

5.56mm or 7.62mm? Small arms alternatives explored

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Small arms developments tend to occur in cycles and decisions are made that influence events for tens of years ahead.

The 'boots on the ground,' from both the US and UK, have recently been voicing concern about aspects such as system mechanical reliability, terminal ballistic reliability and effective range. The U.S. Congress has also asked questions about the suitability of the current range of small arms. The current small arms mix employed by the NATO forces in Afghanistan has required some significant 'patches' to try and remedy evident problems. The opposing forces in Afghanistan have used the topography to their advantage while employing tactics to highlight the weakness of the original NATO small arms mix.

Reports from the Royal Marines returning from Afghanistan indicated that they would prefer to use the 7.62x51 rather than the (M855) 5.56x45 ammunition. The penalty, for that choice, is the addition of significant weight and added recoil. The added weight of rifle and ammunition inhibits the ability of infantry to manoeuvre. The recoil is generally unhelpful but can be particularly difficult in closed terrain where weight, flash and noise compound the difficulties.

If both open terrain and built-up areas are encountered within the same patrol it can lead to a mismatch of the available small arms and the mission. We need, therefore, a rifle and ammunition combination that can perform effectively in both of these situations. We are, however, currently committed to the (M855) 5.56x45 NATO round and the majority of our small arms are so configured. The current 5.56x45 is easily outranged in more open country, typical of Afghanistan. The Green Zone of Helmand, however, is invariably similar to the conditions found in an urban environment.

Future options for a new small arms calibre might include:

- 6.5 Grendel (Alexander Arms)
- 6.5x47 Lapua
- 6.5 Creedmoor (Hornady)
- 6.8 SPC (Remington)
- .280 British (7x43) EM-2
- .260 Remington

It should also be considered that having a single calibre may be inappropriate when taking belted MG's ammunition into the equation. During WW1 machine guns were used for long range area denial (A Rifleman Went to War, Herbert W. McBride). It might be important, at some point in the future, to have that capability. A more accurate, long range, light Assault Rifle ammunition might not easily fulfil that requirement.

In more than 50% of Afghan engagements the majority of the infantry involved cannot engage the enemy with the (M855) 5.56x45 due to range. This negates the majority of the firepower of the squad and leaves those with 7.62 NATO (GPMG and Sharpshooter Rifle) more exposed.

Anthony G. Williams has also written the following about the 5.56x45 performance:

"More than 50% of engagements are beyond effective rifle range (70% with short-barrelled guns). Inadequate suppressive effect (fire ignored), unreliable terminal effects and erratic yaw and lack of barrier penetration (easily stopped or deflected)."

The Afghan Insurgents have not embraced very light ammunition calibres and consequently they can derive clear advantage, particularly in an ambush, at a range of their choosing. When we are accurately outranged there is a real possibility we can lose the small unit initiative. Consequently, we have had to resort to air and artillery support to prevent being pinned down, outflanked and overrun.

The result of close air or artillery is often collateral damage, leading to the loss of the good-will of the local population, which has been palpable in Wanat, Afghanistan. Everything we do, subsequently, becomes harder and more costly.

"We win the battles but lose the war," said Stanley McChrystal, four-star General, U.S. Army retired.

The infantry are, in general, carrying too much weight for the Afghan terrain and climate. The current weakness of the (M855) 5.56x45 small arms is adding to the problem by pushing greater reliance on heavier 7.62 NATO weapons. Urgent limited small arms procurements have taken place to ameliorate the situation but the inherent problems of weight, recoil, flash and noise of the 7.62 NATO round will still exist.

It has been famously said that, "we should plan for the next war and not the last one." We appear to have been configured, in equipment and tactics (air and artillery), more for the period between the 1950s to 1980s and have had more in common with the defence of the Fulda Gap than an isolated mud walled compound in a rural village in Afghanistan.

The Afghan insurgency might, ultimately, not be a one-off event, and similar scenarios might arise in the future, irrespective of the outcome in Afghanistan.

In addition, terminal ballistic requirements and the possible replacement of lead with more eco-friendly components are leading us towards new bullet designs that may have long-term implications for certain Conventions. There are always choices and those choices have ramifications.

The range problems, seen in Afghanistan, will continue to exist even with the new SOST and M855Mk1 ammunition. These new designs should, however, show improvements in key areas such as: intermediate barrier penetration, terminal performance and reduced muzzle flash.

I believe we are now close to a turning point in small arms history, as some systems are now seen as having significant limitations in an Afghanistan type theatre of operations.

I believe that fundamental changes in small arms, in conjunction with a more holistic approach to training and marksmanship, are needed to regain what Ehrhart, in his *Monograph Increasing Small Arms Lethality in Afghanistan*, called "Taking Back the Infantry Half-Kilometre."

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