

# Article36

## Effects of explosive weapons

### Working paper on explosive weapons in populated areas

December 2019

Different weapon technologies create different force effects. This is recognised in international law (in terms of different obligations bearing on certain weapons) and in military operational practice (in terms of choosing weapons that will create the effects needed to defeat a particular target, and a recognition that certain weapons may create greater risks to civilians or have other distinct harmful effects.)

Explosive weapons are characterised by the use of high explosives to create blast and fragmentation in the area around the point of a detonation. They can exert very powerful mechanical forces. These effects may be comparatively focused or they may extend across a large area. Because of the power of these forces, explosive weapons are very likely to produce lethal effects, can create multiple casualties from a single use, and can cause damage to buildings and materiel.

Partly because of the power of these effects, and their tendency to extend across an area, explosive weapons are often used at a 'stand-off' – meaning that they are typically projected to the point of detonation, striking at some distance from the user. This requirement to project a warhead to an intended point of detonation introduces additional uncertainties as to where those effects will actually be felt.

Explosive weapons, as a whole, are generally used in the domain of warfighting rather than the domain of policing. This categorical distinction in state practice is geographically widespread and reflects a practical recognition that the power of explosives, and their propensity to affect an area (of some scale), makes them inappropriate for use amongst a population absent, at least, the extreme circumstances of armed conflict.

However, different explosive weapons exert different levels of mechanical force and may exert force over different areas. Different explosive weapons may also be subject to different levels of uncertainty regarding where detonations will actually occur in relation to a user's intent (as a function of the accuracy and precision with which they can be projected). These scalable factors all bear upon the risk to civilians created by the use of explosive weapons: wider area effects increase the likely number of surrounding civilian people and civilian objects that are exposed to those forces; high mechanical forces make it more likely that affected civilian objects will experience significant damage, possibly producing reverberating effects where that damage affects interconnected infrastructure.

Thus the technical characteristics of explosive weapons have a bearing on the nature and likelihood of harms that have been repeatedly associated with the use of these weapons in populated areas – multiple casualties, affecting people who are not the intended targets of attack, damage to buildings and infrastructure, with subsequent reverberating effects.

## **Conclusions**

Diversity of explosive weapons means that users need to understand the different effects associated with different types (and different operating configurations) in order to evaluate the implications of use in a particular context – both towards achieving the militarily desired outcome and in terms of risks to civilians. Such an understanding is necessary in order to enable informed legal judgements.

A central function of a political declaration should be to recognise that these physical / technical characteristics need to be factored into military decision making in order to prevent, avoid or minimise harm to civilians.

This is already recognised in operational policies and procedures of certain states – both in terms of understanding the technical effects of a weapon needed to defeat a certain target and in terms of a relationship between these effects and likely civilian harm.

Particular emphasis has rightly been put on addressing use of explosive weapons where they would have wide area effects. In that context ‘wide area effects’ are understood broadly to mean effects that are excessively wide in relation to the military objective being targeted. In a populated area, that wider area can be assumed to contain civilian people and objects.

A political declaration should recognise that:

- Explosive weapons create powerful forces that affect the area around the point at which they detonate.
- Weapon users should understand the area and nature of effects their weapon systems are likely to create in different configurations of use.
- In populated areas, effects that extend beyond or occur outside a military objective can be expected to cause harm to civilians and damage to civilian objects, due to civilians being concentrated in such locations.
- Militaries should have operational policies and procedures that work to avoid use, in populated areas, of explosive weapons where they will create such wide area effects and in any event to minimise such area effects in relation to the intended target.
- Militaries should have operational policies and procedures to evaluate the possible indirect or reverberating effects that may result from the use of different explosive weapons in populated areas.