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Explosive Remnants of War and Their Consequences

Jonmahmad Rajabov
Tajikistan Mine Action Centre

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their energy for much longer and can inflict injury quite far away from the explosion. Due to this extended range, most types of fragmenting AP mines have the option of trip wire detonation, which enables the mine to go off when a person or vehicle trips a wire up to 10 metres (33 feet) away. A person is at risk in two different scenarios while travelling in an SUV. If the vehicle detonates an AP device that works primarily through blast, the distance from the expected impact point (below a wheel) to the person in the vehicle is normally high enough to create a safe distance. However, if the device creates fragments, they will not be the only danger as the same blast and fragments will also fly almost no protection against the high-velocity steel fragments. The standard car-body steel is 0.8 millimeter (0.03 inch) thick and will not prevent fragments from entering the cabin. To express it another way, when we are talking about various AP devices, the main concern for passengers in a vehicle is fragmentation rather than the shock blast effect from the explosion.

For that reason, in an area with a high risk of setting off fragmenting AP ammunition, fully armoured SUVs are recommended. However, apart from being very costly, excessively heavy and hard to obtain in sufficient numbers, fully armoured SUVs tend to give the wrong impression of the humanitarian workers—namely that they are not willing to take the same risks that the inhabitants must take on a daily basis.

As an alternative to fully armoured vehicles, there are a number of retrofit solutions on the market today that can provide a good level of protection for passengers travelling in soft-skinned vehicles. Although retrofit devices do not provide the same level of protection as factory-armoured SUVs, some can work well against a large number of ERW threats for about 10 years. One of the most widely preferred is the ballistic blanket. A passenger in vehicle that has fragmenting ERW is much better off if the vehicle is equipped with ballistic blankets than if it is wearing body armour; in addition to a higher ballistic level, the ballistic blankets will offer protection of the extremities and not only the torso. Otherwise, compared to a fully armoured SUV, many soft-skinned vehicles equipped with ballistic blankets are better protected against landmines detonating on the ground. The reason for this seeming inconsistency is because most armoured SUVs are designed with a level of protection according to an old German standard for armoured limousines known as the "two hand grenades" level. Unfortunately, the specified grenade—the German type DMS1—is quite small and contains relatively small fragments that are easily stopped. In addition to blankets, various systems exist on the market to shield the passengers from fragments.

New technologies with in-the-field armouring-options can be fitted and removed when there is no immediate danger. This type of protection is designed to provide an increased level of protection against ERW and other weapons that can be thrown at the vehicle. The increased availability of these options improves the safety potential for vehicles working in proximity to ERW. In turn, these options and those developed and implemented in the future will continue to better equip the world with regard to all UXO under their control. Tajikistan also has a landmine problem and has not yet signed the Convention on Certain Conventional Weapons (CCW), which regulates the use of landmines and unexploded ordnance. Tajikistan, therefore, has not signed the landmine ban treaty. In the future, most of the landmines and unexploded ordnance will be removed from the field and the remaining UXO will be safely destroyed. Currently, the government of Tajikistan is taking steps toward removing UXO from the field.

Explosive Remnants of War and Their Consequences

This article examines the post-conflict situation of Tajikistan, which has not only anti-personnel mines but various kinds of explosive remnants of war. Recently Tajikistan signed Protocol V of the Convention on Certain Conventional Weapons, which includes a commitment to clear the nation’s landmine problem. The author highlights some of the different sources of ERW in Tajikistan as well as the progress being made by authorities to clear and destroy ERW.

Impact of ERW in Tajikistan

In addition to the landmine problem, items of UXO also pose a great challenge in Tajikistan. It is estimated that most ERW remains in the country date from the civil war (1992–1997). The UXO in Tajikistan that remains on the ground is the result of being fired from military planes and helicopters, as well as shelling. A number of Tajik citizens have unfortunately died or been seriously injured.

It is necessary to note that items of UXO also appear in the country for reasons unrelated to war, including armed violence and attempted revolts. In Tajikistan, as in many other countries, mandatory military service requires continued and regular military training for the Armed Forces. It has been the case in Tajikistan that during training, some shells have been fired and accidentally landed outside the military training zone. These shells remain uncoped in areas where access to the public remains open, putting the local population at risk.

Worldwide, landmines and unexploded ordnance kill and maim approximately 20,000 people annually, one third of them children. In recent years, the international community has not paid serious attention to the risk posed by the UXO problem (i.e., explosive ordnance that is used during armed conflict but fails to detonate). It is impossible to accurately count the number of unexploded mines and it is also uncertain how much UXO remains. However, it is believed the total number of items of UXO, no matter the type, greatly exceed the total number of mines. UXO and other types of explosive remnants of war (ERW) are the main source of UXO, although some have been built on an improvised basis.

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In March 1993, two brothers—Bahiriddin and Nuriddin Eshonov, ages 19 and 17—found a piece of UXO and began to open it. This action resulted in an explosion and the brothers were both killed.

On 23 July 1993, 11-year-old Khusrav Rafiyev found an item of UXO and tried to open it. This action resulted in an explosion and all three of the boys were seriously injured.

On 23 April 2005 two brothers—Salim and Mahmadali Saimuddinov, ages 8 and 9 and 5 years-old Patiriddin Ilhomuddinov from the village of Khost found a piece of UXO while they were gathering wood. They began to cut it with an axe which resulted in an explosion and all five of the boys were seriously injured.

In accordance with the agreement between the government of the Republic of Tajikistan and the Organization for Security and Co-operation in Europe (OSCE) dated 16 May 2005 and within the framework of the Programme of Small Arms and Light Weapons, an Explosive Demolition Centre was established within the Ministry of Defence. Its main objective is to facilitate the demolition of ERW. More than 70 metric tons (77 tons) of ERW have been demolished as of 19 October 2006, and the work is ongoing.

Conclusion

Taking the serious consequences of ERW into consideration, it is necessary to point out that the adoption of Protocol V by the international community and its entry into force has great importance for the safety of civilians. Of course, it significantly depends on the process of accession of the governments and the fulfillment of its provisions by State Parties. TMAC hopes the implementation of Protocol V allows all parties to take practical measures to dispose of ERW efficiently and productively to provide safety for all.

Two children walking along a dusty road.

Industrial Ammunition Stockpile Recovery: Saving Energy and Resources and Protecting the Environment

This article presents the opportunities for the disposal of ammunition in an economically and environmentally feasible way, focusing on post-conflict disposal of larger stocks of ammunition with a special view to the ongoing Ammunition Stockpile Disposal Programme in Afghanistan managed by the Afghanistan New Beginning Programme. The contents of the article are based on the experiences gathered under the umbrella of the research and development programmes Western European Armament Group European Cooperation for the Long-Term in Defence and European Union Instrument Financier pour L’Environnement (EU LIFE), together with a study carried out for NATO’s Maintenance and Supply Agency, followed by field studies on ammunition stockpile destruction in mine-action programmes.

by Erik K. Lauritzen, Mogens Staunrup and Inés García Sánchez | NIRAS DEMEX & NIRAS Chemcontrol

O ldocer ammunition is a major problem in many countries, especially in war-torn countries like Afghanistan, Iraq, Sudan and Lebanon. To restore peace, it is imperative to dispose of the ammunition, as this will reduce the capabilities to continue the warfare. Explosive remnants of war are normally destroyed by open burning or open detonation (OB/OD) in suitable amounts according to national regulations or according to International Mine Action Standards 11.10 and 12.20. These methods create environmental problems, however, as huge quantities of metal fragments, dust and nitrogen oxides (NOx) are emitted to the environment.

Agenda for ERW and Ammunition Stockpile Disposal

As a result of the end of crises and conflicts around the world, vast quantities of ammunition have been destroyed by OB/OD. They have come from a variety of sources, primarily:

- Excess stocks of military ammunition resulting from the ending of crises/conflicts
- Unexploded ordnance on former military training or gunnery ranges
- Mines and UXOs remaining from military and some civil conflicts

The amount of ammunition in abandoned stockpiles in Iraq and Afghanistan comprises several hundred tonnes of various types of munitions. In the wake of the recent conflicts in the Persian and Balkan areas, many questions have been raised about post-war effects, such as the environmental pollution caused by OB/OD of ammunition stockpiles. Kuwait has claimed compensation from the Iraqi government for severe damage of the desert environment caused by chemical pollution of sand and soil because of OB/OD disposal of abandoned Iraqi ammunition after the First Gulf War in 1991.

Today the international market for scrap metal is very favourable, and the prices of scrap iron and especially copper, stainless steel and aluminium are rising.

Recovery and recycling of explosives for industrial use has not proven feasible. Recyclable explosives from ammunition are not competitive with industrially manufactured explosives. However, explosive compounds might be incinerated for energy recovery or reconstituted for fertilizing or other chemical purposes.

The distance of abandoned ammunition stockpiles in a post-conflict area, necessary logistics management and implementation of appropriate ammunition-disposal procedures require a lot of human resources. The work related to ammunition-stockpile management is highly suitable for demobilization, demilitarization and reintegration programmes.

Taking all environmental, economical and social benefits derived from the recovery of ammunition stockpiles into consideration, industrial ammunition stockpile recovery is far preferable to the currently applied, normal practice of OB/OD. However, further investigation and proof of concept is urgently needed.