

افغانستان آزاد – آزاد افغانستان

AA-AA

چو کشور نیاشد تن من مباد بدین بوم ویر زنده یک تن مباد
همه سر به سر تن به کشتن دهیم از آن به که کشور به دشمن دهیم

www.afgazad.com

afgazad@gmail.com

European Languages

زبان های اروپایی

M. Mandl

Magic bullets - are they legal under humanitarian law?

The Economist
1/14/2012

IN WARFARE, an outgunned force that manoeuvres to shoot from behind cover such as rocks or the rim of a ditch can often save itself from an otherwise nearly certain rout. That, at least, was the opinion of Carl von Clausewitz, a Prussian general whose treatise “On War” was the handbook of many 19th-century military men. And modern ones, too. Almost two centuries after Clausewitz committed his thoughts to print, underdog forces such as the Afghan Taliban continue to make deadly use of the art of concealment against technologically superior armies. But not, perhaps, for much longer.

For a collaboration between ATK, an American firm, and Heckler & Koch, a German one, has come up with a rifle that negates the advantage of cover which Clausewitz described, by borrowing an idea from one of his contemporaries, Henry Shrapnel. The XM25, as the new gun is known, weighs about 6kg (13lb) and fires a 25mm round. The trick is that instead of having to be aimed directly at the target, this round need only be aimed at a place in proximity to it. Once there, it explodes—just like Shrapnel’s original artillery shells—and the fragments kill the enemy. It knows when to explode because of a timed fuse.

In Shrapnel’s shells this fuse was made of gunpowder. In the XM25 it is a small computer inside the bullet that monitors details of the projectile’s flight. A handful of XM25s are now being tested in Afghanistan by the Americans. So far, they have been used on more than 200 occasions. Most of these fights ended quickly, and in America’s favour, according to Lieutenant-Colonel Shawn Lucas, who is in charge of the weapon’s field-testing programme. Indeed, the programme has been so successful that the army has ordered 36 more of the new rifles. A new equaliser Each rifle bullet is programmed, before it is fired, by a second computer in the rifle itself. To

determine the distance to the target, the gunman shines a laser rangefinder attached to the rifle at whatever is shielding the enemy. If that enemy is in a ditch, a nearby object—a tree trunk behind or to the side of the ditch, perhaps—will do. Looking through the rifle's telescopic sight, the gunman then estimates the distance from this object to the target. He presses a button near the trigger to add that value to (or subtract it from) the distance determined by the rangefinder. When the round is fired, the internal computer counts the number of rotations it makes, to calculate the distance flown.

The rifle's muzzle velocity is 210 metres a second, which is the starting point for the calculation. When the computer calculates that the round has flown the requisite distance, it issues the instruction to detonate. The explosion creates a burst of shrapnel that is lethal within a radius of several metres (exact details are classified). And the whole process takes less than five seconds. Just how the turn-counting fuse works is an even more closely guarded secret than the lethal radius—though judging by the number of failed attempts to hack into computers that might be expected to hold information about it, many people would dearly like to know. Certainly, the trick is not easy. An alternative design developed in South Korea, which clocks flight time rather than number of rotations, seems plagued by problems. Last year South Korea's Agency of Defence Development halted production of trial versions of the K-11, as this rifle is called, and announced a redesign, following serious malfunctions. The XM25, in contrast, appears to work well. It is accurate at ranges of up to 500 metres.

That is almost as far as America's main assault rifle, the M-16, can shoot conventional bullets with accuracy. More pertinently, it is nearly double the range of the AK-47, a rifle of Soviet design that is used by many insurgent groups. And according to Sergeant-Major Bernard McPherson, part of the XM25's development programme in Virginia, it is receiving rave reviews from soldiers in the field. It is also inspiring imitation. Though several European countries are planning to buy the XM25, some of them, including Germany, are working on weapons that operate in the same way, but fire 40mm rounds. Such bullets are easier (and less expensive) to make than 25mm rounds. But starting with a smaller design increases the usefulness of the technology. It is easier to enlarge components than to shrink them, so the XM25 bullet design could, without too much trouble, be made to fit ammunition intended for weapons with larger-bore barrels. ATK has already begun modifying the technology to fit in the shells fired by marine-corps artillery pieces, according to Jeff Janey, the firm's vice-president of business development. None of this is cheap. An XM25 with a thermal sight and a four-round magazine is reckoned by informed observers of the field to cost about \$35,000. The bullets, which have to be made by hand at the moment, clock in at several hundred dollars each. But the price of a bullet could fall to as low as \$25 when ATK switches to automated production. And even at its current price, both gun and ammunition compare favourably with alternative methods of dealing with dug-in gunmen. The most reliable of these is an airstrike. But that is costly.

Grenade launchers, mortars and conventional artillery are cheaper, but more likely than a single explosive bullet to cause collateral damage. The upshot, then, is that though Clausewitz has had a good run, his advice in this regard could soon become redundant. In coming years, those who fight technologically advanced armies would be wise to note that ducking for cover—one of the oldest ploys in combat—will no longer offer the sanctuary it has in centuries past.