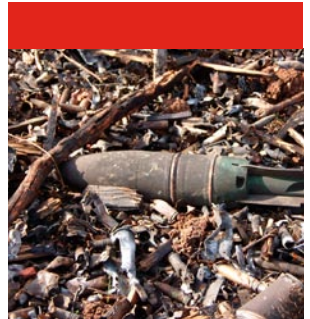
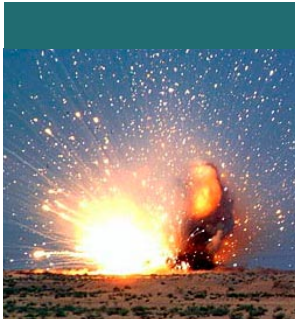
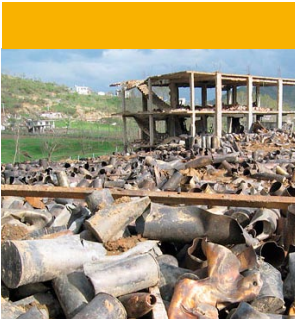
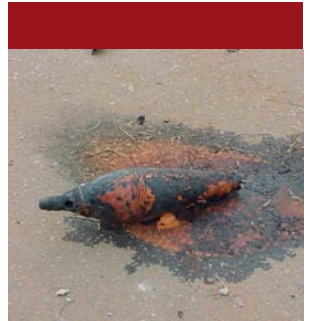
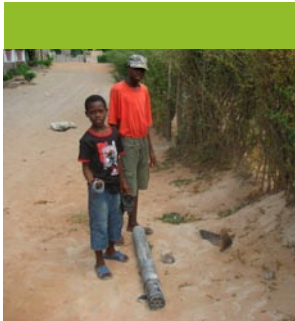
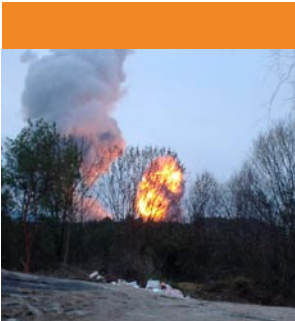




Conventional Ammunition Stockpiles Parliamentary Handbook 2008





The Parliamentary Forum on Small Arms and Light Weapons supports parliamentarians in their small arms related work, contributes to the advancement of the small arms agenda, and provides space for parliamentarians and civil society to meet and join forces.

For further information contact:

Parliamentary Forum on Small Arms and Light Weapons
Kungsholmsgatan 8
101 32 STOCKHOLM
Sweden

Tel / Fax +46 8 653 2543
Web: www.parlforum.org
Email: dybeck@parlforum.org

Conventional Ammunition Stockpiles, Parliamentary Handbook, 2008

This publication was developed by the Parliamentary Forum on Small Arms and Light Weapons and their Technical Consultant (Adrian Wilkinson). Acknowledgement is paid to the following organisations for the use of some of their material; DCAF (Switzerland), Explosive Capabilities Limited (UK), SEESAC, Small Arms Survey (Switzerland) and the United Nations. Photographs are courtesy of HALO Trust, SEESAC and A J C Welch. Efforts have also been made to identify provenance of other photographs, and accreditation will be duly given in future editions should such provenance be identified or brought to the attention of the publisher.

© SALW Parliamentary Forum 2008 – All rights reserved

ISBN: 978-91-633-3524-2

The views expressed in this report are those of the SALW Parliamentary Forum and do not necessarily represent those of their donors. The designations employed and the presentation of material in this publication do not imply the expression of the SALW Parliamentary Forum concerning 1) the legal status of any country, territory or area, or of its authorities or armed groups; or 2) concerning the delineation of its frontiers or boundaries.



A global hazard to life



Since 2001 there have been at least 143 undesirable explosive events in ammunition storage depots, resulting in over 3,647 fatalities and 4,487 injured. Most of these events were preventable and governments must accept their duty of care for future management of conventional ammunition stockpiles.

Inappropriately managed and insecure national stockpiles of conventional ammunition present an imminent threat to local communities, a security threat to societies and, ultimately, impact on national security. Hundreds die every year because of failures to maintain and manage deteriorating ammunition stockpiles. Many more die through the use of diverted conventional ammunition in conflict and by organised crime. The impact that such explosive events have on lives, health, livelihoods, housing, the environment and sustainable development is difficult to estimate; yet the resultant costs after an explosion of health care, explosive ordnance disposal clearance, environmental damage and loss of direct and indirect income are high.

In July 2008 the Parliamentary Forum adopted a Policy Statement on the Stockpile Management of Conventional Ammunition. The Forum recognised that this was a globally developing issue that required deeper parliamentary engagement in all regions, so as to ensure the safety and security of conventional ammunition stockpiles. Therefore the Forum is now ready to engage with parliaments and parliamentarians across all regions to jointly address these challenges, and to ensure that we place conventional ammunition stockpiles beyond harmful effect. We hope that this handbook will provide parliamentarians with the initial information that they need to take an effective parliamentary interest in this important national and global issue.

Manuel de Araujo

Member of Parliament of Mozambique and
Board Member of the Parliamentary Forum
on SALW



Contents

Foreword	i
Contents	ii
Acronyms	iii
Conventional Ammunition Parliamentary Handbook	1
1 What is conventional ammunition?	1
2 What impact does conventional ammunition have on society?	1
3 What is conventional ammunition stockpile management?	2
4 Origin of conventional ammunition stockpile problems	3
5 The role of parliaments the in conventional ammunition issue	4
6 The role of parliamentarians in the conventional ammunition issue	5
Annex A - Ammunition depot explosions	6
Annex B - Stockpile management definitions	11
Annex C - International resolutions, agreements, frameworks and instruments	12
Annex D - What you can do as a parliamentarian	15
Annex E - Useful conventional ammunition publications	17
E.1 Policy recommendations and overview	17
E.2 Technical and safety	17



Acronyms

AASTP	Allied Ammunition Storage and Transport Publications (NATO)
ADF	Ammunition Demilitarization Facility
AGM	Air to Ground Missile
APB	Ammunition Process Building
APE	Ammunition Peculiar Equipment
ASS	Ammunition Storage Sites
AT	Ammunition Technician
ATA	Ammunition Technical Assessment
ATGM	Anti-Tank Guided Missile
ATGW	Anti-Tank Guided Weapon
ATO	Ammunition Technical Officer
AUW	All Up Weight
BATNEEC	Best Available Technology Not Entailing Excessive Costs
CBA	Cost Benefit Analysis
CMD	Conventional Munition Disposal
DAER	Daily Ammunition Expenditure Rate
DCSR	Daily Combat Supply Rate
ECA	Explosion Consequence Analysis
EOD	Explosive Ordnance Disposal
ELL	Explosive Limit License
ESA	Explosive Storage Area
ESH	Explosive Storehouse
EWI	Explosive Waste Incinerator
FFR	Free Flight Rocket
HCC	Hazard Compatibility Code
HD	Hazard Division (UN)
HE	High Explosive
HEAT	High Explosive Anti-Tank
HPLC	High Performance Liquid Chromatography
IBD	Inhabited Building Distance
IED	Improvised Explosive Device
IQD	Inside Quantity Distances
MANPADS	Man Portable Air Defence Systems
MHE	Mechanical Handling Equipment
MLRS	Multi Launch Rocket System
MoD	Ministry of Defence
MUP	Ministry of Internal Affairs
NATO	North Atlantic Treaty Organisation
NEC	Net Explosive Content (NEQ)
NEQ	Net Explosive Quantity (NEC)
OBOD	Open Burning and Open Detonation
OOD	Outside Quantity Distances
OSCE	Organisation for Security and Co-operation in Europe
PCS	Pollution Control System
PES	Potential Explosion Site
PTR	Public Traffic Route
SAA	Small Arms Ammunition
SAADS	Small Arms Ammunition Disposal System (Commercial)
SALW	Small Arms and Light Weapons
SAM	Surface to Air Missile (MANPAD)
SEESAC	South Eastern and Eastern Europe Clearinghouse for SALW Control
SOP	Standing (Standard) Operating Procedure
TNT	Trinitrotoluene (Trotyl)
ULC	Unit Load Container (Pallets)



Conventional Ammunition Parliamentary Handbook

1 What is conventional ammunition?

There is no agreed international definition of conventional ammunition. Perhaps the most complete description can be developed from a NATO definition for munition:

A complete device, (e.g. missile, shell, mine, demolition store etc.) charged with explosives, propellants, pyrotechnics or initiating composition use in connection with offence, or defence, or training, or non-operational purposes, including those parts of weapons systems containing explosives.

This effectively covers the complete range of ammunition types, including artillery shells, mortar bombs, tank ammunition, rockets, guided missiles, free flight rockets, pyrotechnics, fuzes, mine, torpedoes, aircraft bombs, small arm ammunition, explosives, detonators, initiators, flares et al.

2 What impact does conventional ammunition have on society?

Unstable and poorly secured stockpiles of conventional ammunition pose a risk to public safety, threaten the secure environment within society and can sometimes present a challenge to the state's monopoly on the use of force. Conventional ammunition that has 'leaked' from national stockpiles acts as an 'enabler of violence' for terrorist and organised criminal groups, whilst the unstable ammunition often results in fatalities and injuries within the communities local to the storage sites.

The damage, casualties and impact on communities of an explosion within an ammunition depot can be devastating, and the economic costs of the subsequent explosive ordnance disposal (EOD) clearance can be far greater than the prior implementation of safer procedures, limited infrastructure development and stockpile disposal would have been. Since 1997 there have been at least 3,000 people killed and over 4,500 people injured due to, often, preventable ammunition depot explosions. These explosions are now occurring at an average of one a month globally, although certain regions and countries seem to be more susceptible to such events.¹

These catastrophic events due to ineffective conventional ammunition stockpile management are among the most recent manifestations of an international

Causes of Depot Explosions

- Deterioration of the physical condition of ammunition.
- Deterioration of the chemical condition of ammunition.
- External environmental effects (fire).
- External environmental effects (temperature changes).
- Unsafe storage practices.
- Unsafe storage infrastructure.
- Unsafe handling practices.
- Unsafe transportation.
- Sabotage or arson.

¹ A list of known ammunition depot explosions is at Annex A.



problem that has worsened since the end of the Cold War – government arms depots filled with ageing, unstable, poorly maintained, improperly stored, and weakly guarded munitions. *These 'dangerous depots' have the potential to create even more casualties on an annual basis than landmines and explosive remnants of war.*

The Landmine Monitor recorded a total of 5,751 known casualties in 2006 from landmines and explosive remnants of war worldwide. Yet in one afternoon alone in 2007, a catastrophic explosion at a munitions depot outside of Maputo, the capital of Mozambique, killed and injured over 500 people, far more than the 35 people reportedly killed by landmines and explosive remnants of war in Mozambique the previous year, (and just under 10% of all reported landmine and ERW casualties in a single year).

It is difficult to identify the real costs of clearance, as in cases where this has happened, the government financial systems have lacked the sophistication to accurately estimate the real costs. Yet a comparison with the costs of humanitarian mine and Unexploded Ordnance (UXO) clearance would not be inappropriate in terms of costs per square metre.² Yet the major causes of ammunition depot explosions identified from the current available data strongly suggest that the risk of undesirable explosions can be significantly reduced by; 1) sound training; 2) the development of appropriate ammunition management systems; 3) the short-term prioritisation of stocks for destruction; and 4) their subsequent destruction on a priority basis.

3 What is conventional ammunition stockpile management?

Stockpile management of conventional ammunition includes all procedures and activities necessary to ensure the planning of ammunition stockpile levels, the safety in storage and transport of conventional ammunition, and its security.³

Conventional ammunition, because of its cost and inherent hazards, should be treated as a specialist commodity. Its management

is necessarily complex if best value is to be gained from it, and if safety is to be assured. Notwithstanding this, the effective use of even simple management systems can significantly reduce the risks inherent in its storage and transport.

CA Stockpile Management

- Accounting
- Inspection
- Storage
- Security in Storage
- Surveillance and Proof
- Transportation
- Demilitarization and Destruction

² The costs of mine and UXO clearance vary dependent on a range of factors, including location, national economy, topography, type of contamination etc. Therefore an 'average' figure is difficult to identify, although many sources suggest that US\$1 per square metre is a sound average. Source: E Mail from Alistair Craib, BARIC Consultants, 28 February 2006.

³ Definitions of ammunition stockpile management terms are at Annex B.



4 Origin of conventional ammunition stockpile problems

The problems caused by conventional ammunition stockpiles have been influenced by a variety of factors. Although the situation is slightly different for each country, some common patterns may be identified from the following factors.

- **Cold War or conflict legacy.** Massive stockpiles of conventional ammunition were maintained throughout the Cold War by a number of States, these stockpiles have yet to be appropriately downsized. There are also significant ammunition stockpiles remaining in other States as a legacy of recent conflict. During Security Sector Reform (SSR) processes the logistic aspects of national security is often overlooked; security forces and military are downsized, leaving insufficient trained staff to effectively manage and guard the ammunition stockpiles.
- **Ineffective national legislation.** In many countries the legislation applicable to conventional ammunition stockpile management is either not comprehensive enough, or does not reflect international best technical practices for the safe storage of ammunition and explosives.
- **Decaying infrastructure.** The majority of ammunition storage depots are now well over 30 or 40 years old and little has been spent on maintenance. Storage bunkers are crumbling, security doors and locks missing or not effective, and the local population have been allowed to encroach into explosion danger areas.
- **Ageing ammunition and ineffective inspection systems.** Ammunition in many stockpiles is now very old, (for example 91% of the Albanian stockpile is over 40 years old), and has not been subjected to effective inspection, surveillance or proof firing. This means that ammunition that is unstable and dangerous to store cannot be easily identified and segregated. As a result, when it spontaneously initiates, (which is inevitable for certain propellant types,) fires within one building within the depot rapidly lead to explosions, which initiate stocks in other buildings. A 'chain reaction' has effectively resulted that involves much of the depot stockpile. Explosions last for hours and as a result the fire cannot be safely fought to limit the damage.
- **Lack of trained staff.** Ammunition technical specialists take up to a year to train to the levels required to ensure effective and safe stockpile management of conventional ammunition. In many States military there are no 'real' ammunition technical specialists, and the management of the stockpile is left to inappropriately trained personnel. In those States with specialist personnel, the costs of training, combined with SSR policies, mean that personnel are often not being trained to replace those individuals who have left or are leaving the armed forces.
- **Inadequate budgetary resources.** The effective, safe and secure stockpile management of conventional ammunition is often not considered as a priority within defence budgets. Funding is used for personnel and equipment, but the logistic support systems are usually well done the funding priority list. The longer the funding gap, the worse the situation becomes, and the larger the funding eventually needed to resolve the problems.

5 The role of parliaments in the conventional ammunition issue

Democratic development and human security requires that executive bodies act efficiently and effectively. This requires representation and accountability: two of the core functions of parliaments. Parliaments connect citizens with the state and can hold governments to account for their actions or lack of action. Parliament is a natural place for mediation, where competing points of view can be articulated and where dialogue can build consensus. These core functions are essential in mitigating and resolving human security issues. The effective stockpile management of conventional ammunition should also fall within these responsibilities, and parliaments could have a major impact on assisting government in formulating and then monitoring national conventional ammunition stockpile management policies. Key areas where parliaments may exercise their power and influence include:

- **Establishment of an effective legislative framework.** The framework should include regulation of conventional ammunition production, storage, transport, transfers and security. The legislation should envisage adequate sanctions.
- **Oversight of conventional ammunition stockpile management.** Parliaments should ensure that the parliamentary committee on security and defence engages with the government in a regular debate on conventional ammunition stockpile levels, and their safe and effective management. Further, parliaments should request regular reporting by governments on the condition of conventional ammunition and the destruction of surpluses to allow for informed debate on governments' conformity with the stated policy and legislation.
- **Advocacy for appropriate defence budgets to cover safe and effective stockpile management of conventional ammunition.** Parliaments must ensure that appropriate budgetary resources are provided to Ministries of Interior and Defence to enable that safe storage conditions may be developed or maintained, and that surplus stockpiles can be destroyed before they pose a danger to the civilian population.
- **International conventional ammunition instruments and agreements on tackling the issue of conventional ammunition stockpiles.** Parliaments should make it a national priority to: 1) ratify the multilateral instruments and agreements that their governments have signed; or 2) to accede to such instruments and agreements where appropriate. The provisions of such instruments and agreements should then be incorporated into appropriate and timely domestic legislation and then duly implemented.⁴
- **International cooperation.** Parliaments should exchange information with each other on national conventional ammunition stockpile management legislation in order to build a better understanding of regional controls, and to identify existing best practices. They should also contribute to the established international parliamentary forums that consider conventional ammunition issues.

⁴ A list of Resolutions' instruments' frameworks and agreements on tackling the issue of conventional ammunition stockpiles is at Annex C.



6 The role of parliamentarians in the conventional ammunition issue

Parliamentarians have at their disposal many effective instruments that they could apply to address the issue of conventional ammunition stockpile management:

- Parliamentarians in their **representative role** can raise issues of concern (stockpile levels, safety of ammunition depots, destruction policies etc.) with the executive. They can then raise awareness of the issue with the media, and within their constituency and civil society, by identifying threats to local communities from ineffective and inappropriate ammunition storage. They may influence the government to act by making the effective stockpile management of conventional ammunition a political issue.
- Parliamentarians should attend, as members of government delegations, conventional ammunition conferences, seminars etc (for example the OSCE Forum for Security Cooperation (FSC) CA meetings) to represent the concerns of citizens in a way that diplomats cannot, while at the same time holding the government to account for commitments made at such meetings.
- Parliamentarians in their **legislative role** can introduce new legislation, or propose a thorough review of existing legislation on stockpile levels required for national security, safe and effective ammunition management systems, the timely destruction of surpluses etc.
- Parliamentarians in their **oversight role** can ensure that the executive honours and implements its international commitments (e.g. treaties, conventions etc). They should also ensure that the issue is considered regularly and effectively by the Parliamentary Defence and Security Committee, and that appropriate budgetary levels are allocated to the issue by the Ministry of Finance.

Annex D suggests a range of activities that parliamentarians may engage in to support effective conventional ammunition stockpile management.



Annex A - Ammunition depot explosions

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE
				FATAL	INJURED	
1	16 Jul 95	Brazil	Boquiero	100	NK	Not Known
2	15 Feb 96	Afghanistan	Kabul	60	125	Not Known
3	Mar 97	Albania	15 Locations	56	59	Human Error and Security
4	04 Jul 97	Ecuador	Quito	3	187	Not Known
5	07 Nov 97	Russia	Vladivostok	?	?	Not Known
6	21 Feb 98	Russia	Volgograd	0	0	Not Known
7	21 Feb 98	Russia	Engels	0	0	Not Known
8	02 Jun 98	Iran	Saltanat-Abad	?	?	Sabotage, Security
9	19 Jun 98	Russia	Urals	14	17	Lightning
10	17 Jul 98	Sudan	Khartoum	?	?	Not Known
11	01 Dec 98	Philippines	Tarlac City	0	0	Fire
12	29 Aug 99	Cambodia	Ream	0	0	Fire
13	09 Oct 99	Afghanistan	Mazar-e-Sharif	7	12	Handling
14	15 Apr 00	Congo	Kinshaha	101	216	Handling
15	28 Apr 00	India	Bharatpur	2	10	Fire
16	26 May 00	Afghanistan	Kabul	0	0	Not Known
17	25 Oct 00	Iran	Mashad	8	10	Not Known
18	03 Mar 01	Guinea	Conakry	10	NK	Not Known
19	29 Apr 01	India	Panthankot	0	0	Spontaneous Combustion?
20	29 Apr 01	USA	Arkansas	0	0	Not Known
21	20 May 01	Yemen	Al-Bayda	14	50	Not Known
22	24 May 01	India	Mirdhwal / Suratgarh	1	5	Fire
23	08 Jun 01	Vietnam	Hoa They	0	4	Not Known
24	08 Jun 01	Russia	Ramenskoye	0	0	Electrical Fault
25	23 Jun 01	Russia	Nerchinsk	5	1	Lightning
26	11 Jul 01	Thailand	Pakchong	2	70	Handling
27	11 Jul 01	Afghanistan	Darulaman	0	3	Not Known
28	21 Jul 01	Russia	Buryatia, Siberia	3	17	Fire / Lightning Strike
29	08 Aug 01	Kazakhstan	Balkhash, Almaty	0	0	Spontaneous Combustion
30	16 Aug 01	India	Tamil Nadu	25	3	Not Known
31	06 Sep 01	Kazakhstan	Almaty	0	0	Fire
32	27 Sep 01	Indonesia	Java	1	0	Not Known
33	25 Oct 01	Thailand	Korat (Pak Chong)	19	90	Handling / Propellant Auto-Ignition
34	05 Jan 02	Sierra Leone	Tongo	6	12	Handling
35	11 Jan 02	India	Bikaner	2	12	Electrical Spark



SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE
				FATAL	INJURED	
36	27 Jan 02	Nigeria	Lagos	1500+	NK	Fire
37	28 Jan 02	Thailand	Pakchong	?	?	Unstable ammunition awaiting destruction
38	07 Mar 02	Afghanistan	Kandahar	0	0	Fire
39	08 Mar 02	Sri Lanka	Kankesanturai	0	0	Ammunition Stability
40	28 Mar 02	Thailand	Aranyaprathet	0	5	Propellant Auto-Ignition
41	05 May 02	Guinea	Conakry	?	?	Not Known
42	27 Jun 02	Afghanistan	Spin Boldak	32	70	Sabotage?
43	08 Jul 02	Afghanistan	Spin Boldak	0	2	Not Known
44	10 Jul 02	Russia	Buryatia	3	11	Fire
45	09 Aug 02	Afghanistan	Jalalabad	26	90	High Temperature (?)
46	16 Oct 02	Russia	Vladivostok	0	26	Demolitions
47	30 Oct 02	Mozambique	Beira	6 ⁵	50	Lightning
48	12 Nov 02	Nicaragua	Managua	5	5	Handling
49	21 Nov 02	Ecuador	Riobama	7	274	Handling
50	23 Jan 03	Peru	Tumbes	22	181	Not Known
51	15 Mar 03	Afghanistan	Tokhichi	1	3	Fire
52	23 Mar 03	Ecuador	Guayaquil	0	12	Not Known
53	30 Mar 03	Ecuador	Guayaquil	0	0	Not Known
54	26 Apr 03	Iraq	Zafaranyah	10	51	Fire / Sabotage
55	05 May 03	Vietnam	Thay Nguyen	2	31	Not Known
56	? Jun 03	Russia	Mari El	5	0	Not Known
57	01 Jun 03	India	Jodphur	0	0	Fire
58	09 Jun 03	Iraq	Karbala	0	0	Not Known
59	09 Jun 03	Iraq	Ad Diwaniyah	3	2	Not Known
60	22 Jun 03	Iraq	Najaf	40	0	Handling (?)
61	28 Jun 03	Iraq	Haditha	30	6	Not Known
62	30 Jun 03	Iraq	Fallujah	5	4	Handling
63	12 Jul 03	Russia	Vladivostok	0	13	Firecracker in ASA !
64	03 Aug 03	Afghanistan	Aqcha	13	20+	Handling
65	16 Jul 03	Angola	Menongue	2	15	Fire
66	17 Aug 03	Iraq	Tikrit	12	0	Handling (?)
67	04 Sep 03	Iraq	Rutbah	3	16	Not Known
68	19 Sep 03	Afghanistan	North of Kabul	9	0	Handling
69	19 Sep 03	Afghanistan	East of Kabul	9	0	Handling
70	11 Oct 03	Ukraine	Artyomovsky	0	2	Fire (?)
71	Feb 04	<i>North Korea</i>	<i>Seonggang</i>	<i>1000?</i>	<i>NK</i>	<i>Unconfirmed</i>

⁵ Additionally 3 x fatalities from a UXO projected 150 metres from the depot on 23 Nov 06.



SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE
				FATAL	INJURED	
72	Feb 04	Paraguay	Asuncion	0	0	Fire
73	01 Feb 04	Iraq	Karbala	20	0	Not Known
74	19 Feb 04	India	Amritsar	0	30	Not Known
75	25 Feb 04	Philippines	Quezon City	0	4	Fire
76	09 Apr 04	Vietnam	Ho Chi Minh City	1	10	Not Known
77	22 Apr 04	North Korea	Ryongchon	54	1200+	Transport
78	02 May 04	Iraq	Kirkuk	0	0	Security / Sabotage
79	06 May 04	Ukraine	Novobogdanovka	5	10	Fire (Human Error - Smoking)
80	09 Jul 04	India	Amlangar	0	2	Fire
81	11 Jul 04	Afghanistan	Herat	5	34	Sabotage
82	26 Aug 04	India	Chowdar	0	0	Fire
83	12 Sep 04	North Korea	Ryongyang			UNCONFIRMED
84	06 Nov 04	Taiwan	Chisan	3	0	Handling
85	07 Dec 04	Russia	Chechyna, Achkhoi-Martan	0	0	Fire
86	29 Dec 04	Taiwan	Kinmen	0	0	Fire
87	09 Jan 05	Iraq	As Suwayrah	8	11	Handling / Demolitions
88	Jan 05	Mozambique	Beira	0	0	Further to events of 30 Oct 02
89	24 Feb 05	Sudan	Juba	80	250+	Fire (Electrical?)
90	24 Feb 05	Nigeria	Kaduna	4	44	Fire
91	04 Mar 05	Ivory Coast	Abidjan	2	1	Handling
92	31 Mar 05	Cambodia	Andong Chen	6	20	High Temperature
93	01 Apr 05	Lebanon	Majadel	0	0	Lightning
94	10 Apr 05	Italy	Baiano di Spoleto	0	4	Not Known
95	02 May 05	Afghanistan	Bjgah	29	13+	Illegal storage / Sabotage?
96	06 May 05	Ukraine	Tsvitokha	0	0	NK
97	17 May 05	Russia	Kronstadt	0	6	Handling
98	18 Jun 05	Guatamala	Guatamala City	0	0	Fire
99	25 Jun 05	Afghanistan	Rustaq	6	20	Handling / Electrical Spark (?)
100	23 Jul 05	Ukraine	Novo-Bogdanovka	0	0	Grass Fire
101	09 Sep 05	Taiwan	Matsu	0	0	During Demilitarization Operations
102	09 Sep 05	Taiwan	Tashu	3	0	Ammunition Production
103	12 Sep 05	Philippines	Taguig City	0	107	Lightning?
104	30 Sep 05	Russia	Kamchatka	0	1	Internal Fire / TBC
105	25 Nov 05	DRC	Walikale, Nord-Kivu	6	0	Lightning
106	08 Dec 05	Pakistan	Jhandola	12	50	Handling
107	20 Dec 05	Russia	Moscow	3	2	Fire (Pyrotechnics)



SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE
				FATAL	INJURED	
108	28 Jan 06	Kenya	Nairobi	0	0	Electrical Fault
109	07 Feb 06	Pakistan	Dera Bugti	0	0	Fire
110	23 Mar 06	Afghanistan	Jabal Saraj	2	60	Electrical Fire (?)
111	31 Mar 06	USA	Bloomington (Crane)	0	3	Handling (During Demil)
112	28 Apr 06	Russia	Sergiyev Posad	2	0	Not Known. (Druing Demil)
113	30 Apr 06	Kuwait	Nuwiseeb	0	0	Not Known
114	06 May 06	Albania	Tepelena	1	5	Handling (During Demil)
115	10 May 06	Taiwan	Taipai	2	2	Not Known (Ignition?)
116	19 May 06	Sudan	Juba	2	10	Not Known
117	22 May 06	Kazakhstan	Karatal	0	0	Fire
118	12 Jun 06	USA	Iowa (Middletown)	2	2	Not Known (Production)
119	08 Jul 06	Montenegro	Vir	0	32	Lightning
120	22 Jul 06	Kazakhstan	Karatal	0	0	Fire
121	10 Aug 06	Sri Lanka	Allai-Kantalai	0	0	Not Known
122	19 Aug 06	Ukraine	Novobogdanovka	0	4	Fire
123	24 Aug 06	USA	Louisiana (Doyline)	0	0	Not Known (During Demil)
124	10 Oct 06	Iraq	South Baghdad	0	0	Fire / Insurgent Attack
125	19 Oct 06	Serbia	Paracin	0	10	Not Known
126	? Jan 07	Mozambique	Malhaxine	0	3	Not Known
127	02 Jan 07	Brazil	Sao Paulo	1	5	Not Known
128	02 Mar 07	Slovakia	Novaky	8	45	Not Known
129	22 Mar 07	Mozambique	Malhaxine	104+	400+	Not Known
130	08 Apr 07	Sudan	Khartoum	0	0	Electrical Fire?
131	18 Apr 07	France	Metz	2	1	Not Known (During Demil)
132	23 Apr 07	Thailand	Muang	0	0	Not Known
133	16 May 07	USA	Milan	0	0	Propellant Fire
134	17 May 07	India	Dehra Dun	5	5	Not Known (During Processing)
135	18 May 07	Ukraine	Novobogdanovka	2	1	During EOD Clearance ⁶
136	31 May 07	Yemen	Sana'a	0	0	Not Known
137	17 Jun 07	Congo	Mbandaka	3	52	Not Known
138	18 Jun 07	Slovenia	Pivka	3	2	Not Known (During Demil)
139	23 Jun 07	Mozambique	Malhaxine	5	11	During EOD Clearance ⁷
140	26 July 07	Syria	Aleppo	15	50	Propellant Fire (?)
141	11 Aug 07	India	Srinagar	3	19	Not Known
142	24 Aug 07	Serbia	Paracin	0	0	Fire during EOD Clearance

⁶ This statistic included as the EOD Clearance is as a direct result of previous explosions at this depot.

⁷ See Footnote above.

SER	DATE	COUNTRY	LOCATION	CASUALTIES		REMARKS / POSSIBLE CAUSE
				FATAL	INJURED	
143	30 Aug 07	Mexico	San Antonio. Las Palmas	2		Not Known
144	20 Sep 07	Romania	Dabovitzza	0		During Demil
145	20 Sep 07	Vietnam	Minh Son	3		Not Known
146	25 Sep 07	Chile	Talagante	0		During Demil
147	13 Nov 07	Iran	Parchin	0	4	Fire
148	29 Dec 07	Columbia	Medelin	8	6	Not Known
149	31 Dec 07	Taiwan	Shinsheh	1	1	Handling
150	25 Feb 08	Iran	Tabriz	0	0	Not Known
151	15 Mar 08	Albania	Gerdec	26	300+	Not Known
152	11 Apr 08	Ukraine	Rocket Base 275	0	3	Not Known
153	17 Apr 08	Germany	Furth	0	1	During Demil
154	15 May 08	France	Vierzon	1	4	During Demil
155	23 May 08	Russia	Lodeinoye Pole	0	0	Fire
156	07 Jun 08	Taiwan	Kinmen	0	0	Fire
157	17 Jun 08	Germany	Hunxe	1	0	During Demil
158	03 Jul 08	Bulgaria	Chelopechene	0	0	Not Known
159	09 Jul 08	Uzbekistan	Kagan	3	21	Fire
160	27 Aug 08	Ukraine	Lozovaya	0	0	Fire



Annex B - Stockpile management definitions⁸

Accounting

Information management systems and associated operating procedures that are designed to record, numerically monitor, verify, issue and receive ammunition in organizations and stockpiles.

Demilitarisation

The complete range of processes that render weapons, ammunition, mines and explosives unfit for their originally intended purpose.

Demilitarisation 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.

Destruction

The process of final conversion of weapons, ammunition, mines and explosives into an inert state that can no longer function as designed.

Disposal (Logistic)

The removal of ammunition and explosives from a stockpile by the utilisation of a variety of methods, (that may not necessarily involve destruction). Logistic disposal may or may not require the use of Render Safe Procedures.

There are five traditional methods of disposal used by armed forces around the world: 1) sale; 2) gift; 3) use for training; 4) deep sea dumping; and 5) destruction or demilitarisation.

National Stockpile

The full range of ammunition stockpiles in a country under the control of separate organizations such as the police, military forces (both active and reserve), border guards, ammunition producing companies, etc. It includes all ammunition types, irrespective of classification (i.e. operational, training or awaiting disposal).

Proof

The functional testing or firing of ammunition and explosives to ensure safety and stability in storage and intended use.

Render Safe Procedure (RSP)

The application of special explosive ordnance disposal methods and tools to provide for the interruption of functions or separation of essential components to prevent an unacceptable detonation.

Shelf Life

The length of time an item of ammunition may be stored before the performance of that ammunition degrades.

Stability

The physical and chemical characteristics of ammunition that impact on its safety in storage, transport and use.

Stockpile

A large, accumulated stock of weapons and explosive ordnance. Often used interchangeably with stock or to denote the weapons retained in a specific ammunition storage facility or depot.

Stockpile destruction

The physical activities and destructive procedures leading to a reduction of the national stockpile.

Stockpile management

Procedures and activities regarding safe and secure accounting, storage, transportation and handling of munitions.

Stockpile safety

The result of measures taken to ensure minimal risk of accidents and hazards deriving from weapons and explosive ordnance to personnel working with arms and munitions as well as adjacent populations.

Stockpile security

The result of measures taken to prevent the theft of weapons and explosive ordnance, entry by unauthorized persons into munitions storage areas, and acts of malfeasance, such as sabotage.

Surveillance

A systematic method of evaluating the properties, characteristics and performance capabilities of ammunition throughout its life cycle in order to assess the reliability, safety and operational effectiveness of stocks and to provide data in support of life reassessment.

⁸ These definitions have been obtained from a range of sources including, but not restricted to, NATO AAP-6, IMAS and RMD5/G.

Annex C - International resolutions, agreements, frameworks and instruments

Resolutions, instruments, frameworks and agreements on tackling the issue of conventional ammunition stockpiles have been growing in recent years. Internationally and regionally, a number of agreements and fora for initial dialogue have been established. In addition, donors and beneficiary countries have undertaken a number of specific projects.

RESOLUTION, FRAMEWORK, INSTRUMENT OR REPORT	SUMMARY
UN RESOLUTIONS, AGREEMENTS AND REPORTS ⁹	
UNGA Resolution 52/38J of 09 December 1997	This was the first UN General Assembly resolution that explicitly mentioned conventional ammunition, albeit under the wider issue of Small Arms. It recommended that a Group of Experts examine the issue of ammunition and explosives. The Group reported back to the UN under UNGA A/54/155 dated 29 June 1999.
UNGA A/54/155 dated 29 June 1999	Report of the Group of Experts on the Problem of Ammunition and Explosives
UNGA Decision 59/515 of 03 December 2004	Problems arising from the Accumulation of Conventional Ammunition Stockpiles in Surplus. This draft decision simply includes this issue as a new item for the agenda of the 60th General Assembly in 2005.
UNGA Resolution 60/74 of 08 December 2005	Problems arising from the Accumulation of Conventional Ammunition Stockpiles in Surplus. After the December 2004 decision to put this issue on the GA's agenda, the co-sponsors consulted widely on this initiative, and were rewarded with consensus. The resolution builds on the PoA and the report of the SALW marking and tracing Working Group (A/60/88 and Corr.2), which referred to the need for ammunition to be comprehensively addressed, and focuses principally on two aspects: ammunition surpluses and illicit trading in ammunition.
UNGA A/61/118 of 28 June 2006	Report of the Secretary General on problems arising from the accumulation of conventional ammunition stockpiles in surplus. This contains the reports of those member States who submitted information as a result of a request from the Secretary General. Only seven (7) States submitted information.
UNGA A/62/166 of 27 July 2007	Report of the Secretary General on problems arising from the accumulation of conventional ammunition stockpiles in surplus. This contains the reports of those member States who submitted information as a result of a request from the Secretary General. Only seventeen (17) additional States submitted information.
UNGA Resolution 61/72 of 03 January 2007	Problems arising from the accumulation of conventional ammunition stockpiles in surplus. This established a Group of Government Experts to address the issue of conventional ammunition stockpiles in surplus. The Group will report back through the Secretary General, to the 63rd Session of the General Assembly (1st Committee on Disarmament and International Security) during September/October 2008.

⁹ The UN Resolutions and Agreements specifically referring to MANPADS have not been included in this matrix, as they are dealt with as a separate issue to conventional ammunition within the UN processes.





RESOLUTION, FRAMEWORK, INSTRUMENT OR REPORT	SUMMARY
UNGA A/63/182 dated 28 July 2008	Report of the Group of Governmental Experts established pursuant to General Assembly resolution 61/72 to consider further steps to enhance cooperation with regard to the issue of conventional ammunition stockpiles in surplus.
REGIONAL INSTRUMENTS AND PROCESSES¹⁰	
<i>ECOWAS Convention on Small Arms and Light Weapons, Their Ammunition and Other Related Materials¹¹</i>	Only looks at conventional ammunition stockpiles from the perspective of small arms ammunition (< 14.5mm calibre), and in terms of counter-proliferation and trafficking.
EU Joint Action on SALW ¹²	The EU, through its Joint Action on combating the destabilizing accumulation and spread of small arms, provides financial and technical assistance to countries, groups of countries, international organizations and NGOs which request support. Since 1999, through the Joint Action, the EU has adopted 14 such actions in Eastern Europe, in Latin America and the Caribbean, in Asia and in Africa. Among geographic priorities decided by the European Council, specific attention was given to the destruction of existing stockpiles of SALW in Eastern and South Eastern Europe, and to actions in support of regional moratoria on small arms in Africa.
EU Strategy to Combat Illicit Accumulation and Trafficking of SALW and Ammunition ¹³	On 16 December 2005, the European Council adopted a Strategy to support the Joint Action on SALW of 2002 (2002/589/CFSP). The Strategy has been written within the framework of the European Security Strategy (2003), as was a similar strategy on Weapons of Mass Destruction in 2003. The aim is to develop an <i>"integrated approach and a comprehensive plan of action to combat the illicit trade in SALW and their ammunition"</i> .
EU Common Position on Arms Brokering ¹⁴	The objective of the Common Position is to control arms brokering in order to avoid circumvention of UN, EU or OSCE arms embargoes as well as of the criteria stipulated in the EU Code of Conduct. It obliges EU Member States to establish a clear legal framework for brokering activities. Part of this framework is a licensing system where the applications for a licence are assessed for specific brokering transactions against the provisions of the EU Code of Conduct. The Common Position also envisages the establishment of an information exchange mechanism on brokering activities.

¹⁰ Those shown in italics mainly refer to other issues, but do reference aspects of conventional ammunition

¹¹ The ECOWAS Convention on Small Arms and Light Weapons, Their Ammunition and Other Related Materials. ECOWAS. 14 June 2006.

¹² EU Council Joint Action on the European Union's contribution to combating the destabilising accumulation and spread of small arms and light weapons and repealing Joint Action 1999/34/CFSP. (2002/589/CFSP). 12 July 2002.

¹³ EU Strategy to Combat Illicit Accumulation and Trafficking of SALW and their Ammunition. Council of the European Union 5319/06 of 13 January 2006. (Adopted 15 - 16 December 2005).

¹⁴ Council Common Position 2003/468/CFSP of 23 June 2003 on the control of arms brokering. OJ L 156, 25.05.2003, pp. 79-80.



RESOLUTION, FRAMEWORK, INSTRUMENT OR REPORT	SUMMARY
<p><i>Nairobi Protocol for the Prevention, Control and Reduction of Small Arms and Light Weapons in the Great Lakes and the Horn of Africa</i>¹⁵</p>	<p>Includes small calibre ammunition when considering small arms and light weapon controls.</p>
<p>OAS - The Inter-American Convention against the Illicit Manufacture and Trafficking in Firearms, Ammunition, Explosives and Other Related Materials (OAS Convention) (CIFTA)¹⁶</p>	<p>Includes conventional ammunition controls in terms of illicit manufacture and transfers.</p>
<p>OSCE Document on Stockpiles of Conventional Ammunition¹⁷</p>	<p>The OSCE Document on Stockpiles of Conventional Ammunition was adopted in 2003 and complements the OSCE Document on SALW. The agreement encompasses all categories of conventional ammunition, explosive material and detonating devices, including heavy weapons ammunition, all types of mines, missiles and rocket fuel, grenades, fuses. The document provides practical procedures and mechanisms for the destruction of these surplus stockpiles. The final goal is to enable participating states to strengthen their national capacities so they can deal with specific problems on their own, building wherever possible on their own assets.</p>
<p><i>SADC Protocol on the Control of Firearms, Ammunition and Other Related Materials</i>¹⁸</p>	<p>Advocates for effective stockpile management systems for weapons (including small calibre ammunition), including controls on transfers.</p>

¹⁵ The Nairobi Protocol for the Prevention, Control and Reduction of Small Arms and Light Weapons in the Great Lakes and the Horn of Africa. Nairobi Secretariat. 21 April 2004.

¹⁶ The Inter-American Convention against the Illicit Manufacture and Trafficking in Firearms, Ammunition, Explosives and Other Related Materials (OAS Convention) (CIFTA). Washington DC. OAS. 14 November 1997. Entered into Force on 01 July 1998.

¹⁷ OSCE Document on Stockpiles of Conventional Ammunition. (FSC.DOC/1/03). 19 November 2003.

¹⁸ Protocol on the Control of Firearms, Ammunition and Other Related Materials in the SADC (South African Development Community) Region. 09 March 2001.

Annex D – What you can do as a parliamentarian¹⁹



PARLIAMENTARIANS' ROLES			
AREA	REPRESENTATIVE	OVERSIGHT	
All Conventional Ammunition (CA) Areas	<ul style="list-style-type: none"> Can raise issues of concern (armed violence, stockpile security, stockpile management etc.) with the executive. Attend conventional ammunition related conferences, seminars etc as members of government delegations. Advocate for effective budgetary resources. 	<ul style="list-style-type: none"> Regularly introduce legislation, or amend existing legislation to incorporate international and national conventional ammunition stockpile management commitments and policies into the national legal system. 	<ul style="list-style-type: none"> Maintain regular parliamentary oversight of the Government's security and defence support policies.
	Legislative and Regulatory Issues	<ul style="list-style-type: none"> Gain an overview of effective ammunition stockpile management legislation in other countries. 	<ul style="list-style-type: none"> Introduce new legislation, or propose a thorough review of existing legislation on the effective stockpile management of conventional ammunition.

¹⁹ Some items extracted from Parliamentary Oversight of the Security Sector, DCAF, Geneva, 2004.



PARLIAMENTARIANS' ROLES			
AREA	REPRESENTATIVE	LEGISLATIVE	OVERSIGHT
Safe Conventional Ammunition Storage	<ul style="list-style-type: none"> Visit well managed ammunition depots in other countries in order to gain an understanding of what is required. 	<ul style="list-style-type: none"> Introduce legislation to 'safeguard' the explosion danger areas around ammunition depots. This should include elements to ensure that the local community cannot build residences within the specified danger area. Propose that effective budgetary allocations for safe infrastructure and trained staff are made available to the Ministries of Defence and Interior as a priority in order to reduce risk. 	<ul style="list-style-type: none"> Request an update from Government on ammunition stockpile management procedures and regulations.
CA Awareness	<ul style="list-style-type: none"> Raise awareness of the issue with the media, within your constituency and among civil society by identifying community-level problems caused by local ammunition depots. Influence the Government to act by making conventional ammunition stockpile management a political issue. 	<ul style="list-style-type: none"> Propose regular budgetary allocations for Conventional Ammunition Safety Awareness campaigns. (To ensure that individuals are made aware of the risks of living within ammunition depot explosion danger areas). 	<ul style="list-style-type: none"> Request an update from the Government on the effectiveness of the Awareness campaigns.
Ammunition Demilitarization and Destruction	<ul style="list-style-type: none"> Support the destruction of surplus ammunition in your public statements at national and international fora. 	<ul style="list-style-type: none"> Propose budgetary allocations for the destruction of surplus ammunition. 	<ul style="list-style-type: none"> Push for Parliament or its competent committee(s) to pay special attention to the issue of ammunition surpluses, and take action with a view to the rapid destruction of such surpluses.



Annex E – Useful conventional ammunition publications

E.1 Policy recommendations and overview

ORGANIZATION	AUTHOR	PUBLICATION
GICHD	Wilkinson A	Explosive Remnants of War (ERW), Undesired Explosive Events in Ammunition Storage Areas. (ISBN 2-88487-006-7).
International Alert	Green O, Holt S and Wilkinson A	Ammunition Stocks - Promoting Safe and Secure Storage and Disposal (BTB 18). (ISBN: 1898702-63-3)
SEESAC (2005)	Wilkinson A and Mitchell W	Ammunition Destruction - Environmental Releases from Open Burning and Open Detonation Events. (ISBN 86-905231-1-1)
SEESAC (2007)	Wilkinson A and Springmajer A	Ammunition Technical Assessment of Montenegro
Small Arms Survey (2006)	Pezard S and Anders H	Targetting Ammunition - A Primer. (ISBN: 2-8288-0072-5)
Small Arms Survey (2008)	Bevan J	Conventional Ammunition in Surplus - A Reference Guide. (ISBN: 2-8228-0092-X)
Small Arms Survey (2008)	Bevan J	Ammunition Tracing Kit - Procedures and Protocols for Recording Small Calibre Ammunition. (ISBN: 2-8288-0097-0)

E.2 Technical and safety

ORGANIZATION	PUBLICATION
EU	European Agreement concerning the International Carriage of Dangerous Goods by Rail (RID). 03 July 2001. (Amended 2007). (ISBN: 9789211390698)
EU	European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). 17 November 2007. (ISBN: 9789211391121).
IATA	Dangerous Goods Regulations. (49th Edition). 2008.
ICAO	Technical Instructions for the Safe Transport of Dangerous Goods by Air. Annex 18. (Doc 9284). 2008.
IMO	International Maritime Dangerous Goods Code (IMDG). May 2006.
NATO	Allied Ammunition Storage and Transportation Publication (AASPT) 1 - Manual of NATO Safety Principles for the Storage of Ammunition and Explosives. September 2003.
NATO	Allied Ammunition Storage and Transportation Publication (AASPT) 2 - Manual of NATO Safety Principles for the Transport of Ammunition and Explosives. September 2005.
NATO	Allied Ammunition Storage and Transportation Publication (AASPT) 3 - Manual of NATO Safety Principles for the Hazard Classification of Military Ammunition and Explosives. March 1995.
NATO	Allied Ammunition Storage and Transportation Publication (AASPT) 4 - Manual of NATO Safety Principles for Explosives Safety Risk Analysis. September 2003.
NATO	Allied Ordnance Publication 15 (AOP-15) - Guidance on the Assessment of the Safety and Suitability of Non-Nuclear Munitions for NATO Armed Forces. (Edition 2). November 1998.
NATO	Allied Ordnance Publication 38 (AOP-38) - Glossary of Terms and Definitions concerning the Safety and Suitability for Service of Munitions, Explosives and Related Products. (Edition 3). April 2002.

ORGANIZATION	PUBLICATION
NATO	Allied Ordnance Publication 48 (AOP-48) - Explosives - Nitrocellulose Based Propellants, Stability Test Procedures and Requirements Using Stabilizer Depletion.
NATO	Standardization Agreement 4117 (STANG-4117) - Stability Test Procedures and Requirements for Propellants stabilised with Diphenylamine, Ethyl Centralite or mixtures of both.
NATO	Standardization Agreement 4315 (STANAG-4315) - The Scientific Basis for the Whole Life Assessment of Munitions.
NATO	Standardization Agreement 4518 (STANAG-4518) - Safe Disposal of Munitions, Design Principles and Requirements, and Safety Assessment. (Edition 2). 08 October 2001.
NATO	Standardization Agreement 4527 (STANAG-4527) - Explosives, Chemical, Stability, Nitrocellulose based Propellants, Procedure for Assessment of Chemical Life and Temperature Dependence of Stabiliser Consumption Rates.
NATO	Standardization Agreement 4541 (STANAG-4541) - Explosives, Nitrocellulose Based Propellants Containing Nitroglycerine and Stabilized with Diphenylamine, Stability Test Procedures and Requirements.
NATO	Standardization Agreement 4620 (STANAG-4620) - Explosives - Nitrocellulose based Propellants - Stability Test Procedures and Requirements Using Stabilizer Depletion.
UN	United Nations Manual of Tests and Criteria (Part 1 - Explosives) (<i>Fourth Revised Edition</i>). December 2006.
UNECE	United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (<i>Fifteenth Revised Edition</i>). (ST/SG/AC.10/1/Rev.15). July 2007.
UNECE	Globally Harmonized System of Classification and Labelling of Chemicals. (ST/SG/AC.10/30/Rev.1). February 2006.

