

UNPLANNED EXPLOSIONS AT MUNITIONS SITES (UEMS)

Unplanned explosions at munitions sites (UEMS) are accidental explosions of abandoned, damaged, improperly stored, or properly stored stockpiles of ammunition and explosives at munitions sites (Berman and Reina, 2014, p. 3). UEMS are a persistent and global problem. They are a significant safety concern for the public and a major security challenge for states and societies. Addressing the challenge posed by UEMS requires not only putting in place effective stockpile management practices but also implementing a life-cycle management of ammunition (LCMA) system.

The problem

More than 610 UEMS took place between 1979 and March 2019, often with grave social, economic, and political consequences (Small Arms Survey, n.d.). UEMS have occurred in (at least) 101 countries around the world, with the number of incidents rising dramatically during the last 40 years. While the increased frequency can be partly explained by more global reporting and media coverage of explosive events, the accumulation of ageing and unstable ammunition and poor ammunition management policies and practices also contribute to the problem.

The causes

UEMS are often the result of underlying failures in the management of ammunition stockpiles resulting from ineffective LCMA systems. This leads to the accumulation of unsafe, unserviceable, and obsolete surpluses in the national stockpile. In addition, it leads to improper physical security and stockpile management (PSSM) practices. Together these factors result in an increase in safety (and

Box 1 Key definitions

What is the 'physical security' of stockpiles?

Activities to ensure the physical security of stockpiles provide the capability to detect, assess, communicate, delay, and respond to an unauthorized attempt at entry, and to deter and prevent the theft or loss of arms and ammunition stored at a particular site (King, 2011, p. 2).

What is stockpile management?

Stockpile management is the procedures and activities which lead to safe and secure accounting, storage, transportation, and handling of ammunition and explosives (UNODA, 2015, mod. 01.40, para. 3.275).

What is LCMA?

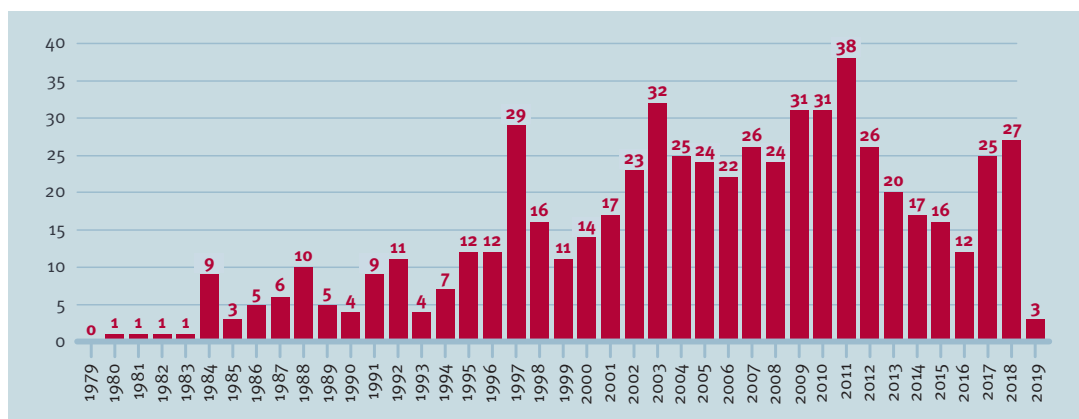
LCMA is a comprehensive set of integrated processes and activities that ensure sustainable and cost-effective management of ammunition, delivering a safe and secure stockpile that meets national strategic and operational needs (Carapic et al., 2018, p. 19).

security) risks across the stockpile chain. A proper understanding of the underlying and proximate causes of UEMS is important for determining how LCMA systems can be made more effective and how PSSM practices can be improved, to prevent explosions or mitigate the consequences should explosive events occur.

The consequences

UEMS have resulted in thousands of deaths, tens of thousands of injuries, and hundreds of thousands of people displaced (Berman and Reina, 2014, pp. 28–38). Billions of dollars' worth of infrastructure

Figure 1 UEMS incidents, 1979–2019 (March)



Note: At least 610 UEMS incidents have taken place over the 40-year period 1979–2019 (1 March). Due to availability of information, the database likely captures a higher number of UEMS incidents in the past three decades than in the period 1979–89.

Box 2 Gendered impacts of UEMS: a new research agenda

UEMS do not only have a devastating impact on military personnel and property, they are also a cause of civilian casualties and of damage to or destruction of civilian homes and critical infrastructure. UEMS affect the lives and livelihoods of local populations and create new vulnerabilities. While these consequences are likely to take on gendered dimensions, so far, there has been little disaggregated data or systematic analysis of the gendered impacts of UEMS. Given what is known about the gendered effects of anti-personnel landmines, cluster munitions, and the use of explosive weapons in populated areas, it is reasonable to assume that UEMS also have gendered consequences. The gendered impacts of UEMS need to be explored in more detail and addressed in international debates on safe and secure management of ammunition.

has been lost and tens of millions of dollars spent on clean-up costs and investment in replacement stocks. In some cases, as a consequence of explosions, national authorities have been found criminally or politically liable. A clear link exists between the effectiveness of a state's LCMA system and the extent of UEMS consequences: states which effectively manage their ammunition across its life cycle—from planning to procurement, stockpile management, and disposal—are able to reduce the probability of explosive events from occurring, and mitigate the consequences and damage caused by future UEMS.

The solution

While it is not possible to completely prevent UEMS incidents from happening, the implementation of safety and security measures (like those found in the International Ammunition Technical Guidelines, or IATG) can be undertaken unilaterally or with modest international assistance. In the long term, states can decrease the probability of UEMS by disposing of their unsafe, unserviceable, and obsolete ammunition and putting in place an effective LCMA system. States can also take responsibility for ammunition management by investing in the development of relevant normative and organizational frameworks, putting in place proper infrastructure and equipment, and ensuring the availability of adequately trained personnel and financial resources.

The challenges

A key challenge faced by national authorities, donors, and implementing organizations is to deliver appropriate technical assistance (often carried out under the heading of PSSM programmes) to address the immediate causes and consequences of UEMS, while at the same time tackling the underlying causes that lead to these events. The effectiveness of technical

initiatives cannot be guaranteed without addressing systemic shortcomings. International guidelines emphasize that states should take a proactive, rather than reactive, stance in ensuring the safety and security of stockpiles to the highest possible standards. Effectively addressing both is contingent on adopting a comprehensive approach to ammunition management. LCMA is an example of such an approach. ●

References

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Looking for more information on UEMS?

Several tools and resources are available on the Small Arms Survey website: <http://smallarmssurvey.org/UEMS>

- UEMS Database
- UEMS Handbook
- UEMS Incident Reporting Template

About the Small Arms Survey

The Small Arms Survey is a global centre of excellence whose mandate is to generate impartial, evidence-based, and policy-relevant knowledge on all aspects of small arms and armed violence. It is the principal international source of expertise, information, and analysis on small arms and armed violence issues, and acts as a resource for governments, policy-makers, researchers, and civil society. It is located in Geneva, Switzerland, and is a project of the Graduate Institute of International and Development Studies.

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