

Small arms and light weapons (SALW) : the actual weapons of mass destruction



V. F. Polcaro

INAF/IAPS

Astronomy and Cultural Heritage Centre, Ferrara University

USPID

Distracted by media hype about weapons of mass destruction in possession of this or that dictator of some "rogue country" ...



- ... (often later proved unjustified), public opinion, as well as "professional" pacifists, does not seem to realize that the vast majority of the victims, including civil, of all the wars that have plagued the last decades has fallen because of extremely conventional weapons.

- Among them, many (for example, almost all of the two million people killed in the so-called "tribal wars" in Central Africa of the 90s) are dead because of "small arms" and "light weapons".

- This category of instruments of death is not actually defined with great precision: in general, it includes all those weapons whose use and maintenance requires one person.

- Therefore belong to SALW pistols and rifles of all types, including automatic ones (commonly called "submachine guns"), "light" machine guns, "shoulder" rocket launchers and cannons, portable mortars, hand grenades of any type, mines and flamethrowers.

- However, the boundary between "small arms and light weapons" and "heavy weapons" is obviously blurred, and it is sometimes difficult to classify certain types of machine guns, rocket launchers and mortars, although this fact can have serious legal and political implications.

- For clarity and brevity, this discussion will be limited, however, to the analysis of issues related to the simpler types of small arms, also given that these are precisely the ones that cause the greatest number of victims.



Let us see what makes so dangerous these so undervalued weapons.

- First, the unit cost can be very low: if a fine hunting rifle can cost thousands of euro, the AK47 submachine gun (the famous "Kalashnikov" of Soviet design, but now product in 14 countries and sold in 78 countries), in Afghanistan does not cost more than \$ 10 per piece.
- This low cost is certainly due to the availability on the market of millions and millions of pieces, from the dismantling or the substantial reduction in the workforce of powerful armies (due at the end of wars or the collapse of some countries), but also to the fact that most of light weapons are designed in such a way as to make the production very simple.
- For example, the English design submachine gun "Sten", one of the most used weapon during World War II, requires a technology that was so trivial that it is said that the Sandinistas insurgents of Nicaragua would produce on that project (available on dozens of specialized texts and now even "networking") thousands of pieces, in artisanal factories hidden in the forest.
- In addition, the maintenance of small arms does require a little care and, if it is necessary to carry out a repair, it is sufficient the equipment available in any machine shop.
- The combination of these factors creates the extreme spread of these weapons, which is a major cause of their lethality and of the difficulty in their control.



McMillan Tactical Hunter Price: \$5,187



AK 47 Price: \$ 10 (in Afghanistan)



Sten

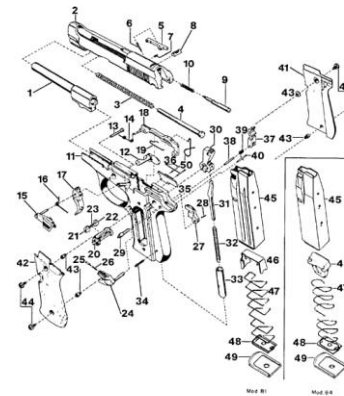
Even the training necessary to use small arms can be extremely summary:

- all in all, after a few hours of instruction, even a child, once he is strong enough to firmly grip the gun and tolerate the recoil when shooting, can learn how to load a pistol or a rifle, aim at the target, shoot and clean the weapon after a given number of shots.
- Of course, to make a "sharpshooter" or a commando need a much longer training. Surely, those who received only a simple set of instructions for handling a gun cannot be defined as "a soldier" in proper sense, given that they will miss the experience and discipline to make the best in combat and they will probably end up killed after firing only few shots.
- However, they will in any case be able to kill at least some "enemy" and, usually, their "commander" does not ask more, because the force of small arms lies not so much in the lethality of each fighter who uses them as in their large numbers.

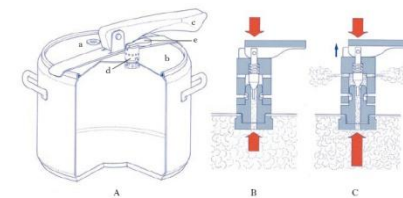


If the pacifists want to fight the weapons and their harmful effects,

- they have learn first to know them and to distinguish them from each other to avoid making errors that could then discredit meritorious and politically very valid campaigns.
- For example, thirty years ago, an Italian pacifist group started a very important struggle for the conversion of the industrial zone of Brescia, the economy of which is based primarily on the production of small arms both military and civilian, arguing the opportunity to convert the plants in which guns are manufactured in factories for pressure cookers:
- if this group had spent even a few hours trying to figure out how guns work and how they are produced, he would have avoided making a foolish and risible proposal!
- To prove it, just take a look at the technical scheme of the semi-automatic pistol Beretta model 84, one of the main products of that district at the time: it is not at all a rough product (it is composed by about 50 mechanical parts, each of which requires careful design and a very precise execution), and low added value (in fact, its cost is still about 800 €),
- and the replacement of this production with that of a object of low cost and that, as a pressure cooker, consists of a few pieces, with an extremely trivial manufacture, would have disastrous economic and employment consequences.



1 Barrel	17 Trigger	34 Hammer Strut Guide Pin
2 Slide	18 Trigger Bar	35 Ejector
3 Recoil Spring	19 Trigger Bar Spring	36 Ejector Pin (D)
4 Recoil Spring Guide	20 Magazine Release Button	37 Saw Pin
5 Extractor	21 Magazine Release Button Spring	38 Saw Spring
6 Extractor Pin	22 Magazine Release Button Spring Bushing	39 Saw Spring Pin
7 Extractor Spring	23 Magazine Release Button Spring	40 Left Grip Panel
8 Saw Eject	24 Left Safety	41 Grip Panel
9 Firing Pin	25 Safety Spring Pin	42 Grip Screws (L)
10 Firing Pin Spring	26 Safety Spring	43 Grip Screws (R)
11 Frame	27 Safety Pin	44 Magazine Buffer
12 Disassembly Latch	28 Hammer Pin	45 Magazine Spring
13 Disassembly Latch	29 Hammer	46 Magazine Floorplate
14 Trigger Spring	30 Hammer Spring Strut	47 Magazine Floorplate
15 Slide Catch	31 Hammer Spring	48 Magazine Safety Spring
16 Slide Catch Spring	32 Hammer Strut Guide	



The categories of small arms

- The classification of firearms is not an academic exercise, but an indispensable tool for their political and legal control.
- It is obvious that putting together, in a single law which regulates their manufacture, trade, possession and use, guns for Olympic shooting specialties and the AK47 is not only impossible (unless you want to roll out a bill longer than the Dante's "Divine Comedy") but also unnecessary.
- This classification shall be made according to different criteria, and it is therefore not a one-dimensional classification:
- it is based on the method of use (i.e. distinguishing weapons designed to be used with only one hand - handguns or pistols – from those that require two hands - long guns or rifles -),
- on the loading technique (single-shot, quick-fire, semiautomatic, automatic),
- on the ammo (pellets or bullet ammunition, large or small caliber, flobert, short, long or "magnum" cartridge),
- On the type of barrel (single or double, smoothbore or rifled),
- On many more technical characteristics
- and finally on their most common destination (shooting, hunting, self defense, war).
- This classification is certainly the most appropriate from our point of view, but. unfortunately, it is also by far the worst definable



An athlete with her .22 shooting carbine at the Olympic games



Russian soldiers in action with their AK47

The classification of small arms according to the UN

- A classification that is practical enough for small arms and light weapons was proposed by a group of experts convened by the United Nations (UN A / 52/298 of 11/05/97). This classification divides these weapons in just three groups:
- **1 Small arms** in which are included revolvers, pistols, shotguns, rifles, light machine guns and submachine guns.
- **2 Light weapons** including heavy machine guns, rocket launchers and grenade launchers, portable cannons, mortars, anti-aircraft and anti-missile weapons with a caliber of less than 100 mm.
- **3 Ammunition and explosives** used for weapons and armaments above, including mines.
- This classification, widely used by Amnesty International for its campaign for the control of small arms, it is definitely good (and certainly more useful than the absurd logic used in Italian law, as derived from the L. 110/75, as amended, and the explanatory circulars by the Ministry of the Interior),
- but has the major drawback to assimilate, in the first category, objects practically harmless or otherwise unsuitable for military use (such as Olympic shooting gun caliber .22) and dangerous weapons, responsible for millions of murders.



The Arms Trade Treaty (ATT)

- After a long discussion (and many other disregarded bilateral and multilateral treaties), on 2 April 2013, the General Assembly adopted the landmark Arms Trade Treaty (ATT), regulating the international trade in conventional arms, from small arms to battle tanks, combat aircraft and warships.
- The aim of this treaty is to foster peace and security by thwarting uncontrolled destabilizing arms flows to conflict regions.
- Hopefully, it will prevent human rights abusers and violators of the law of war from being supplied with arms and it will help keep warlords, pirates, and gangs from acquiring these deadly tools.



Will the ATT work?

The vote of UN Assembly was not unanimous:

154 nation voted in favor, 3 against (Iran, Syria and DPR of Korea) and 23 abstained

The abstained include **China**, **Russia**, Saudi Arabia and most of the states of Arabic Peninsula, Sudan, Indonesia, **India**, as well as Centro-American, African and Southeastern Asia States.

Furthermore, the Treaty has been signed to date by 121 states only (**not including USA**)

And ratified just by 53, including only two major producers of arms: Italy and Belgium.

But its major problem is ...



... that ATT wants to put together too much things!

- We can hope that it will work for battleships and combat aircrafts,
- may be for battle tanks,
- since these weapons need for their production high technologies and huge economic investments.
- Thus, only a few, rich and powerful nations can afford it
- and we can hope that an agreement (the ATT or another one) can be found between these nations, as happened for nuclear weapons.
- However, small arms and light weapons are different.



The actual Problem in Small Arms and Light Weapons Control

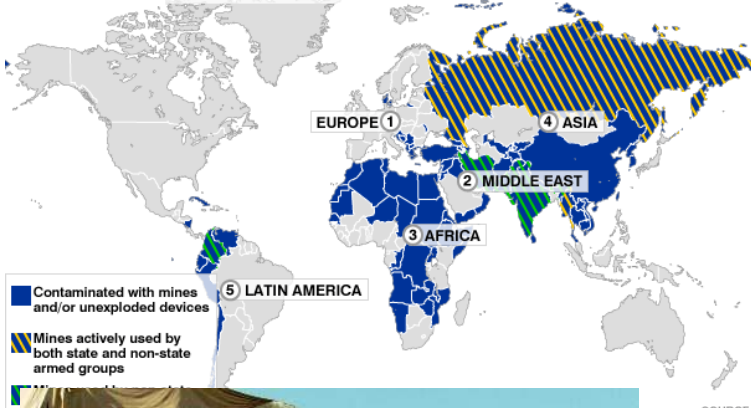
- The framework we have outlined let us understand what are the problems that you must solve to get to the control of production and trade of small arms and light weapons.
- It is clear that these weapons, despite being the only "weapons of mass destruction" largely used after the end of World War II, are objects in the medium-low-tech, easily producible in virtually every country at low cost and, more importantly, already existing in the tens of millions, around the world.
- It is not therefore, as in the case of chemical, biological and nuclear weapons, to prevent high technologies come into possession of those who still do not have, while pursuing negotiations between those who already have to get that existing weapons are dismantled .



- The case of antipersonnel landmines is illuminating in this respect: the prohibition of the production and trade of these instruments of death, already operating since several years, does not prevent the existing ones continue to kill tens of thousands of people per year.
- Eventhough you can be reassured by the fact that they are no more officially produced, the technology needed to produce these weapons is so simple that it is illusory to think that if a nation or organized group decides they need it, we can prevent it from producing these mines independently and in secret.
- On the other hand, the artisanal bombs almost daily used in attacks and bombings in many countries are nothing more than "mines of circumstance", perhaps more sophisticated and deadly than the "regulatory mines" produced by factories for official national armies, banned by the UN treaty.
- The same control of the production of explosives (and even its total ban, if it was possible) would not solve the problem: unlike the construction of a nuclear bomb, the production of explosives is easy and possible at all. For example, the bomber that destroyed in 1995 the entire building where the FBI office in Oklahoma City was located, causing hundreds of deaths, produced more than 5 tons of high explosive alone, using a fertilizer for purchase anywhere.



COUNTRIES AROUND THE WORLD AFFECTED BY MINES



SOURCE:

But it is not inevitable that we should give up any hope of control over small arms and light weapons.

- Let see as an effective treaty on small arms and light weapons should be conceived



First, if it is true that there are already circulating tens of millions of these weapons, it is not unavoidable that this number cannot be reduced.

In this sense, it is essential that, at the conclusion of all agreements for delivery of weapons by belligerents in the hands of the forces of control at the conclusion of local wars, the disarmament must be immediately followed by the destruction of collected weapons. Contrary to what one might suppose, this does not happen often and the collected weapons come back many times in the international circuit, sold in countries deemed "reliable", to finance the same peace-keeping operations.

Secondly, it is essential to internationally agree a classification which identifies unambiguously the weapons of military interest, separating them from those that are usable only for sports or other civil use.



The Italian Partisans delivering their weapons to Allied forces at Verona's arena, after 25 April 1945.

Indeed, it is clear that the vast majority of shooting and hunting guns are not usable, for technical and economic reasons, in conflicts.

- For this reason, it is logical that their production, possession and use are regulated by national legislation for reasons of security and public order, but there is no reason to try to regulate their trade within international agreements, thus complicating the possibility to effectively avoid the commerce of military weapons.
- Even the definition of small arms to be included in the category of the "military" ones is difficult, it would be appropriate to avoid the temptation of perfection:
- it is clear that some weapons can be included or excluded from this category depending on your point of view (for example, some quick-fire, high power hunting rifles, "riot guns", large-caliber high-power semi-automatic pistols and revolvers). Try to regulate, in an international agreement, the trade of these weapons would generate so much discussion, that would end, probably, in a failed negotiation.



Riot guns

- However, it is clear that all automatic weapons, regardless of the size and caliber, mortars, rocket launchers, flamethrowers are weapons exclusively for military use.
- It would thus be desirable an international agreement that, in analogy with what was done for anti-personnel mines, prohibits their international trade, constrains each state and international organizations to the immediate destruction of these types of weapons collected for any reason and set a path to the prohibition of their production.
- It would seem that such a proposal should not find strong opposition, given the general membership of all "civilized nation" in the so-called "war against terrorism" and as "terrorism", although this term should be very generic, makes extensive use of some of these weapons.



- Instead, in the United States, that should be the "leader" of this war against terrorism, it happened that the Bush administration invalidated the rule, established by the Clinton Administration, which banned the sale of automatic weapons ...
- ... in supermarkets!
- And the new Obama administration did not reactivate it!



Conclusion

- The way to the control and reduction in number of small arms for military use and light weapons is thus long and complex, but not impossible if the countries of their higher production actually want to deal with this problem.
- As scientists we can help to reach this goal, suggesting appropriate technical solutions to governments and pacifist groups
- But we must ask ourselves whether, even if this desirable event occurs, the millions of deaths caused by these weapons could fall before to a few thousand and then to zero, as anyone who cares about the fate of mankind desires.
- Actually, we must exercise not only the optimism of the will but also the pessimism of the intellect.
- It would be naive to think that there are wars and massacres because there are modern weapons, light, heavy or mass destruction to be.
- The wars have been well before the invention of gunpowder and firearms.
- The Assyrian army was able to make terrible massacres, including civilians and unarmed prisoners, 3,000 years ago
- and similar massacres were made by the Romans, the Turks, the Aztecs, the Conquistadores and practically by all the great empires.

- The tens of thousands of people killed a few tens of years ago with blows of “panga”, the Central African version of machete, and pick, as in Cambodia, show that if modern weapons fail, you can kill in any other way, if there is the will.
- To avoid war and violence, we have to act not only as scientists but also as citizens
- If, therefore, we want work in order to avoid that the manufacture of instruments of death are no longer the source of livelihood for hundreds of thousands of workers
- and if we look for credible plans for industrial conversion of the plant producing weapons of war, imagining what products of the same technology and of actual market can replace them,
- we must above all work to ensure that conflicts, dictatorships and the domination of one people over another disappear,
- that everyone rejects war as a means of settling international disputes, that a climate of mutual respect and cooperation between different peoples and civilizations starts.

- Achieving these goals is certainly difficult, but if we will succeed, firearms will become only sport equipments for Olympic Games, as well as have already become the bow and the javelin.
- If we will not, any effort to regulate the manufacture, sale, possession and use of weapons will be in vain.
- Because there will always be someone needing a weapon and able to build it.