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STOCKPILE DESTRUCTION OF OBSOLETE SURFACE-TO-AIR MISSILES IN MALI

by Marlène Dupouy and Charles Frisby [United Nations Mine Action Service]

Inadequate management of ammunition stockpiles can cause accidental explosions. The Small Arms Survey lists a total of 528 unplanned explosions of ammunition storage sites since January 1979, in more than half of United Nations member states.¹ The March 2012 incident, which took place in Brazzaville, Republic of the Congo, is a reminder of the danger posed by poor stockpile management, as well as the tragic consequences affecting the population, environment and governments as a result of financial costs of clean-up exercises. The explosions in Brazzaville killed at least 300 people, injured more than 2,500 and left over 121,000 homeless, according to Small Arms Survey.²

In Mali, the United Nations Mine Action Service (UNMAS) operates under the mandate of the United Nations Multidimensional Integrated Stabilization Mission (MINUSMA) to help the government ensure the safe and effective management, storage and security of national stockpiles.

Responding to a request from the Malian Ministry of Defence to reduce the immediate risks posed by unsafe missiles, stored near the Bamako-Sénou International Airport (Mali's capital city), UNMAS disposed of 85 obsolete and expired surface-to-air missiles. The demolitions began on 28 March 2014 in the Koulikoro region, 80 km (50 mi) north of Bamako, and were successfully completed on 6 June 2014. Surface-to-air missiles are not commonly



An obsolete surface-to-air missile covered with dust in Bamako before being moved to the demolition site.

All photos courtesy of Marc Vaillant, UNMAS Mali.

encountered and require specific skills and methodologies for disposal.

Identification of a Threat

Over the course of UNMAS' assessments of ammunition-storage facilities throughout Mali, a number of stockpiles of unserviceable, obsolete and unsafe ammunition were found and recorded—these included 85 surface-to-air missiles located in an urban area. The shelf life of the missiles—which were delivered to Mali from the Soviet Union in the late 1970s—expired in 1988, leaving the missiles unserviceable. Unless destroyed, the propellant within the missiles would

have degraded over time to the point of an apparent spontaneous combustion. Gradual degradation of explosive or hazardous components in outdated ammunition poses a serious explosive hazard and is a primary cause of unplanned explosions of ammunition stockpiles.

The Demolition Process

Starting on 28 March 2014, all operations were closely coordinated with the Malian Defence and Security Forces (MDSF), which contributed to building a relationship of trust between UNMAS and the Malian authorities. Following a technical assessment of the physical



All missiles were moved to the demolition site progressively, with an average of two missiles moved and destroyed every day over two months.



UNMAS team securing and dismantling a missile in preparation of destruction.



David Gressly, Deputy Special Representative of the U.N. Secretary General/ Humanitarian and Resident Coordinator, activates the demolition of two missiles during his visit to the demolition site on 18 April 2015, with the assistance of UNMAS Programme Manager, Charles Frisby.

condition of the missiles, the team decided to move them carefully by truck from their location in Bamako to an isolated demolition site in Koulikoro, which UNMAS previously prepared.

Six members of MDSF, who previously underwent Explosive Ordnance Disposal (EOD) training, were deployed to the demolition site for on-the-job training where they gained practical skills and firsthand experience as they participated in the disposal process. Following preliminary preparation of the missiles, they were disposed of through a controlled burn of the rocket motor and propellant, coupled with detonation of the high explosive components.

Professionally implemented in accordance with International Mine Action Standards (IMAS) and the International Ammunition Technical Guidelines (IATG), the operation went smoothly and safely. A ceremony attended by representatives from MDSF, the United Nations and national and international journalists marked the completion of the project on 6 June 2014.

Stockpile Management Impact

Disposal of obsolete ammunition stockpiles helps to minimize the risk of accidental explosions, therefore protecting civilians from potential threat and displacement, while also preventing the destruction of infrastructure and reducing related economic impact. Stockpile management is more than the prevention of unplanned or accidental explosions—it is also a matter of preventing unregulated access to weaponry. As such, the project also contributes to the U.N.'s regional and international disarmament and counter proliferation efforts.

This project is part of UNMAS' efforts to support the Malian authorities



Deputy Special Representative of the U.N. Secretary General/ Humanitarian and Resident Coordinator, David Gressly, during his field visit on 18 April 2014, with UNMAS Programme Manager Charles Frisby.

to secure and safely manage national weapons and ammunition stockpiles, which includes the refurbishment of armories and the provision of technical support and training to the MDSF. Training and capacity-building activities are essential to ensure the sustainability of such projects. Knowledge and competencies must be developed at various levels, ranging from the institutions responsible for security to the personnel in charge of managing weapons and ammunition depots. UNMAS Mali provided training courses in storage safety and management to 57 MDSF personnel (depot manager, armorer and administrator levels) during 2013 and 2014. In addition, 50 MDSF personnel from Gao and Bamako received a practical two-day introduction to stockpile safety and management. UNMAS regularly shares key lessons learned with the headquarters team and the peacekeeping mission.

Planning for the Future

National authorities expressed appreciation for the safe destruction of the missiles, after which the Ministry of Defence made a new request for the destruction of an additional 60 tons of obsolete ammunition stored in the wider area of Bamako, (mostly artillery projectiles, mortars, rockets and grenades). The latter was completed in late June 2014.

The UNMAS program has destroyed a total of 390 tons of weapons and ammunition in Mali, with operations ongoing. This first disposal of 85 missiles laid the foundations for years of partnership with the government of Mali to reinforce its ability to manage explosive threats throughout the country. ©

See endnotes page ##

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