

possession by civilians of automatic firearms is normally restricted or illegal. This is not the case in countries where security cannot be reasonably assured by the state, where citizens are allowed or even encouraged to arm themselves, where the state is either unable or unwilling to enforce its own regulations or, obviously, where there are no regulations.

### **Ammunition**

The firearm is the launcher for the object that creates casualties – be it a projectile or a bullet. This perfunctory overview will merely highlight a few issues and observations.<sup>21</sup> Developments in ammunition and the weapons that fire them are generally synergistic, with improvements in one enabling improvements in the other. As already stated, the development of “smokeless powder” along with the self-contained cartridge (incorporating the casing, propellant, primer and bullet) occurred circa the late 19<sup>th</sup> century and represented the last revolutionary change in ammunition development. Subsequent improvements have been incremental and progressive, focusing on improved ballistics, lighter ammunition, and enhanced role characteristics. This statement is not meant to suggest that evolutionary developments have been insignificant by comparison. Over time a number of incremental improvements have offered considerable enhancements in ammunition effectiveness. In some instances an improvement in one area necessarily has necessarily led to degradation in another (for example, lighter ammunition and smaller calibers generally mean less effective ranges and potentially less energy transferred to the target). Personal military small arms have tended towards smaller-sized calibers. A number of factors have mitigated for this trend. Analyses of combat situations during and after WW II suggest that few soldiers effectively engaged the enemy with small arms at ranges exceeding 300 metres.<sup>22</sup> As well, the advent of medium and heavy machine guns and light and medium mortars, together with their subsequent increase in availability and performance has made these the more effective weapons for engaging the enemy at longer ranges. Fighting in built-up areas (FIBUA) favoured short range sub-machine guns (SMGs), something which has increased the types of weapons carried. Considering the constant effort to lower the combat loads of soldiers (or at least increase the amount of ammunition they can carry)

---

<sup>21</sup> For a technical overview of military ammunition development and current use see for example: Ivan Hogg, *Small Arms Grenades and Projected Munitions* (1998); Gander and Hogg (ed), *Jane's Ammunition Handbook* (Jane's Information Group Ltd, 1998-99). For an overview of ammunition within the context of SALW controls see: Canada, Department of Foreign Affairs and International Trade with the assistance of David DeClerq, *The Role of Ammunition Controls in Addressing Excessive and Destabilizing Accumulations of Small Arms* (April 1998); and Rachel Stohl, *Deadly Rounds: Ammunition and Armed Conflict* (BASIC, May 1998).

<sup>22</sup> According to an unattributed study provided by Robert Anglin (a former Canadian Army officer responsible for small arms requirements, a small arms collector and a graduate of the UK Army Technical Staff College specializing in small arms), various studies by the US Army regarding small arms engagements in WW II, Korea and Vietnam, and UK Army studies based on Korean engagements all indicated that 73 per cent of all small arms engagements took place at less than 100 metres.