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Conflict in Libya and the Future Risk to the Demining Community

The evolving face of modern warfare in Libya and elsewhere will leave behind an explosives legacy that the humanitarian-demining community must manage. This article examines the innovation of the anti-government forces in employing modified weaponry and assesses some of the challenges this might bring to humanitarian demining and explosive-ordnance-disposal teams in the future.

by Adrian King [Allen-Vanguard Ltd.]

Since the beginning of Libya's armed conflict, the anti-government militia has desperately sought the means with which to counter the superior military capability of the better-trained and equipped pro-Gadhafi military forces. Arguably, much of the capability vacuum was filled to some extent by NATO's military intervention, which although providing a potent and significant air component on the side of the rebels, left anti-government forces disadvantaged, especially during the initial ground-fighting encounters.



57mm air-to-ground aircraft rocket pod prepared in a ground-to-ground role mounted on a vehicle with improvised launch platform.

All photos courtesy of the author.

Necessity Drives Innovation

"Necessity is the mother of invention," wrote Plato. This is a rather apt description of the anti-government forces' predicament at the outset of the conflict and might also be taken to mean "desperate situations often breed innovative solutions"; and in this, the anti-Gadhafi rebels have on occasion excelled. Their ideas were inspired by a glut of available ammunition and a chronic lack of the parent weapon systems from which to fire and launch it. While certainly innovative, however, the rebels have not always reflected on either the viability or the safety aspects of modifying or copying military weapon systems. Initially, the underlying necessity to experiment and develop improvised weapons was in part due to their possession



An anti-government militia prepares a homemade electric command-initiated firing pack constructed from domestic light switches in preparation to fire 122mm GRAD rockets from an improvised launcher in Benghazi, Libya on 19 April 2011.

of a very limited array of serviceable military vehicles and the personnel trained to operate them. This led to the wholesale modification of any suitable motor vehicle to withstand small-arms fire effects and allow the mounting of heavy weapons to provide the mobility of firepower and transport to the area of battle much needed at the time.

Improvisation is not entirely limited to vehicle-mounted weaponry; dismantled direct and indirect fire systems were also invented or modified. The apparent lack of mortar tubes and rocket-launch platforms, for example, encouraged a rampant garage industry in designing and building the required hardware. Necessity has driven this industry, and although many designs are practical under the circumstances, some will inevitably be proven unsafe and more of a hazard to the user than the intended target.

As anti-Ghadafi forces gained the ascendancy, a requirement developed to employ weapons with some degree of stand-off. This has led to a unique array of sometimes improbable constructions that—although not particularly effective in the majority of cases—gave some degree of capacity to fight entrenched forces occupying the towns and villages

unfortunate enough to be caught up in the conflict. The inaccuracy and rather random use of these weapons has probably had negligible tactical effect, especially in the early stages, but these factors will undoubtedly have contributed to the human cost of the rebellion.

Weapon Types Employed

Apart from explosive-remnants-of-war challenges normally anticipated following armed conflict, demining organizations in Libya will likely confront improvised weapons and explosive devices that are perhaps different from accepted explosive threats within the context of humanitarian-demining activity. Improvised explosive devices used by both sides of the Libyan conflict are now a likely escalation as the conflict develops with more asymmetric tactics. Although the rebels, fighting a superior enemy, may have gained more from IED employment at the outset, pro-Gadhafi forces will probably also use IEDs as their resistance continues while resolution is sought to end the conflict, and perhaps in the aftermath.



BMP-1 turret welded to a frame mounted on the back of a Toyota Hilux 4x4. This heavily improvised system was recorded firing the integral 73mm gun during the battle of Galaa/Sofitt Hill, 07 June 2011.

Even at sea, examples of asymmetric tactics were employed as in the case of a high-explosives-laden, rigid-hulled boat with two mannequins on board that was used as a decoy to attack patrolling naval vessels off the port of

Misrata. The boat was fortunately detected and destroyed (and the explosives detonated) by gunfire, but under different circumstances this water-borne IED could have damaged or even sunk a military or commercial vessel. Although the means of initiation were never discovered, radio-signal detonation from shore was the most probable trigger mechanism for this device.

Tactical Warfare Shifts

Libya's situation is further evidence of the altering nature of modern conflicts and an indication of what the future holds. Conventional military might is confronting increasingly asymmetric tactics, where the ill-equipped and less-able force compensates for military weakness through the employment of improvised weapons and IEDs—tactical weapons with strategic effect. Certainly in Libya both combatant elements have innovated as military hardware is destroyed and conventional warfare tactics become less viable.

Preparedness of Demining Organizations

With humanitarian-demining personnel deploying to destabilized countries such as Libya, mine-action operations must reflect on and mitigate against the specific threats through their training regimes and operating procedures.

While planned demining activity will always be required, an increasing complexity also emerges to the explosive-ordnance-disposal aspects of demining operations where complex tasks are encountered more frequently because of changing warfare tactics that cause greater exposure to such threats. Demining organizations face a challenging future in Libya and elsewhere, and improvised weapons and IEDs—some of which will be devised locally while others will be copies from conflict areas such as



Explosives removed from a Belgian PRB-M3A1 anti-tank mine to be used in IED manufacturing.

Afghanistan, Iraq and perhaps Yemen—will undoubtedly have an effect on operations. With no on-the-ground Western military presence in Libya, demining organizations will face EOD burdens and challenges. Skill levels and operating procedures to meet the challenge must develop in order to mitigate the current and emerging explosive threats, and the greater exposure of personnel to IEDs, nonconventional explosive devices and weaponry. ◊



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