

Safe Storage Of Ammunition and Storage of Ammunition and Explosives

This is the 3rd and Last Part of the Articles About the Situation in Cambodia

By Adrian Sprangemeijer, Member Advisory Board

Background

The present problem with regard to safe storage of ammunition and explosives originates partly from items left over after the 30 year of conflicts. Also during demining operations large quantities of explosives and ammunition are found. These are normally dealt with in the demining area through detonation by assigned EOD teams but, depending on the demining area some or all of the explosives found will be temporarily stored.

It is the storage that creates the biggest hazard to the population at large as they are more often than not located close to housing areas. Even police stations within the city or village limits are used to store ammunition/explosives handed in by the local population. The picture on the left was taken in a police station in the center of Sihanoukville, also known as Kâmpóng Sôam, the only seaport in Cambodia and also one of the major tourist areas for vacations on the beach. (see map below).

In the following pictures it is even clear that sometimes improvised explosive devices are part of the handed in ammunition. When dealing with local authorities it is not always easy to convince them that in principle all ammunition and explosives are to be destroyed by either burning, detonation or demilitarization.

Ammunition storage at a local police station



Improvised explosive devices found at local police station, originating from the Pol Pot, Khmer Rouge period.

Complicating Factors

The police in Cambodia are not trained to recognize ammunition and explosives, other than the few items they use. Some police have a military background and the result is that they consider themselves as experts which again can lead to devastating results as shown on various occasions.

Recently, as the result of studies on explosive incident reporting, yet one other hardly existing phenomenon, the Cambodian National Police has started to train 120 police officers as reconnaissance agents. This training is done at the Cambodian Mine Action Centre (CMAC) Training facilities in Kompong Chhnang, approximately 90 kilometres from Phnom Penh. It should be considered as a start and a follow-up will largely depend on the experiences gained in the near future.



Travelling around the country has given me the opportunity to view a large number of storage areas both official and improvised and both within the Army and the police.

Due to the impoverished conditions in the country even official Army Ammunition Storage buildings are of a quality that will immediately give everyone with any knowledge of storage conditions and ammunition grey-hair instantaneously.

It is for those reasons that incidents and accidents happen as was the case in Battambang in April 2005, the second largest town in the country, where a military storage building exploded

killing 8 persons and destroying 200 houses. Some ammunition articles were found at a distance of approximately 12 kilometres.

These pictures above show the area where the storage building used to be and the damage done to one of the houses.



Working in surroundings like these is a challenge for every ammunition technical officer or Explosive Ordnance Disposal operator.

As an example I will give some information on Bunker X in Military Storage Area Y in Kompong Speu province roughly 50 kilometres south of Phnom Penh.

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In the bunker there are approximately 3,000 to 4,000 Mines, Anti Personnel, MD-82B from Vietnamese origin. Some of these mines are stored in wooden boxes but a very large amount have been piled on the floor or stuffed into food bags that are unravelling at the seams. Many are in “Depot Stock” condition, however a large amount are dirty and would appear to have either been used or stored in muddy conditions. Given this situation; one cannot say with a high degree of reliability that all mines have the detonator/booster assembly removed. Should a mine stored in the food bag still have the detonator in place, it is quite feasible that the safety pin could accidentally be removed while handling the bag.

While this might sound unlikely, a post-blast investigation for the Croatian government in April 1994 on an ammunition depot disaster at Duboki Jarak that killed six people, wounded 19, and spread munitions over 18 km, proved that the root of the explosion was a mine that had been recovered and not properly saved before going into storage.



In the same bunker X a large quantity of PMN and PMN-2 mines were mixed with the MD-82B, together with approximately 500,000+ small arms ammunitions, RPG-2, RPG-7 and RPG-7M munitions, Mortars, Propellant charge for RPG, Cartridge Activated Devices (CAD) and Artillery/Mortar Ignition Charges.



Another example is the “storage building” in one of the Brigades. The “building” is made of a wooden structure with corrugated iron sheets used both as walls and as the roof. There is absolutely no ventilation.

On top of this there are climate conditions that are deteriorating the ammunition items very rapidly. High temperatures, high humidity, bad or no ventilation of the buildings creates a situation where the ammunition and explosives can start sweating, thus creating crystals that are extremely dangerous. This is only one example of many of the same storage sites around the country.

For proper disposal of the ammunition there are no funds available and thus the situation will only get worse. A recently finished feasibility study on “Improved Safe Storage of Ammunition and Explosives in the Cambodian Armed Forces” came to the following conclusions:

1. As most of the present buildings are in no condition to be renovated, new buildings should be constructed in accordance with, for example AASTP-1, Manual of NATO Safety Principles for the Storage of Military Ammunition and Explosives.
2. Storage should be in accordance with the Compatibility Groups.
3. Training should be given to Logistic personnel responsible for the storage of ammunition and explosives on stockpile management, storage conditions and quality control.
4. Ammunition and explosives no longer in use, in dangerous condition, or marked as surplus should be destroyed by means of open burning or detonation. As a consequence proper demolition sites need to be assigned by the Ministry of National Defence in consultation with the provincial authorities.
5. **The estimated amount of ammunition and explosives to be destroyed or de-militarized is over 40,000 tons.**
6. The possibility to use abrasive cutting techniques and steaming equipment for the larger calibres should be researched in order to reclaim some of the high quality metal and thus reducing the costs.
7. As there is hardly any trained capacity in Cambodia to carry out multi-item demolition operations, training should be given to ensure safe operations. People to be trained can be selected from Royal Cambodian Armed Forces (RCAF) Engineer Brigade.
8. A proper Registration and Stockpile Management System should be introduced. This implies that equipment needs to be provided and training needs to be given.
9. A manual should be developed to train logistic personnel in registration and stockpile management.
10. Consultations should take place with the Ministry of National Defence to decide on the amount, type, etc. of ammunition and explosives to be stored in each Military Region. As a result the places and the number of buildings can be decided on per Military Region.
11. Given the structure within the Ministry of National Defence discussions should be held to determine whether centralized storage is possible to reduce the number of buildings and to minimize the risk for the surroundings.
12. A pilot project should be carried out in Military Region 3 to determine the scope of work and the actual costs involved.

To implement the conclusions will take a long time and a massive amount of money while within the donor community there is some reluctance to finance projects like this as it is considered

support of the military. This might partially be true, but the advantages for the local population with respect to safety and security are enormous.

As of August 1st 2007, the German Government is supporting a pilot project aimed at solving these problems. The Gesellschaft für Technische Zusammenarbeit (GTZ) in close cooperation with the Bundeswehr Verification Centre (German Armed Forces) are tasked to carry out training and support in Military Region 3.

It is not only in Cambodia that situations like those mentioned are encountered. Afghanistan, Iraq, Eritrea, the Balkans, Angola and many other less-developed countries will show the same problems.

Dealing with those situations can happen to all explosive ordnance disposal personnel being posted in those countries and even to police officers training local personnel in ordinary police strategies.

It is for those colleagues that IABTI should become a safe haven for information and a place where they can rely and call on the experience of colleagues that have been there before. To achieve this, the Organization should become more open to the military side of the explosives spectrum. There is a wealth of knowledge available there and not only on conventional munitions but on improvised explosive devices as well.

I encourage others with similar experience in foreign countries to come forward and publish their experiences in the Detonator for all to learn and understand the differences in difficulties that our colleagues are encountering in a large variety of countries.

The people we are fighting at home are trained in some of the countries like Afghanistan and others and it is evident that explosives and ammunition are available in abundance if you look at the explosive remnants of war and the storage conditions in these countries.

Keep the faith.

Adrian Sprangemeijer
Member Advisory Board



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