

# Israel-Hamas 2024 Symposium – Qassam Rockets, Weapon Reviews, and Collective Terror as a Targeting Strategy

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by [Arthur van Coller](#) | Jan 17, 2024



The [Islamic Resistance Movement](#) (Hamas) and its military wing, the Izz ad-Din al-Qassam Brigades (AQB), in the pursuit of its objective to “[obliterate](#)” Israel, uses a variety of weapons, including variants of Qassam rockets, to direct acts of violence at Israel. Hamas [confirmed](#) that it has “local factories for everything, for rockets . . . . We are building it in Gaza.”

Qassam rockets are designed, selected, and intended to be fired at a distance as an area weapon to achieve collective terror effects on Israel. The Iron Dome Missile Defense System mitigates the potential harm to the civilian population in Israel. However, [failed rockets launched](#) by AQB have reportedly caused significant casualties and damage in Gaza, including those recorded in the [Jebaliya Refugee Camp](#) in October 2022 and recently in the [Al-Ahly Hospital in Gaza](#).

The use of Qassam rockets is highly controversial. This post accordingly aims to assess the legality of Qassam rockets by evaluating their technical characteristics, design, and use. It demonstrates that the design and intended use of Qassam rockets by Hamas renders these weapons indiscriminate by nature when directed at the civilian population or civilian objects.

### **The Izz ad-Din al-Qassam Brigades**

AQB is a structured military group which, until recently and during most of the Qassam rocket attacks against Israel, held *de facto* control over a defined territory. The conflict between Israel and Hamas is sufficiently protracted and intense to amount to a non-international armed conflict (NIAC) under the law of armed conflict (LOAC). AQB likely qualifies as an organized armed group participating in a NIAC. This argument is, however, subject to some disagreement. For instance, the Israeli Supreme Court describes the conflict between Israel and Hamas as an international armed conflict (IAC). The fact that an International Committee of the Red Cross (ICRC) database records Palestine as a State party to various international treaties, including the Geneva Conventions of 1949 and its Additional Protocols of 1977, further complicates the debate.

AQB is thus, at least, bound to adhere to the “minimum mandatory [customary international law] rules” expressed in common Article 3 of the Geneva Conventions. The ICRC Study on Customary International Humanitarian Law further confirms that some customary international law (CIL) norms apply in IAC and NIAC. The potential lawful use of Qassam rockets against military targets must, thus, be assessed by considering whether they are of a nature to cause superfluous injury or unnecessary suffering (SIUS) or whether they qualify as an indiscriminate means or methods of warfare.

The International Criminal Tribunal for the former Yugoslavia (ICTY) reasoned that the prohibitions of indiscriminate weapons “are now part of customary international law . . . as they do not appear to be contested by any State, including those which have not ratified” Additional Protocol I. The use of Qassam rockets must also be considered in light of the CIL prohibition of attacks that are not directed at a specific military objective and that “are of a nature to strike military objectives and civilians or civilian objects without distinction.”

### **Weapon Reviews**

There is no consensus on whether a non-State armed group must conduct a weapon review to determine the legality, in some or all circumstances, of its means of warfare under LOAC. Adequate publicly accessible evidence is not available to conclude that State practice on weapon reviews, as articulated in Article 36 of AP I or even in a more restricted or alternative form, exists to justify a conclusion that this obligation has crystallized into CIL. Nonetheless, “the right of belligerents to adopt means of injuring the enemy is not unlimited.”

The obligation to conduct a weapons review may further be inferred from the fundamental principles of LOAC, such as the prohibition on the use of weapons that cause SIUS and weapons that are *per se* indiscriminate. It may also be necessary to consider whether a weapon complies with the principle of humanity and the dictates of public conscience as articulated in the Martens Clause. Therefore, despite the lack of consensus, it is prudent to review the legality of Qassam rockets.

### **Qassam Rocket Design**

Qassam rockets, which are named after AQB, are notoriously unreliable, crude, unguided surface-to-surface rockets composed of steel or metal tubes (sometimes waterpipes) with four stabilizing fins near their base. The rockets' solid propellant is typically a mixture of sugar and an oxidizing agent, potassium nitrate. The quality and accuracy of the mixing and curing process can produce a propellant capable of reaching a specific impulse for workable rockets. The rockets' nozzles are not canted, and they, therefore, do not spin about their longitudinal axis during flight. After the propellant is expended, the rockets follow a relatively straight, parabolic trajectory under gravity's influence with large impact deviations along their line of fire.

The build quality of the rudimentary warhead varies, but it commonly contains high explosives made up of a combination of trinitrotoluene (TNT) and urea nitrate. Ball bearings or comparable items are added to the rocket to function as pre-formed fragments under the impulse of the blast. These rockets use an improvised simple point detonating fuse, which incorporates a small arms cartridge filled with explosive material and a spring-loaded nail to initiate an instant explosion upon impact. Qassam rockets are typically launched from mobile, improvised steel frames, which are manually adjusted based on a rough estimation of the target area.

### **The Basic Targeting Rule**

Hamas characterizes all aspects of Israeli society, including civilians and civilian objects, as legitimate targets. As a result, AQB do not respect the cardinal status-based CIL principle of distinction. The Appeals Chamber of the ICTY, in the Tadić case, referred to UN General Assembly Resolutions 2444 and 2675, which recognized "the necessity of applying basic humanitarian principles in all armed conflicts," including the prohibition against launching "attacks against the civilian populations as such," and that a "distinction must be made at all times between persons taking part in the hostilities and members of the civilian population to the effect that the latter be spared as much as possible." These resolutions further recorded that every effort and all necessary precautions should be taken to spare the civilian population from military operations. The ICTY Appeals Chamber described these resolutions as "declaratory of the principles of customary international law regarding the protection of civilian populations and property in armed conflicts of any kind."

## Qassam Rockets, Weapons Law and Targeting

The widespread and persistent Qassam rocket attacks by AQB directed towards civilian-inhabited areas in Israel are primarily intended to spread terror. Civilians targeted by these attacks may experience an abnormal physiological state due to the potential and anticipated injury that the explosion and fragmentation of the warhead may cause. Nonetheless, substantial mortality or serious wounds, for which there is no well-recognized and proven treatment, is unlikely. The SIUS prohibition is, thus, considering the purpose and context of use, generally of no meaningful consequence when determining the legality of Qassam rockets.

No specific treaty provision currently declares Qassam rockets by nature indiscriminate and thus illegal. The potential classification of Qassam rockets as “inherently reprehensible because their effects are uncontrollable and unpredictable” must be assessed by determining the technical ability of these munitions to engage a specific military objective during their normal and intended use and the likelihood of limiting their (foreseeable) effects to that target. The ICRC identifies specific factors to be considered during this assessment, including the accuracy and reliability of the weapon’s targeting mechanism. Nonetheless, there is no explicit obligation in treaty law or CIL that requires the use of weapons with “terminal” or precision guidance, even when such weapons are available. State practice further confirms that using unguided munitions is not indiscriminate by nature. Further factors relevant to the assessment relate to the extent and degree of damage and injury likely caused by its blast effect and whether the weapon or its effects can be controlled in time or space.

The indiscriminate nature of Qassam rockets may also be assessed with reference to comparable weapons previously referred to as indiscriminate in specific contexts, such as the V-1, V-2, Katyusha rockets, Scud missiles, and M-87 Orkan rockets. Katyusha and Orkan rockets have an advantage over Qassam rockets as they are spin-stabilized. The V-1 and the Qassam maintain their launch heading as initiated by the launch ramp. However, the V-1 had an air log navigation aid that would initiate bomb pitch-over when the revolutions of the air log were completed. V-2 rockets and Scud missiles also have better guidance systems than Qassam rockets, as they were designed to incorporate a gyroscope guidance system. The ICTY, in the Martić judgment, made a weapon-specific determination in which it regarded the self-propelled M-87 Orkan as “an indiscriminate weapon.” The Trial Chamber, and later the Appeals Chamber, found that the Orkan was, beyond doubt, incapable of hitting specific targets.

The technical parameters of Qassam rockets and their launch platform’s basic capabilities produce a means of warfare incapable of striking a precise aimpoint or hitting it consistently. Qassam rockets are effectively a “blind weapon” that is less accurate and precise than other weapons that have been referred to as indiscriminate in the past. Nonetheless, Qassam rockets could be legally used in certain areas of application, such as a military objective

located in an uninhabited area. Qassam rockets, as a means of warfare, are thus not indiscriminate *per se*. However, their current use must still be evaluated with reference to targeting law.

### **Indiscriminate Attacks**

The use of Qassam rockets implicates the CIL prohibition against indiscriminate attacks. This assessment is arguably redundant as the impact of the attacks by Hamas on the civilian population is generally intentional as opposed to merely foreseeable. Nonetheless, Hamas has claimed that some rockets were directed at military objectives.

Qassam rockets are deployed as a “beyond visual range” weapon. Directing unguided rockets towards a densely populated urban area amounts to an unacceptable level of recklessness and risk to the civilian population. These attacks amount to a prohibited form of indiscriminate attack by way of area bombardment, which treats several clearly separated and distinct military objectives in civilian populated areas as a single military objective.

### **Proportionality**

The CIL rule of proportionality, applicable in all armed conflicts, prohibits attacks “which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.” This rule must be read with the CIL obligation whereby parties must do everything feasible to avoid or minimize expected incidental harm to civilians and civilian objects and must not proceed with an attack if the incidental harm would be excessive in relation to the concrete and direct military advantage anticipated.

The assessment of what harm may be expected depends on the proximity of the civilian population or civilian objects within or near a military objective, the terrain, the weapon’s accuracy in the circumstances under which it is used and the technical skill of the operators. The characteristics and use of Qassam rockets make it impossible for Hamas to meaningfully consider the reasonably foreseeable civilian harm near the intended detonation point of the rockets or to have a bona fide expectation, based on available information, that civilian harm would not be excessive in relation to the legitimate military advantage anticipated.

### **Protection of Civilians in Gaza from Malfunctioning Rockets**

In 1965, the XXth International Conference of the Red Cross adopted a resolution calling on governments and other authorities responsible for action in all armed conflicts to spare the civilian population as much as possible. The UN General Assembly reaffirmed the protection of civilians against the dangers of indiscriminate warfare in a resolution on respect for human rights in armed conflict adopted in 1968. The UN General Assembly, in 1970, adopted a

further resolution stating that “in the conduct of military operations, every effort should be made to spare civilian populations from the ravages of war, and all necessary precautions should be taken to avoid injury, loss or damage to civilian populations.”

The use of unreliable munitions, as a result, creates an obligation on belligerents to conduct a proper risk assessment and, based on their findings, to take feasible precautions to protect the civilian population and civilian objects located within the area over which it exercises *de facto* control against the dangers posed by defective or malfunctioning weapons. Available information confirms that as many as 20 percent of Qassam rockets malfunction, causing some of them to impact and harm civilians within Gaza. Gaza is a densely populated urban area, and it may be impossible for AQB to locate its military objectives away from or to use strategies and tactics that remove the hostilities from these populated areas. However, some precautions are possible, including the construction of shelters, the use of effective warnings, and the voluntary withdrawal or removal of the civilian population from areas where hostilities are ongoing or expected to take place.

### **Concluding Thoughts**

Qassam rockets were deliberately selected and matched to achieve a widespread attack against the civilian population in Israel. These rockets lack precision and accuracy. Their design and intended use by Hamas results in their classification as indiscriminate by nature when directed at the civilian population or civilian objects. Hamas also uses this weapon in an indiscriminate manner against the civilian population and civilian objects, which Hamas treats as military objectives.

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