doing the data entry.

Normally, firearms are identified using the 'waterfall' method: the user selects a specific value for any one field, and only firearms that satisfy that value are provided in the pull-down lists for the remaining fields. Once enough fields have been specified

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to uniquely identify a firearm type, the remaining fields are automatically populated from the Table.

As an example, the user may select a particular firearm Manufacturer. When the user then looks at the Make field, only the Makes for the selected Manufacturer are shown. When the user selects a Make, only the Models for that Manufacturer and Make are shown in the Model pull-down list. Similarly, if the user first enters a firearm Calibre, and then looks at the Model pull-down list, only the Models available in the selected Calibre are shown.

The FRT is also used by Forensic Technology as a tool for firearm identification that is embedded in solutions we develop for our clients where end users must identify and enter specific firearms as part of a civil or military program. We have developed many national firearms registration systems under programs sponsored by organizations such as the United Nations, in which the FRT has been embedded (i.e. DREAM). As well, we can provide the FRT in regional solutions, such as an application built for authorizing and tracking licit trans-national firearms shipments. Finally, we can offer the FRT in solutions built for international police organizations to aid in the identification of firearms used in criminal events (Internet based). More recently, we were asked to make the FRT available as a kit that could be licensed to a country for embedding in its own national firearms registration system. In any one of these three types of applications, our clients have the option of purchasing an update subscription that provides an update of the firearms reference data, either via the Internet or in CD-ROM form.

System requirements

- Windows 95, 98, Millennium Edition, NT 4.0, 2000, or XP.
- CD-ROM drive (any speed).
- 16 MB RAM memory.
- Intel 486 processor or better (Pentium recommended).
- Video Card supporting at least 256 colors at a resolution of 800 by 600 pixels.
- 210 MB of available hard disk space (1.3 GB if images are installed).
- Administrator rights if using Windows NT 4.0, 2000 or XP.

FRT International Corporate Version

In response to a growing demand for the FRT software, Forensic Technology is offering the Corporate Version of the FRT, which is ideal for larger police organizations running their own internal communications network. The FRT software must still be locally installed on every user workstation requiring access, but the data and images are retrieved through a shared network server. With this version, there is no need for the FRT CD to be in the computer™s CD-ROM drive every time the application is launched, which is a requirement for our standard CD-ROM version.

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System requirements

- Windows 95, 98, Millennium Edition, NT 4.0, 2000, or XP.
- CD-ROM drive (any speed).
- 16 MB RAM memory.
- Intel 486 processor or better (Pentium recommended).
- Video Card supporting at least 256 colors at a resolution of 800 by 600 pixels.
- 210 MB of available hard disk space (1.3 GB if images are installed).
- Administrator rights if using Windows NT 4.0, 2000 or XP.

Annex VIII: Low technology, low costs techniques

Low technology – low costs techniques						
Method	Advantages	Disadvantages	Materials needed	Skills and personnel required	Implications for PM - other considerations	Safety concerns
Burning	<ul style="list-style-type: none"> Makes a political and psychological statement signifying that steps are being taken toward peace. <ul style="list-style-type: none"> Very visible way to see that weapons will not be used again. Simple cost-effective High psychological and political value 	<ul style="list-style-type: none"> Not 100% effective in destroying the weapons Minimal value for resulting scrap Environmental concerns 	<ul style="list-style-type: none"> Material for the pyre: <ul style="list-style-type: none"> Fuel (wood or coal) Flammable substance (e.g., gasoline) Wooden poles Sand bags 	<ul style="list-style-type: none"> Stacking the firearms to a pyre to maximize their destruction Fire fighters and equipment Medical personnel 	<ul style="list-style-type: none"> Opportunity for destruction ceremony Great media attention and PR opportunity 	<ul style="list-style-type: none"> Low Depends on combustion material All SALW have to be checked before burning
Sawing	<ul style="list-style-type: none"> Mobile Simple to use Requires little training Some costs can be recovered through recycling Mobile 	<ul style="list-style-type: none"> Time consuming and labor intensive Few weapons can be destroyed Not practical for Light Weapons except rocket launchers 	<ul style="list-style-type: none"> Saw machine Electricity supply Replacement saw blades 	<ul style="list-style-type: none"> Minimal safety and operating skills Personnel on the saws 	<ul style="list-style-type: none"> Ensure supply of appropriate voltage and amperage electricity Ensure sufficient supply of replacement saw blades 	<ul style="list-style-type: none"> Low All SALW have to be checked before sawing
Cement-ing	<ul style="list-style-type: none"> Simple to use Requires little training Large masses of weapons can be worked simultaneously Low costs Mobile Concrete blocks can be used for construction 	<ul style="list-style-type: none"> Weapons are put out of reach, but not truly decommissioned Use must be found for concrete blocks Not practical for Light Weapons except rocket launchers 	<ul style="list-style-type: none"> Concrete mix (cement, building sand, lime) Concrete mixer desirable for large quantities of SALW Forms of wood or wood and plastic 	<ul style="list-style-type: none"> Minimal construction skills Construction personnel 	<ul style="list-style-type: none"> Ensure supply of cement and other materials Ensure sufficient tools for mixing, and fuel for concrete mixers 	<ul style="list-style-type: none"> Low



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Method	Advantages	Disadvantages	Materials needed	Skills and personnel required	Implications for PM - other considerations	Safety concerns
Hand method	<ul style="list-style-type: none"> ■ Very simple to use ■ Cost effective ■ Mobile 	<ul style="list-style-type: none"> ■ Labour intensive ■ Only a handful of weapons can be destroyed at a time 	<ul style="list-style-type: none"> ■ Hand tools (e.g., hand saws, sledgehammer) 	<ul style="list-style-type: none"> ■ None to little training ■ Destruction personnel 	<ul style="list-style-type: none"> ■ Coordinating and supervising work 	<ul style="list-style-type: none"> ■ Low to moderate ■ All SALW have to be checked before destruction
Crushing by tracked vehicle	<ul style="list-style-type: none"> ■ Simple to execute ■ Requisite equipment widely available ■ Fairly inexpensive ■ Hundreds of weapons can be destroyed in one day 	<ul style="list-style-type: none"> ■ Not 100% effective in destroying weapons ■ Not 100% effective in destroying all weapons ■ Difficult to do in remote, rural areas ■ Not practical for wide-ranging mobile destruction plan 	<ul style="list-style-type: none"> ■ Tracked vehicle ■ Fuel for tracked vehicle ■ Railway rail or similar hard surface 	<ul style="list-style-type: none"> ■ Heavy equipment driver 	<ul style="list-style-type: none"> ■ Need to find local bulldozer or other heavy tracked vehicle. 	<ul style="list-style-type: none"> ■ Low ■ All SALW have to be checked before crushing

Annex IX: Oxyacetylene cutting process

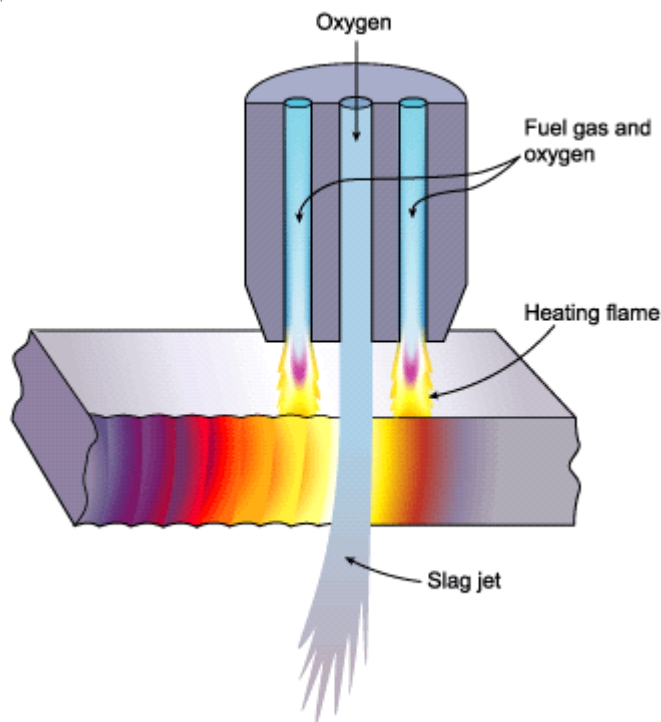
Oxyacetylene cutting process

The oxyfuel process is the most widely applied industrial thermal cutting process because it can cut thicknesses from 0.5mm to 2,500mm, the equipment is low cost and can be used manually or mechanised. There are several fuel gas and nozzle design options that can significantly enhance performance in terms of cut quality and cutting speed.

Process fundamentals

The cutting process is illustrated in *Fig. 1*. Basically, a mixture of oxygen and the fuel gas is used to preheat the metal to its 'ignition' temperature which, for steel, is 700°C - 900°C (bright red heat) but well below its melting point. A jet of pure oxygen is then directed into the preheated area instigating a vigorous exothermic chemical reaction between the oxygen and the metal to form iron oxide or slag. The oxygen jet blows away the slag enabling the jet to pierce through the material and continue to cut through the material.

Figure 1: Diagram of oxyacetylene cutting process



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There are four basic requirements for oxy-fuel cutting:

- the ignition temperature of the material must be lower than its melting point otherwise the material would melt and flow away before cutting could take place
- the oxide melting point must be lower than that of the surrounding material so that it can be mechanically blown away by the oxygen jet
- the oxidation reaction between the oxygen jet and the metal must be sufficient to maintain the ignition temperature
- a minimum of gaseous reaction products should be produced so as not to dilute the cutting oxygen

As stainless steel, cast iron and non-ferrous metals form refractory oxides ie the oxide melting point is higher than the material, powder must be injected into the flame to form a low melting point, fluid slag.

Source: Text and picture adapted from The World Center for Materials Joining Technology, http://www.twi.co.uk/j32k/protected/band_3/jk49.html

Annex X: Low technology, medium cost techniques

Low technology – medium costs techniques						
Method	Advantages	Disadvantages	Materials needed	Skills and personnel required	Implications for PM - other considerations	Safety concerns
Cutting: oxy-acetylene torch and plasma cutter	<ul style="list-style-type: none"> Simple (only little training) Close to 100% effective if procedures are followed Easily maintained and transported Skills are transferable to civilian market 	<ul style="list-style-type: none"> Time consuming for large quantities of weapons Equipment may be a target for theft Expensive 	<ul style="list-style-type: none"> Plasma cutter Fue Safety gear 	<ul style="list-style-type: none"> Moderate skills required Easily acquired Personnel for the cutter 	<ul style="list-style-type: none"> Account for training/preparation day Buy/rent calculation for equipment Heightened security measures against theft 	<ul style="list-style-type: none"> Moderate, torch burns and explosions (affects user only)
Cutting/shearing: hydraulic shears	<ul style="list-style-type: none"> Simple to use requires some training 100% effective in rendering the weapons useless Reliable and long-lived Large numbers of weapons can be destroyed 	<ul style="list-style-type: none"> Expensive for small quantities of weapons Smaller shears may be target of theft Requires power electricity source or fuel 	<ul style="list-style-type: none"> Hydraulic shears Fuel or power source 	<ul style="list-style-type: none"> Moderate skills required Training Personnel to work on shears 	<ul style="list-style-type: none"> Enhanced security needed 	<ul style="list-style-type: none"> Enhanced security needed (cutting blades)
Open detonation	<ul style="list-style-type: none"> Large numbers of weapons can be decommissioned together Cost efficiency if done together with disposal of explosives 	<ul style="list-style-type: none"> Must be done by an expert Not 100% reliable Environmental concerns Safety considerations Expensive unless done with disposal of explosives 	<ul style="list-style-type: none"> Explosives Ancillary material 	<ul style="list-style-type: none"> Detonation expert (EOD personnel) 	<ul style="list-style-type: none"> Requires same handling as ammunition/explosives OBOD 	<ul style="list-style-type: none"> High Requires expert handling

Annex XI: High technology, high cost techniques

High technology – high cost techniques						
Method	Advantages	Disadvantages	Materials needed	Skills and personnel required	Implications for PM - other considerations	Safety concerns
Shredding	<ul style="list-style-type: none"> ▪ Large numbers of weapons destroyed in short time ▪ 100% assurance of complete destruction ▪ Some costs can be recovered through recycling ▪ No environmental concern 	<ul style="list-style-type: none"> ▪ Extremely expensive equipment ▪ Not very portable for quantities of weapons under several thousand 	<ul style="list-style-type: none"> ▪ Shredder 	<ul style="list-style-type: none"> ▪ Shredder operator 	<ul style="list-style-type: none"> ▪ Transportation to the site ▪ Security during the process 	<ul style="list-style-type: none"> ▪ Normal
Smelting (in industrial foundry)	<ul style="list-style-type: none"> ▪ Large numbers of weapons destroyed in short time ▪ 100% assurance of complete destruction ▪ Some costs can be recovered through recycling ▪ No environmental concern 	<ul style="list-style-type: none"> ▪ Extremely expensive equipment to buy if not already available in-country ▪ Not portable ▪ Not cost-effective for quantities of weapons under several thousand 	<ul style="list-style-type: none"> ▪ Smelter 	<ul style="list-style-type: none"> ▪ Smelter operator 	<ul style="list-style-type: none"> ▪ Transportation to the site ▪ security during the process ▪ Must ensure that gun metal can be used 	<ul style="list-style-type: none"> ▪ Normal

Annex XII: Pre-processing options

Low technology – low costs techniques						
Method	Advantages	Disadvantages	Materials needed	Skills and personnel required	Implications for PM - other considerations	Safety concerns
Manually	<ul style="list-style-type: none"> ■ Cheap for small quantities of ammunition. ■ Can be applied in countries with limited resources. 	<ul style="list-style-type: none"> ■ Time-consuming ■ Labor-intensive ■ Dangerous 	<ul style="list-style-type: none"> ■ Depends on the complexity of the ammunition breakdown. 	<ul style="list-style-type: none"> ■ Medium training. ■ Explosive safety course (minimum). ■ Supervision. 	<ul style="list-style-type: none"> ■ Be aware and avoid dangers. ■ Have proper licensed facilities. 	<ul style="list-style-type: none"> ■ Dangerous unless properly supervised.
Low technology – medium costs techniques						
Mechanical breakdown	<ul style="list-style-type: none"> ■ Cost-effective for small to medium quantities of ammunition. ■ Can be applied in countries with limited resources. 	<ul style="list-style-type: none"> ■ Time-consuming. ■ Very dangerous. 	<ul style="list-style-type: none"> ■ Depending on the nature of the project: <ul style="list-style-type: none"> ■ Band-saws ■ Guillotines ■ rock-crushers ■ punches ■ other material available in country that can be modified for the task. 	<ul style="list-style-type: none"> ■ Medium training. ■ Explosive safety course (minimum). ■ Supervision. 	<ul style="list-style-type: none"> ■ Be aware and avoid dangers. ■ Have proper licensed facilities. ■ Plenty of time. <p>Be aware: mechanical breakdown is very dangerous. Consider carefully if you want to do it!</p>	<ul style="list-style-type: none"> ■ Dangerous unless properly supervised.
High technology – high costs						
Cryofracture	<ul style="list-style-type: none"> ■ Time-effective. ■ Can process high amounts of ammunition if the machine is big enough. ■ Environmentally friendly. 	<ul style="list-style-type: none"> ■ Needs high technology. ■ Cost-intensive. 	<ul style="list-style-type: none"> ■ Liquid nitrogen. ■ Necessary technology. 		<p>Note: Cryofracture is extremely expensive. It is doubtful whether you will get the money for it.</p>	<ul style="list-style-type: none"> ■ Greatly reduced if done correctly.
Hydro Abrasive Cutting (HAC)	<ul style="list-style-type: none"> ■ Time-effective. ■ Can process high amounts of ammunition. 	<ul style="list-style-type: none"> ■ Needs high technology. ■ Environmental considerations (wastewater management). ■ Cost-intensive (high initial capital). 	<ul style="list-style-type: none"> ■ Technology ■ Filtration system. ■ Water decontamination system? 	<ul style="list-style-type: none"> ■ Training on the machine required. 	<p>Note: HAC is extremely expensive. It is doubtful whether you will get the money for it.</p>	<ul style="list-style-type: none"> ■ Greatly reduced if done correctly.

Annex XIII: Destruction of ammunition

Destruction of ammunition						
Method	Advantages	Disadvantages	Materials needed	Skills and personnel required	Implications for PM - other considerations	Safety concerns
Open Detonation (OD)	<ul style="list-style-type: none"> Cost-efficient Time-efficient Doable even in countries with little infrastructure and technological resources 	<ul style="list-style-type: none"> Ground and air pollution Noise Needs qualified personnel Dangerous if not professionally done Large area required 	<ul style="list-style-type: none"> HE charge Explosive (Blasting initiator) to electrically initiate the charge. Detonating cord Electric detonators Note: Buying explosives in these countries can be tricky 	<ul style="list-style-type: none"> Trained personnel Pre-destruction training to assess capability and technological knowledge of those doing the destruction. 	<ul style="list-style-type: none"> Assist AT Communication Logistics Security PR 	<ul style="list-style-type: none"> Moderate if done by EOD personnel High if done by non-EOD personnel
Open Burning (OB)	<ul style="list-style-type: none"> Cost-efficient Time-efficient Doable even in countries with little infrastructure and technological resource Mobility 	<ul style="list-style-type: none"> Air pollution Noise Needs qualified personnel Dangerous if not professionally done Large area required (approx. 200m circumference from burn point) 	<ul style="list-style-type: none"> Depends on the nature of the project (e.g., open pits, old oil drums, burning boxes, ...) 	<ul style="list-style-type: none"> Trained personnel In-country technical personnel can be trained up relatively easily. 	<ul style="list-style-type: none"> Environmental consideration: excessive smoke and noise. 	<ul style="list-style-type: none"> Depends on combustion material Minimum safety distance of 200 m
Plasma Arc Incineration	<ul style="list-style-type: none"> Effective Low emissions and slag Reliable disposal of highly dangerous toxic material 	<ul style="list-style-type: none"> High capital investment High operating cost (electricity) Appropriate technology required Not designed for high order detonations 	<ul style="list-style-type: none"> Appropriate technology required Sufficient electricity 	<ul style="list-style-type: none"> Trained personnel needed 	<ul style="list-style-type: none"> Pre-processing required Not designed for high order detonations 	
Rotary Kiln Incineration	<ul style="list-style-type: none"> Proven technology Low personnel requirements 	<ul style="list-style-type: none"> High capital investment Variable feed rate requirements Requires integral Pollution Control System (PCS) 	<ul style="list-style-type: none"> Appropriate technology required 	<ul style="list-style-type: none"> Low personnel requirements 	<ul style="list-style-type: none"> Pre-processing required 	
Contained Detonation	<ul style="list-style-type: none"> Limited pre-processing requirements Integral Pollution Control System (PCS) 	<ul style="list-style-type: none"> Only for small amounts of ammunition Potentially expensive in donor charges 			<ul style="list-style-type: none"> Only for small amounts of ammunition 	

Annex XIV: Field burning box¹⁷ construction handout

This is an abbreviated description regarding the destruction of ammunition under field conditions. It is the procedure authorized for ammunition destruction by the Canadian Armed Forces (Anglin, personal communication, 1998). All military forces have similar procedures as do commercial explosives ordnance destruction firms. There is probably more state-of-the-art equipment available that can do larger quantities more quickly.

The construction of a Field Burning Box can, in some places, be ordered from local metal shops, which has the side benefit of showing direct contributions to the local economy.

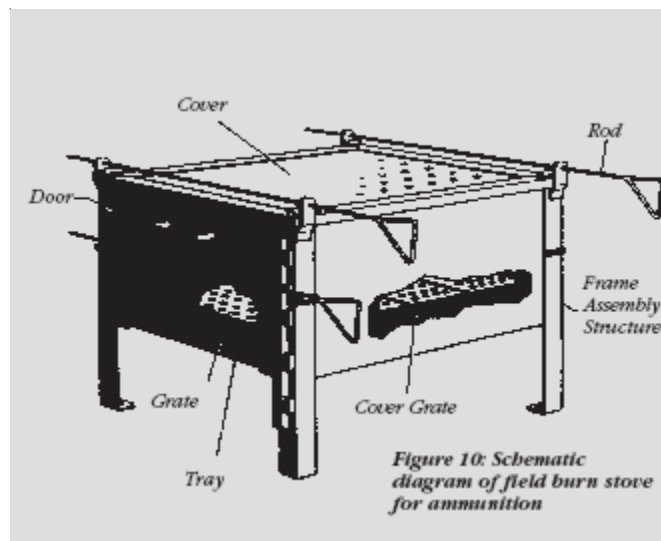
1. The field furnace consists of an all-steel cabinet weighing approximately 157.5 kg. It is designed with a removable cover, a side door for removal of burned by-products and a removable tray, which serves as the fire box. See Figure for a schematic drawing. The furnace is designed to burn condemned or surplus small arms ammunition and pyrotechnics only. **No black powder or high explosives are to be burned due to the risk of violent explosion.**
2. Ideally, about 4 persons are required for loading the furnace with the ammunition. The field furnace should be set on a hard platform—concrete or rocks. All flammable material should be cleared within a radius of 7.5 meters. When a burn is taking place, personnel should retire to a distance of 45 meters.
3. Items to be burned must be removed from packaging as burning even under slight confinement may result in an explosion. Most small arms ball ammunition may be burned. **Note: some 12.7 to 20mm ammunition have HE filling and MUST NOT be destroyed in a furnace. This can be very dangerous!** Only small quantities of bulk primers may be burned at one time. As well as ball ammunition, small quantities of detonators, blasting caps, explosive bolts and relays and some pyrotechnics may also be burned.
4. Fuel oil or motor oil or other suitable combustion material may be used to aid burning. Ignition may be electric or non-electric. The furnace shall be observed but not approached while burning is in progress, which usually takes about 40 minutes. A waiting period of 30 minutes is recommended before approaching the furnace. The furnace shall be allowed to cool before opening and removing refuse. Allow 24 hours for cooling. It is recommendable to do only ONE BURN a day and return the following day.
5. The refuse shall be inspected and if necessary unburned or functioning ammunition will be re-burned. **Note: The wearing of face mask is a must! The AT has to check for any un-burnt SAA.** These are collected together and placed in the next burn. The remainder shall be certified 'Free From Explosives' prior to declaration as scrap for salvage.
6. A sample of recommended burn quantities for this type of furnace is as follows: All .22 caliber— 2,500 per burn. All 5.56 mm to 9 mm—500 per burn. .50 caliber— 100 per burn. Presumably a larger, stronger furnace could safely burn more ammunition.

A large area of the page is filled with a light gray dotted grid pattern, intended for taking notes.

Box—Safety and security

- OB can be dangerous.
- Don't burn any blackpowder or high explosives due to the risk of violent explosion!
- Assure sufficient ventilation!
- Adhere to the safety distance of 200m, as there might be toxic gases!
- Have a fire extinguisher and, if in a high 'fire risk' area, have fire brigade present

Figure 1: Schematic diagram of field burn stove for ammunition



Source: David LeClerq, *Destroying Small Arms and Light Weapons: Survey of Methods and Practical Guide*, BICC Report No.13, April 1999, available at www.bicc.de.

Annex XV: Explosive events in ammunition storage locations

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
1997							
1	Mar 97	Albania	15 Locations	56	59	Human Error and Security	NATO ASDIT, October 1998
2	07 Nov 97	Russia	Vladivostok	?	?	Not Known	http://news.bbc.co.uk/1/hi/world/monitoring/311614.stm
1998							
3	21 Feb 98	Russia	Volgograd	0	0	Not Known	GICHD, Explosive Remnants of War (ERW), Undesired Explosive Events in Ammunition Storage Areas, ISBN 2-88487-006-7, Geneva, November 2002.
4	21 Feb 98	Russia	Engels	0	0	Not Known	Ibid
5	02 Jun 98	Iran	Saltanat-Abad			Sabotage Security	http://www.iran-e-azad.org/english/pmoj/980603.html
6	19 Jun 98	Russia	Urals	14	17	Lightning	Ibid
7	17 Jul 98	Sudan	Khartoum	?	?	Not Known	http://news.bbc.co.uk/1/hi/world/africa/134969.stm
8	01 Dec 98	Philippines	Tarlac City	0	0	Fire	http://www.newsflash.org/199812/ht/ht000602.htm
1999							
9	29 Aug 99	Cambodia	Ream	0	0	Fire	Ibid
10	09 Oct 99	Afghanistan	Mazar-e-Sharif	7	12	Handling	GICHD
2000							
11	15 Apr 00	Congo	Kinshaha	101	216	Handling	http://news.bbc.co.uk/1/hi/world/africa/716625.stm
12	28 Apr 00	India	Bharatpur	2	10	Fire	GICHD http://news.bbc.co.uk/1/hi/world/south_asia/733374.stm

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
13	26 May 00	Afghanistan	Kabul	0	0	Not Known	http://news.bbc.co.uk/1/hi/world/south_asia/764883.stm
14	25 Oct 00	Iran	Mashad	8	10	Not Known	http://news.bbc.co.uk/1/hi/world/middle_east/990602.stm
2001							
15	03 Mar 01	Guinea	Conakry	10	NK	Not Known	GICHD
16	29 Apr 01	India	Panthankot	0	0	Spontaneous combustion (?)	http://news.bbc.co.uk/1/hi/world/south_asia/1304432.stm
17	29 Apr 01	USA	Arkansas	0	0	Not Known	GICHD
18	20 May 01	Yemen	Al-Bayda	14	50	Not Known	Ibid
19	24 May 01	India	Mirdhwal / Suratgarh	1	5	Fire	http://www.rediff.com/news/2001/may/24fire.htm http://news.bbc.co.uk/1/hi/world/south_asia/1349144.stm
20	08 Jun 01	Vietnam	Hoa They	0	4	Not Known	GICHD
21	08 Jun 01	Russia	Ramenskoye	0	0	Electrical Fault	NATO MSJAC
22	23 Jun 01	Russia	Nerchinsk	5	1	Lightning	GICHD
23	11 Jul 01	Thailand	Pakchong	2	70	Handling	Ibid
24	11 Jul 01	Afghanistan	Darulaman	0	3	Not Known	http://news.bbc.co.uk/1/hi/world/south_asia/1433925.stm
25	21 Jul 01	Russia	Buryatia, Siberia	3	17	Fire / Lightning Strike	GICHD
26	08 Aug 01	Kazakhstan	Balkhash, Almaty	0	0	Spontaneous Combustion	http://news.bbc.co.uk/1/hi/world/monitoring/media_reports/1483215.stm http://www.washingtonpost.com/wp-srv/aponline/20010808/aponline211303_000.htm
27	16 Aug 01	India	Tanil Nadu	25	3	Not Known	GICHD
28	06 Sep 01	Kazakhstan	Almaty	0	0	Fire	http://www.cornellcaspan.com/analyst/NB.htm
29	27 Sep 01	Indonesia	Java	1	0	Not Known	NATO MSJAC

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
30	25 Oct 01	Thailand	Korat (Pak Chong)	19	90	Handling / Propellant Auto-Ignition	http://www.cornellcaspien.com/analyst/NB.htm NATO MSIAC
2002							
31	05 Jan 02	Sierra Leone	Tongo	6	12	Handling	http://www.sierra-leone.org/shnews0102.html
32	11 Jan 02	India	Bikaner	2	12	Electrical Spark	NATO MSIAC
33	27 Jan 02	Nigeria	Lagos	1500+	NK	Fire	GICHD
34	28 Jan 02	Thailand	Pakchong	?	?	Unstable ammunition awaiting destruction	http://news.bbc.co.uk/1/hi/world/asia-pacific/1788647.stm
35	07 Mar 02	Afghanistan	Kandahar	0	0	Fire	NATO MSIAC
36	08 Mar 02	Sri Lanka	Kankasanturai	0	0	Ammunition Stability	GICHD
37	28 Mar 02	Thailand	Aranyaprathet	0	5	Propellant Auto-Ignition	NATO MSIAC
38	05 May 02	Guinea	Conakry	?	?	Not Known	http://news.bbc.co.uk/1/hi/world/africa/1969572.stm
39	27 Jun 02	Afghanistan	Spin Boldak	32	70	Sabotage?	http://news.bbc.co.uk/1/hi/world/south_asia/2073985.stm
40	08 Jul 02	Afghanistan	Spin Boldak	0	2	Not Known	NATO MSIAC
41	10 Jul 02	Russia	Buryatia	3	11	Fire	NATO MSIAC
42	09 Aug 02	Afghanistan	Jalalabad	26	90	High Temperature (?)	http://www.reliefweb.int/rw/rwb.nsf/0/c417e877d1b9e74e85256c1700749b91?OpenDocument NATO MSIAC
43	16 Oct 02	Russia	Vladivostok	0	26	Demolitions	Vladivostok News, 19 November 19 2002, http://vn.vladnews.ru/Arch/2002/ISS338/News/upd19_2.HTM
44	30 Oct 02	Mozambique	Beira	6	50	Lightning	http://www.ifrc.org/docs/appeals/annual04/011504.pdf
45	12 Nov 02	Nicaragua	Managua	5	5	Handling	NATO MSIAC

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
46	21 Nov 02	Ecuador	Riobamba	7	274	Handling	Khaleej Times Online, http://www.khaleejtimes.co.ae/ktarchive/2111102/theworld.htm NATO MSIAC
2003							
47	23 Jan 03	Peru	Tumbes	22	181	Not Known	AP, 23 January 2003. NATO MSIAC
48	15 Mar 03	Afghanistan	Tokhichi	1	3	Fire	http://en.wikipedia.org/wiki/Afghanistan_timeline_March_1-15_2003
49	23 Mar 03	Ecuador	Guayaquil	0	12	Not Known	NATO MSIAC
50	26 Apr 03	Iraq	Zafaranyah	10	51	Fire Sabotage	http://news.bbc.co.uk/1/hi/world/middle_east/2977711.stm
51	05 May 03	Vietnam	Thay Nguyen	2	31	Not Known	Ibid NATO MSIAC
52	? Jun 03	Russia	Mari El	5	0	Not Known	http://www.mosnews.com/news/2005/05/17/krons_tadfire.shtml
53	01 Jun 03	India	Jodphur	0	0	Fire	NATO MSIAC
54	09 Jun 03	Iraq	Karbala	0	0	Not Known	News Release 03-06-34, HQ US CENTCOM, 09 June 2003, http://www.globalsecurity.org/wmd/library/news/iraq/2003/06/iraq-030609-centcom04.htm
55	09 Jun 03	Iraq	Ad Diwaniyah	3	2	Not Known	News Release 03-06-35, HQ US CENTCOM, 09 June 2003, http://www.globalsecurity.org/wmd/library/news/iraq/2003/06/iraq-030610-centcom01.htm
56	22 Jun 03	Iraq	Najaf	40	0	Handling (?)	NATO MSIAC
57	28 Jun 03	Iraq	Haditha	30	6	Not Known	http://www.sadnews.net/CTZ/0Mem/WarM/US-IQ2/US-IQ2003-5-6.htm NATO MSIAC

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
58	30 Jun 03	Iraq	Fallujah	5	4	Handling	http://www.brandonblog.com/07-01-03-photos.html
59	12 Jul 03	Russia	Vladivostok	0	13	Firecracker in ASA !	NATO MSIAC
60	03 Aug 03	Afghanistan	Aqcha	13	20+	Handling	http://news.bbc.co.uk/1/hi/world/south_asia/3123227.stm
61	16 Jul 03	Angola	Menongue	2	15	Fire	NATO MSIAC
62	17 Aug 03	Iraq	Tikrit	12	0	Handling (?)	NATO MSIAC
63	04 Sep 03	Iraq	Rutbah	3	16	Not Known	NATO MSIAC
64	19 Sep 03	Afghanistan	North of Kabul	9	0	Handling	NATO MSIAC
65	19 Sep 03	Afghanistan	East of Kabul	9	0	Handling	NATO MSIAC
66	11 Oct 03	Ukraine	Artyomovsky	0	2	Fire (?)	http://signs-of-the-times.org/signs/signs277.htm http://jang.com.pk/thenews/oct2003-daily/11-10-2003/world/w13.htm
2004							
67	Feb 04	North Korea	Seonggang	1000?	NK	Unconfirmed	Biting the Bullet Brief 18, <i>Ammunition Stocks: Promoting Safe and Secure Storage and Disposal</i> , February 2005.
68	Feb 04	Paraguay	Asuncion	0	0	Fire	Biting the Bullet Brief 18
69	01 Feb 04	Iraq	Karbala	20	0	Not Known	NATO MSIAC
70	19 Feb 04	India	Amritsar	0	30	Not Known	NATO MSIAC
71	25 Feb 04	Phillipines	Quezon City	0	4	Fire	NATO MSIAC
72	09 Apr 04	Vietnam	Ho Chi Minh City	1	10	Not Known	Biting the Bullet Brief 18
73	22 Apr 04	North Korea	Ryongchon	54	1200+	Transport	http://globalsecurity.org/military/world/dprk/ryongchon-imagery.htm

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
74	02 May 04	Iraq	Kirkuk	0	0	Security / Sabotage	American Forces Press Service, Washington, 07 June 2004. http://www.defenselink.mil/news/Jun2004/n06072004_200406078.html http://www.informationclearinghouse.info/article6578.htm
75	06 May 04	Ukraine	Novobogdanovka	5	10	Fire (Human Error - Smoking)	ITAR-TASS, Wednesday, 12 May 2004
76	09 Jul 04	India	Amlangar	0	2	Fire	Biting the Bullet Brief 18 http://www.ndtv.com/morenews/showmorestory.asp?slug=IAF+depot+fire+destroys+explosives&id=56886
77	11 Jul 04	Afghanistan	Herat	5	34	Sabotage	NATO MSIAC
78	26 Aug 04	India	Chowdar	0	0	Fire	The International News Internet Edition, Friday 27 August 2004. http://www.jang.com.pk/thenews/aug2004-daily/27-08-2004/main/main13.htm
79	12 Sep 04	North Korea	Ryanggang			UNCONFIRMED	http://blog.marmot.cc/archives/2004/09/12/breakin-g-news-blast-mushroom-cloud-reported-in-north-korea/
80	06 Nov 04	Taiwan	Chisan	3	0	Handling	NATO MSIAC
81	07 Dec 04	Russia	Chechyna, Achkhoi-Martan	0	0	Fire	http://in.news.yahoo.com/041207/43/2ibqg.html
82	29 Dec 04	Taiwan	Kinmen	0	0	Fire	NATO MSIAC
2005							
83	09 Jan 05	Iraq	As Suwayrah	8	11	Handling / Demolitions	GlobalSecurity.org, MNF-I/MNC-I 09 Jan 2005. http://www.globalsecurity.org/military/library/news/2005/01/mil-050109-mnfi-mnd18.htm

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
84	24 Feb 05	Sudan	Juba	80	250+	Fire (Electrical ?)	UN OCHA, Tuesday 25 June 2005. http://www.irinnews.org/print.asp?ReportID=45780 Sudan News
85	24 Feb 05	Nigeria	Kaduna	4	44	Fire	Nigeria World News & Archives, 24 February 2005. http://news.biafranigeriaworld.com/archive/thisday/2005/02/24/explosions_rock_kaduna_ammunition_depot.php
86	04 Mar 05	Ivory Coast	Abidjan	2	1	Handling	NATO MSIAC
87	31 Mar 05	Cambodia	Andong Chen	6	20	High Temperature	EU ASAC
88	01 Apr 05	Lebanon	Majadel	0	0	Lighning	NATO MSIAC
89	03 Apr 05	Cambodia	Battambang	0	0	Temperature	http://www.saunalahti.fi/ilitty/PI0514.htm
90	10 Apr 05	Italy	Baiano di Spoleto	0	4	Not Known	NATO MSIAC
91	02 May 05	Afghanistan	Bajgah	29	13+	Illegal storage Sabotage?	BBC News, 05 May 2005. http://news.bbc.co.uk/1/hi/world/south_asia/4516291.stm
92	17 May 05	Russia	Kronstadt	0	6	Handling	http://www.mosnews.com/news/2005/05/17/kronsadtfire.shtml
93	18 Jun 05	Guatemala	Guatemala City	0	0	Fire	NATO MSIAC
94	25 Jun 05	Afghanistan	Rustaq	6	20	Handling / Electrical Spark (?)	Deutsche Welle, 27 June 2005. http://www.dw-world.de/dw/briefs/0,1574,1629946,00.html NATO MSIAC
95	23 Jul 05	Ukraine	Novo-Bogdanovka	0	0	Grass Fire	http://www.sgproject.org/Personal%20Use%200nly/UKRConventionalWeaponsSecurity.html
96	09 Sep 05	Taiwan	Matsu	0	0	During demilitarization operations.	NATO MSIAC
97	09 Sep 05	Taiwan	Tashu	3	0	Ammunition production	NATO MSIAC

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE	SOURCE
				FATAL	INJURED		
98	12 Sep 05	Philippines	Taguig City	0	107	Lightning ?	NATO MSIAC
99	30 Sep 05	Russia	Kamchatka	0	1	Internal Fire / TBC	http://www.tritd.com/trintel/kamchatka_ammunitio_n_depot_explosion.php
100	25 Nov 05	DRC	Walikale, Nord-Kivu	6	0	Lightning	NATO MSIAC
101	08 Dec 05	Pakistan	Jhandola	12	50	Handling	NATO MSIAC
2006							
102	28 Jan 06	Kenya	Nairobi	0	0	Electrical fault	NATO MSIAC
103	07 Feb 06	Pakistan	Dera Bugti	0	0	Fire	NATO MSIAC
104	23 Mar 06	Afghanistan	Jabalussaraj	2	45	Electrical Fire (?)	http://www.chron.com/disp/story.mpl/ap/world/3745288.html
105	28 Apr 06	Russia	Sergiyev Posad	2	0	Not known. (During demil)	AP 03 May 06
106	06 May 06	Albania	Tepelena	1	5	Handling during Demil	http://english.pravda.ru/news/world/06-05-2006/79999-Albania-0
107	10 May 06	Taiwan	Taipai	2	2	Not known (Ignition?)	http://en.chinabroadcast.cn/81.1/2006/05/10/53@87230.htm
108	19 May 06	Sudan	Juba	2	1	Not known	UNDP Sudan

Source: SEESAC, RECENT EXPLOSIVE EVENTS IN AMMUNITION STORAGE AREAS, 12 June 2006 (Edition 8)

Annex XVI: Written demolition orders

Before undertaking any destruction the Officer In-Charge of the range, is to issue clear, concise written orders, a checklist is shown at Annex A. In addition to the written orders the OIC is to ensure that all personnel involved with the demolition are fully briefed and conversant with the nature of the task and with the relevant standing orders. Briefing is to be carried out daily and is to include the following salient points:

- Demolition Range area.
- Scope of the demolitions.
- Range appointments.
- Allocation of duties.
- Dress.
- Safety precautions to be observed.
- Security, control and location of demolition stores.
- Method of destruction.
- Tools to be used.
- Medical arrangements including location of medical kit and safety vehicle.
- Misfire drill.
- Accident procedure.
- Program of events.

Annex XVII: Model security plan

Model security plan

The model of a security plan (see below) has been adapted from the OSCE Best Practice Guide on National Procedures for Stockpile Management.

This is an indicative list of subjects that should be covered in a security plan:

Subject	Comments
Name, location and telephone number of the establishment security officer	In many cases the security officer responsible will be the PM. Ideally, however, a specialist staff member will be available. Whatever the case, there must be one, single security authority.
Scope of the plan	What does the plan cover: which areas, individuals, and possible scenarios?
Content and value of the stocks	"Value" may be difficult or impossible to estimate. However, you should indicate at least (a) Number of weapons you expect to be stored for destruction at any one time; and (b) Likely fluctuations in numbers.
The security threat	What sorts of interests might try to remove weapons, for example, nightly sneak thieves, armed robbers, and children.
Detailed geographic map of the site location and its surroundings	This should be available from the security forces you are co-operating with. Absent that, detailed satellite photos of many areas are available from http://earth.google.com .
Detailed diagram of the layout of the site, including locations of: <ul style="list-style-type: none"> ▪ All its buildings. ▪ Entry and exit points. ▪ Electricity generators/substations. ▪ Water and gas main points. ▪ Road and rail tracks. ▪ Wooded areas. ▪ Hard and soft-paved areas etc. 	You will probably have to sketch this yourself at a temporary storage site. At permanent sites there are likely to be proper architectural drawings.
Outline of physical security measures for the site, including but not limited to details of: <ul style="list-style-type: none"> ▪ Fences, doors and windows. ▪ Lighting. ▪ Perimeter intruder detection systems. ▪ Intruder detection systems. ▪ Automated access control systems. ▪ Guards. ▪ Guard dogs. ▪ Locks and containers. ▪ Control of entry and exit of persons. ▪ Control of entry and exit of goods and material. ▪ Secure rooms. ▪ Hardened buildings. ▪ Closed circuit television. 	You may well not have access to many of the high-end security measures (intruder alarms, CCTV). However, strong and secure walls and doors with locks, and procedures to record and control <u>all</u> entrances and exits of personnel and material can always be extemporized and arranged. Keep in mind that guard dogs <u>can</u> be subverted (in many cases, geese make better alarms). Always record <i>all</i> entrances and exits of both personnel and material.

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<p>Security responsibilities (including but not limited to the following personnel, as applicable):</p> <ul style="list-style-type: none"> ▪ Security officer. ▪ Explosives safety officer. ▪ AT/TA. ▪ Transport officer. ▪ Inventory management and verification personnel. ▪ Foreman in charge of operations/ accounting/movement. ▪ All personnel authorized to have access to the site. 	<p>Try to be as specific as possible about their responsibilities, even on a case-by-case basis e.g. "In the event of an attempted break-in, the security officer shall be responsible for...".</p>
<p>Security procedures to be followed in:</p> <ul style="list-style-type: none"> ▪ SALW reception areas. ▪ Pre-storage processing. ▪ Other activities in respect of SALW. 	<p>For example, how are people to be admitted to perform these functions?</p>
<p>Control of access to buildings, areas, compounds.</p>	<p>Detail fences, gates, and how they operate, for whom they are to be opened, etc.</p>
<p>Procedures in case of handling and transport</p>	
<p>Control of security keys – those in use and their duplicates</p>	<p>Where are keys to be located? Who can have them? It is often a good idea to attach keys permanently to large, strong key tags of metal so they are highly visible.</p>
<p>Accountings – audit and spot checks</p>	<p>When are they to be carried out and by whom?</p>
<p>Security education and briefings of staff</p>	<p>How are the staff to be briefed? When? By whom? Most often you should brief personnel at the start of the collection and destruction program, and make a point of refresher briefings in long programs.</p>
<p>Action on discovery of loss/surplus</p>	
<p>Details of response force arrangements (e.g. size, response time, orders, activation and deployment)</p>	<p>How do you contact the police/security forces? How long will it take them to respond?</p>
<p>Actions to be taken in response to activation of alarms</p>	<p>Who is responsible to go where when an alarm is sounded?</p>
<p>Actions to be taken in response to emergency situations (e.g. fire, flood, raid etc)</p>	

Annex XVIII: Destruction ceremony newspaper article

Kenya weapons haul destroyed

The authorities in Kenya have put to the torch 1,000 firearms confiscated from urban criminals and nomadic cattle herders.

It is to be the first of many - nearly 7,000 more semi-automatic rifles and handguns are to be destroyed in the same way. They have been collected over the past few years as part of a regional drive against violent crime in east Africa.

The bonfire was lit by the Kenyan vice-president Michael Wamalwa, who called the weapons destruction a milestone in efforts to create an arms-free region. "Let us look at the pain humanity has been spared by putting these weapons out of circulation," he said.

The move follows an agreement reached in 2000 by the leaders of 10 states in the Horn of Africa and the Great Lakes region to try to stamp out small arms proliferation.

Weapons from the many conflicts in the region find their way into the hands of criminal gangs and cattle rustlers.

The driving force for implementing the agreement in Kenya was the Pastoralist Peace and Development Initiative. One of its co-ordinators, Hussein Yusuf, explained that more than 1,000 people had been killed in fighting over water, pasture and land over the past two years. "This kind of thing we are seeing today sends a message to the people who are bringing in these guns," he said.

National plan

"Before this, they never took any action seriously."

Next week, the Kenyan authorities plan to identify the parts of the country where weapons proliferation is most serious, particularly in the northern pastoral regions bordering Uganda, Sudan, Ethiopia and Somalia. A government minister has said a national action plan against violent cattle rustling will be launched. It will include campaigns against "outdated cultural practices" such as cattle theft and promote economic diversification.

Story from BBC NEWS:

<http://news.bbc.co.uk/go/pr/fr/-/2/hi/africa/2853213.stm>

Published: 2003/03/15 17:34:20 GMT

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Annex XIX: Weapons destruction budget draft

EU ASAC Draft Weapons Destruction Budget

DESCRIPTION	UNITS	Per UNIT	# DAYS	EXPENSES
1-A TECHNICAL EXPENSES : Salaries local assistants				
Local technical experts	2	USD 0.00		USD 0.00
Local technical assistant	1	USD 0.00		USD 0.00
Sub Total Salaries local assistants				USD 0.00
1-B TECHNICAL EXPENSES : Weapons Preparation				
Transportation of weapons (weapons)	5000		1	USD 0.00
Workers + escort 20 pers. (persons)	20	USD 0.00	1	USD 0.00
Cleaning and checking weapons 20 pers. (persons)	20	USD 0.00	7	USD 0.00
Mazout for cleaning (litres)	400	USD 0.00	1	USD 0.00
Sub Total Weapons Preparation				USD 0.00
1-C TECHNICAL EXPENSES : Building Flame of Peace				
Building the pyre 20 pers. (persons)	20	USD 0.00	2	USD 0.00
Mazout for burning (litres)	350	USD 0.00	1	USD 0.00
Sandbags (bags)	800	USD 0.00	1	USD 0.00
Sand buying	1	USD 0.00	1	USD 0.00
Sand transport	1	USD 0.00	1	USD 0.00
Workers to fill bags and built the wall (persons)	10	USD 0.00	1	USD 0.00
Charcoal 40 bags (bags)	40	USD 0.00	1	USD 0.00
Wooden poles 2 meters, diam 10 cm (poles)	500	USD 0.00	1	USD 0.00
Wooden logs (logs)	200	USD 0.00	1	USD 0.00
Plastic sheets (8mx8m) (plastic sheets)	2	USD 0.00	1	USD 0.00
Materials transportation	1	USD 0.00	1	USD 0.00
Wire 5 kg (kg)	5	USD 0.00	1	USD 0.00
Nails 5 kg (kg)	5	USD 0.00	1	USD 0.00
Sub Total Building Flame of Peace				USD 0.00
TOTAL TECHNICAL EXPENSES				USD 0.00

(Total is based on a destruction of a minimum of 5000 weapons.
Destruction of fewer weapons will not significantly change the amount.)

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Management of SALW Weapons and Ammunition Destruction Programs

DESCRIPTION	UNITS	Per UNIT	# DAYS	EXPENSES
2-A GOVERNOR'S EXPENSES : Greeting				
Water	30	USD 0.00	1	USD 0.00
Ice	1	USD 0.00	1	USD 0.00
Flowers	2	USD 0.00	1	USD 0.00
Ladies for flowers	2	USD 0.00	1	USD 0.00
Offering to the monks	6	USD 0.00	1	USD 0.00
Sub Total Greeting				USD 0.00
2-B GOVERNOR'S EXPENSES : Site Preparation				
Renting Platform	1	USD 0.00		USD 0.00
Site Organising for participants and sonorisation	1	USD 0.00		USD 0.00
Clothes & caps (30 for EU ASAC)	400	USD 0.00		USD 0.00
Sub Total Site Preparation				USD 0.00
2-C GOVERNOR'S EXPENSES : Meaning Section				
Bandar & Proverb	15	USD 0.00	1	USD 0.00
Copies & documentation	1	USD 0.00	1	USD 0.00
Sub Total Meaning Section				USD 0.00
2-D GOVERNOR'S EXPENSES : Transportation				
Teachers and people	3000	USD 0.00	1	USD 0.00
Sub Total Transportation				USD 0.00
2-E GOVERNOR'S EXPENSES : Security				
Police, Military & Gendarmerie	150	USD 0.00	1	USD 0.00
Sub Total Security				USD 0.00
TOTAL GOVERNOR'S EXPENSES				USD 0.00

DESCRIPTION	UNITS	Per UNIT	# DAYS	EXPENSES
4-A MIN. OF INTERIOR WEAPONS TEAM : Travel Expenses				
MOI Weapons Team transport PNH-destruction site (taxi)	2	USD 0.00	5	USD 0.00
MOI Weapons Team hotel costs (rooms)	5	USD 0.00	5	USD 0.00
MOI Weapons Team food (10 team members)	10	USD 0.00	5	USD 0.00
TOTAL MINISTRY OF INTERIOR WEAPON'S TEAM EXPENSES				USD 0.00
3-A EU ASAC EXPENSES : Travel Expenses				
EU ASAC transport PNH-destruction site	5	USD 0.00	2	USD 0.00
EU ASAC destruction team hotel	5	USD 0.00	5	USD 0.00
EU ASAC destruction team Per Diem.	5	USD 0.00	5	USD 0.00
Rental car for EU ASAC destruction team	2	USD 0.00	5	USD 0.00
EU ASAC Project Manager transport PHN-destruction site	1	USD 0.00		USD 0.00
EU ASAC Project Manager hotel	1	USD 0.00	2	USD 0.00
EU ASAC Project Manager Per Diem	1	USD 0.00	2	USD 0.00
Sub Total Travel Expenses				USD 0.00
3-B EU ASAC EXPENSES : Representation				
Food (measured by # of tables)	60	USD 0.00		USD 0.00
Drinks (measured by # cases)	25	USD 0.00		USD 0.00
Hygiene ice	200	USD 0.00		USD 0.00
Sub Total Representation				USD 0.00
TOTAL EU ASAC EXPENSES				USD 0.00
GRAND TOTAL				USD 0.00

Courtesy: EU ASAC, www.eu-asac.org

Annex XX: Destruction ceremony agreement

WHEREAS, in an effort to reduce the proliferation of arms and level of violence in Province,

The Governor of Province, H.E., hereinafter "the GOVERNOR", has organized a Ceremony to destroy weapons collected in Province.

This Ceremony will take place on in

This Ceremony will include:

- The invitation of 3000 civilians from all over Province,
- The invitation of Government officials, Ambassadors, International Organizations, local- and international NGO's,
- The invitation of representatives from the Military, the Police and the Gendarmerie,
- The invitation of the national and international press.

The Donor Agency represented by the Lead Organization through Program Manager, hereinafter LO, supports the above initiative and is prepared to assist financially and technically in its implementation,

NOW THEREFORE, the GOVERNOR, and the LO agree as follows:

- The GOVERNOR, in accordance with the budget proposal, which is made part of this agreement and attached hereto as Annex 1, will implement the activities as mentioned in Annex 1,
 - The activities under this agreement shall be implemented on the sole responsibility of the GOVERNOR in the manner described in Annex 1 and in accordance with the budget under this agreement, with expenditures, and receipts and records therefore, to be provided to the LO within 15 (fifteen) days following the Ceremony. Any of the money not used for the purposes of the Ceremony shall at that time be returned to the LO, or otherwise put to use as agreed by the GOVERNOR, and the LO.
1. The LO will provide total funding not to exceed \$US (.....) to support the Governor's as described in the budget (Annex 1).
 2. An advance payment will be provided to the GOVERNOR amounting \$US (.....), of which the amount of \$500 will be retained, and paid after presentation and checking of all bills by the LO accountant.
 3. This agreement shall be subject to the following additional conditions:

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- All changes in the implementation plan under this agreement and any and all other approvals, waivers, agreements or amendments under this agreement shall be valid only if they have been approved or ratified by the GOVERNOR, and the LO,
- All persons engaged in carrying out this agreement on behalf of the GOVERNOR, and the LO, shall avoid the fact or appearance of any and all conflicts of interest or corruption with respect to their responsibilities with respect to this agreement or any financial interest or benefit, directly or indirectly, there from,
- The funding provided by the LO under this agreement is definitive. The LO will not be responsible, financially or otherwise, for making up any shortfall or deficit incurred by the GOVERNOR, or any other party in the performance of this agreement,
- Neither the GOVERNOR, nor the LO shall have any claim for damages, compensation, or otherwise by reason of, or directly or indirectly arising out of, any action taken or notice given under this agreement,
- This agreement shall be governed by and construed in accordance with applicable Carana Government and Donor Agency policies and regulations,
- Whenever possible, the GOVERNOR, and the LO will acknowledge the funding under this agreement and the activities covered there under in any reference made by the GOVERNOR, and the LO to such activities in publications, speeches, press releases or on other similar occasions,

This agreement shall be effective upon signature by the LO and the GOVERNOR upon the most recent date below such signatures.

WHEREOF the LO, and the GOVERNOR have affixed their signatures as follows:

.....
LO Program Manager

.....
Governor of _____

Date:

Date:

Courtesy: EU ASAC, www.eu-asac.org

Annex XXI: Destruction ceremony. Proposed activity schedule

Assumptions

- # 1 As weapons won't be destroyed by burning, another disposal and destruction option will be needed.
- # 2 Quantity of weapons to be destroyed: 1000 weapons.

Destruction day minus 6

Morning: visit of the ceremonial site

Points for discussion:

- Site control regarding fire safety and security of weapons, VIPs and the general public.
- Decision on the quantity of weapons to be used (Assumption #2 refers).
- Decision on the "final solution" regarding weapons destruction (Assumption #1 refers).
- Pre-Event press briefing and site visit.
- Means of transport for the public.
- Parking for the VIPs and the public within the grounds.
- Traffic control at the entranceway (i.e. security check).
- Tents and chairs for VIPs.
- Food and drinks.
- Toilets and water point for the VIPs and the general public.
- Music, entertainment, etc.

Afternoon: meeting with the carpenter for the construction of the four ladders

For the site visit, bring a hammer and wooden stacks to mark off the location of the pyre, of the ignition train and of the fire break (i.e. for the vegetation removal).

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Destruction day minus 5

- **Purchase of the equipment**/material required by the carpenter.
- **Registration** of the 1,000 weapons' serial numbers and safety check (i.e. safety zone to point weapons during clearing action).
- **Preparation of weapons** for the pyre. Ideally, all must have a muzzle flash suppressor or sling metal loop for hanging from ladder nails.
- Organize trucks for **transport**. Verify serviceability and cleanliness.

On a good day a weapon verification team can clear and register approx. 500 a day. This is only if a list of weapons has been produced before hand and is accurate. If the weapons arrive randomly, a good figure is approx. 300 a day. Therefore allow at least 4 days to complete the task or employ more than one verification team. Also the weapons once verified need to be controlled and ideally seals placed on the verified containers.

Destruction day minus 4

- **As required (i.e. registration of the weapons serial numbers).**

Destruction day minus 3

- **As required (i.e. registration of the weapons serial numbers).**

Destruction day minus 2

- As required (i.e. registration of the weapons serial numbers).
- Purchase of material for torch.

Destruction day minus 1

Morning: start of on-site security presence on a 24-hr basis.

- Construction of pyre on site.
- Loading of weapons on trucks. Quantity verification.

Destruction day

Morning: final preparations

- Once the weapons are on site, calculate at least four (4) hours to attach the weapons to the pyre.
- Second safety check of the weapons.

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- Hang weapons on the nails of the pyre.
- Placement of firewood at the base of the pyre and inside the pyre.
- Dousing of pyre with diesel (exact moment dependant of ceremony activity) one hour before it is lit. Fireperson to be on stand-by with an extinguisher.
- Lighting of pyre by the ignition train. Press and people control (i.e. use of cordon).

Post ceremony

- Dousing out of fire in weapons pyre (good soaking required to cool down weapons).
- Equipment required: gloves and face-masks.
- Count verification as weapons from pyre are loaded on trucks.
- Security of convoy move to the storage location.
- Final solution???

Remember: weapons burned in a ceremonial fire are not destroyed. A final destruction option, such as smelting, has to be provided!



Annex XXII: Standing operating instructions

Standing Operating Instructions

Standing operating instructions and subsequent amendments for permanent demolition and burning grounds are to be approved by National Authority before the sites can be used. They are to be comprehensive and are to be designed to obviate all risk of accidents.

Standing Operating Instructions are to make reference to the instructions given in this publication but there is no requirement to repeat them. The orders are to be written to suit local circumstances and are to include all the following details:

- Reference to publications.
- Grid reference, name and area of site.
- The location of sentries and sentry posts.
- The position of the splinter proof shelter.
- Location and telephone number of civilian police.
- Location and telephone number of the nearest fire brigade.
- Explosives limits.
- Man limits.
- Orders for sentries.
- Orders on prohibited articles.
- Communications system and instructions to operators in the event of an accident.
- MT discipline.
- Dress.
- Safety precautions peculiar to the site.
- Medical arrangements.
- Accident procedure.
- Records and reports to be made.
- Free from explosive procedures.

Endnotes

- 1 These rules were adapted from the UNDP Sierra Leone "Arms for Development, Module II Training Workshop, Police Training School Hastings, 27.9.-02.10.2004".
- 2 Sources: NATO Glossary of terms and definitions AAP-6 (V); SEESAC RMDS/G.
- 3 Source: Kofi Annan, Security Council Provisional Fifty-fourth Year 48th Meeting, Friday 24- Sept 1999. New York, USA.
- 4 UNDP Pamphlet, Questions and Answers UNDP's Small Arms Reduction Programmes.
- 5 Ibid.
- 6 UN-LiREC, Firearms in Latin America and the Caribbean NGOs Capacity Building, Networking and strengthening of their Advocacy Capacity.
- 7 http://www.smallarmssurvey.org/source_documents/UN%20Documents/Other%20UN%20Documents/A_52_298.pdf
- 8 Source: FRT Section, Forensic Laboratory Services. PO Box 8885. Ottawa, Ontario, CANADA. K1G 3M8. Email: FRT-TRAF@rcmp-grc.gc.ca.
- 9 Source: FRT Section, Forensic Laboratory Services. PO Box 8885. Ottawa, Ontario, CANADA. K1G 3M8. Email: FRT-TRAF@rcmp-grc.gc.ca .
- 10 Forensic Technology WAI Inc., www.forensictechnologyinc.com.
- 11 Ordata: <http://www.maic.jmu.edu/ordata/Mission.asp>
- 12 This point was raised at the "Commercial Trade of and Illicit Trafficking in Firearms, their Parts and Ammunition: Train the Trainers Investigative Techniques Course" in San Jose, Costa Rica in May 2003.
- 13 SEESAC has developed a SALW Inventory Software system based on Microsoft Access. It is available direct from SEESAC on request.
- 14 For definitions and identification of types of weapons please refer to the relevant TRESA modules, notable SALW Bascis - Recognizing SALW and Ammunition (SB-R05), available at http://www.tresa-online.org/salw_control.
- 15 Acknowledgement: Professor Bill Mitchell, a former member of the US Environmental Protection Agency, who has conducted the study on the environmental aspects of Open Burning and Open Detonation (OBOD). Mr A Wilkinson (Head SEESAC), who has passed this information.
- 16 Modified from: http://www.gichd.ch/fileadmin/pdf/standards/MRE_Guidebooks/Draft_Guide_7_Practical_Guide_to_MRE_in_Emergencies.pdf
- 17 This is originally a Small Arms Ammunition Burning Tank, which was developed by the UK and has been replicated by the Canadians.



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