

Israel – Hamas 2023 Symposium – Targeting Gaza’s Tunnels

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by [David Wallace](#), [Shane Reeves](#) | Nov 14, 2023



Hamas’s excavation and use of tunnels under Gaza has been and will continue to play a significant part in the ongoing conflict between Israel and Hamas. The labyrinth of tunnels adds complexity to an already challenging operational environment and raises important legal questions regarding subterranean warfare. Some scholars, such as Professor Daphné Richemond-Barack, have suggested that the application of the law of armed conflict may require adjustment in the context of fighting underground or even recognition of the underground environment as a separate domain of warfare. Although the unique conditions of subterranean warfare could impact how conduct is legally assessed, this post focuses instead on a discrete question of targeting, specifically, whether tunnels themselves may be lawfully targeted under the law of armed conflict.

City Underneath the Cities of Gaza

The vast network of tunnels under Gaza has been described as a “veritable city underneath the cities on Gaza’s surface.” The Israel Defense Forces (IDF) colloquially refer to it as the “Gaza metro.” Although it is difficult to determine the precise extent of the tunnel system, in

2021 Hamas leader Yahya Sinwar claimed to have built approximately 1,300 tunnels covering over 300 miles under Gaza. The depths of the tunnels vary, but Israel located one tunnel constructed as deep as 230 feet. Parts of the tunnel system are wired for electricity and communication and reinforced with concrete. Some tunnels are also equipped with ventilation, water pipes, and stockpiles of food. Of note, the tunnels dug by Hamas are characteristically very narrow due to the use of prefabricated sides and tops. Hamas has also been forced to dig tunnels increasingly deeper because of improvements in the ability to detect and destroy the structures.

Tunnels as a Method of Warfare

Hamas uses the tunnels to transport people and supplies around Gaza, to survive bombardments, to store and shelter rockets and other ammunition, and to house and protect command and control elements and operations, among other things. More recently, the tunnels have been used to hide hostages, further complicating the operational environment. For example, Yocheved Lifshitz, an 85-year-old grandmother who was eventually released after being taken hostage by Hamas, was hidden in the network of tunnels and slept on a mattress on the floor in one of them.

Unquestionably, the intricate and deep tunnel network offers Hamas fighters critical advantages. John Spencer, Chair of Urban Warfare Studies at the West Point's Modern War Institute, has highlighted some of the offensive and defensive asymmetrical advantages the tunnel network provides. Offensively, the tunnels allow Hamas to attack by surprise. Fighters can move quickly between prepared attack positions before popping up, striking, and then retiring to the relative safety of a tunnel. Hamas also uses the tunnels to conceal and move munitions, such as rockets, and has rigged tunnels with explosives that can be used under areas where the IDF may be operating. Defensively, the tunnels are used to protect against and survive attacks. No two tunnels are the same, and the difficulty in detecting and accessing them can undercut Israel's significant advantage in multi-domain intelligence, surveillance, and reconnaissance capabilities. As part of its defense strategy, Hamas has tunneled under and connected to protected sites such as schools, hospitals, and mosques.

Targeting Tunnels

One overarching issue raised by Hamas's development and use of tunnels is whether the tunnel network itself can be lawfully targeted. The answer to this question rests in part on whether the tunnel network or, alternatively, individual tunnels are military objectives, and whether the principle of proportionality is properly observed during a given attack.

Distinction

Customary international law generally defines what objects qualify as military objectives in an international armed conflict. The DoD Law of War Manual explains that a military objective includes "any object which by its nature, location, purpose or use makes an effective

contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage” ([para. 5.6.3](#); see also Additional Protocol I, [art. 52\(2\)](#)). This definition is now widely regarded as reflecting customary international law. Additionally, because a separate definition of military objective has not been accepted as applying to non-international armed conflicts, this definition is also regularly applied to non-international armed conflicts.

In the context of the Gaza conflict, there is little doubt that denying Hamas use of the tunnel complex in Gaza would provide the Israeli military a significant advantage. Therefore, the relevant legal question is whether the Gaza tunnels are military objectives due to their “nature, location, purpose or use.” What objects qualify as military objects by their “nature” is subject to some debate. Broadly interpreted, all objects intended for military purposes might qualify as military objects by their nature. The International Committee of the Red Cross’s *Commentary to Additional Protocol I* adopts this position, noting that such objects could include “weapons, equipment, transports, fortifications, depots, buildings occupied by armed forces, staff headquarters, communications centres etc.” (*Commentary to Additional Protocol I*, [para. 2020](#)). In contrast, a narrow understanding of “nature” might limit military objects to those designed *exclusively* for military purposes, such as an armored vehicle or a command post.

John Spencer notes that the Gaza tunnels generally serve as an all-purpose military compound that offers Hamas an asymmetric advantage. Professor Richemond-Barak suggests that viewing tunnels, like those in Gaza, as a military objective due to their nature makes sense. She [writes](#),

tunnels serve as lines of communication, military headquarters, means of offensive warfare, or weapons caches, they resemble military bases, ammunition depots, and other objects that have traditionally been regarded as military by nature. I see no reason to oppose a qualification as military objective by nature in such circumstances (p. 178-79).

Ostensibly, characterizing the entire network of tunnels in Gaza as a singular military objective by its nature would be justifiable if military use was its intended purpose at the time of its construction. Even tunnels not presently used for military purposes would qualify as military objectives under this interpretation because their connection to the wider (military) tunnel system would qualify them as military objects by purpose—that is, by their intended future use (see *Commentary to Additional Protocol I*, [para. 2022](#)). For example, a tunnel used for smuggling that is connected to the network is, nevertheless, likely to be used in the future for military ends. On the other hand, it is also possible that some practical uses (even those not originally intended when the tunnels were constructed) might preclude them from consideration as lawful military targets. For example, tunnels used exclusively for humanitarian purposes like sheltering the population from the effects of combat operations or the delivery of food and supplies to the civilian population would be civilian objects entitled to protection from attack (see Additional Protocol I, [art. 51\(7\)](#)).

Even though it may be difficult to locate various tunnels in the system, the principle of distinction nevertheless requires that military objectives be distinguished from civilian objects before they may be made the object of attack. Targeting an area because tunnels are believed to exist below could be viewed as indiscriminate. Professor Michael Schmitt, in discussing dual-use targeting, notes that plainly distinct structures, even if connected, must be assessed independently against the military objective standard. While discerning between tunnels is significantly more difficult than distinguishing between buildings, ultimately, treating the tunnels as a collection of potential military objectives analyzed by their practical use or future intended purpose, rather than as one vast target, appropriately mitigates the risk to civilians as necessitated by the law of armed conflict.

Proportionality

In addition to satisfying the distinction requirement, the law of armed conflict demands that the expected incidental loss of civilian life, injury to civilians, and damage to civilian objects must not be excessive in relation to the concrete and direct military advantage anticipated to be gained by an attack (*DoD Law of War Manual*, para. 5.12; see also Additional Protocol I, arts. 51(5)(b), 57(2)(a)(iii)). Attacks that violate this principle of proportionality are indiscriminate and are prohibited under the law.

Given the relatively unfamiliar nature of subterranean warfare, applying the principle of proportionality to attacks underground and in tunnels will require considering different potential collateral effects. In Gaza, the reported presence of hostages in the tunnels will further complicate any proportionality analysis. Among the factors that should be carefully weighed are the effects produced when munitions are employed underground or in a constricted space like a tunnel. Military forces familiar with measuring and mitigating weapons effects above ground must be careful to adjust their estimates when considering the same use of weapons underground. For example, a grenade that explodes above ground will react differently than one that explodes in an underground tunnel. In the tunnel, the explosion is likely to generate a shockwave that travels farther and could potentially even collapse the tunnel itself. Similarly, smoke from a munition like white phosphorous, which can be used to mark and illuminate targets or to shield forces from detection, is likely to carry greater distances and linger longer in the enclosed spaces of a subterranean environment. Commanders others who order attacks must carefully evaluate collateral effects on civilians and civilian objects in this context.

Underground warfare also adds an additional dimension to the proportionality analysis. As Professor Richemond-Barak notes, “tunnels transform the battlefield into a sphere, making it necessary for soldiers to remain alert not only to what is above and ahead of them, but also to what is behind and below them” (p. 185). This additional dimension must be accounted for in the targeting process. The destruction of a tunnel could generate effects above ground that injure or kill civilians and damage property. In 2021, for example, an apartment building in Gaza was destroyed and multiple civilians killed when an Israeli airstrike collapsed a

Hamas tunnel beneath the structure. According to the U.S. *DoD Law of War Manual*, a proportionality analysis should consider any foreseeable and not too remote damage when analyzing the incidental loss of civilian life or property which, in this case, would seem to include damage above ground (§ 5.12.1.3).

It is worth noting that defenders, like attackers, have an obligation to distinguish under the law of armed conflict and, when feasible, must separate themselves and their activities from the civilian population (see U.S. Army, *Field Manual 6-27*, paras. 1-38 to 1-41). Accordingly, the obligation to disassociate as much as possible the tunnels used for a military purpose from civilian above ground infrastructure would apply to Hamas.

The hostages must also be accounted for in the proportionality analysis. Although some hostages are reported to be members of the IDF, many others are civilians. How should they be evaluated under the proportionality principle? Employed as involuntary human shields, attacking forces are obligated to treat these hostages as civilians when weighing the proportionality of an attack. As Professor Schmitt has explained, an adversary might use human shields in an attempt “to alter their enemy’s proportionality calculation by driving up the number of civilian casualties expected during an attack; or, irrespective of any proportionality calculation, simply attempt to cause the enemy to hesitate to attack.” These considerations are clearly at play in the current conflict.

Precautions in Attack

Lastly, the attacking party must take “feasible precautions in planning and conducting attacks to reduce the risk of harm to civilians and other persons and objects protected from being made the object of attack” (*DoD Law of War Manual*, para. 5.11; see also Additional Protocol I, art. 57). The obligation to take precautions in the attack reflects customary international law in both international and non-international armed conflicts (see Yoram Dinstein, *Non-International Armed Conflicts in International Law*, p. 182, 284).

Importantly, the attacker’s obligation to take precautions is matched by a defender’s obligation to take precautions in defense (Additional Protocol I, art. 58). As Professor Eric Talbot Jensen explains, the defender has a legal obligation to segregate the civilian population from military operations and to protect those that cannot be segregated to the maximum extent feasible (meaning practicable). In a crowded urban environment like Gaza, constructing tunnels in a way that prevents the intermingling of military objectives with civilians and civilian objects might be difficult, but taking feasible steps to avoid endangering the civilian population remains a requirement. A defender could, for example, refrain from placing tunnel entrances in protected places as a passive precaution.

In the context of attack, feasibility includes “consideration of available means of verifying the target, methods and means of warfare options for attacking it, the existence of any viable alternate targets the attack on which can achieve the desired effect, and the attacker’s ability

to issue an effective warning in the circumstances.”

Weaponeering is among the precautions that can be taken in attack. Once a tunnel is discovered and determined to be a military objective, weaponeering to “select[] munitions of appropriate size and type, as well as appropriate aim points, while offering the same or superior military advantage in neutralizing or destroying a military objective” can reduce the risk of harm to civilians and civilian objects (*DoD Law of War Manual*, § 5.11.6).

The IDF has developed various capabilities to verify the presence of tunnels and reduce civilian harm in underground warfare, including specialized equipment and units trained to fight in tunnels. The equipment includes a range of tools, such as ground and aerial sensors, ground-penetrating radar, drilling equipment, and robots. The specialized units include the Combat Engineering Corps’ “Yahalom,” an elite commando unit trained to discover, clear, and destroy tunnels, as well as other groups within the IDF, police, and intelligence organizations.

Concluding Thoughts

As the IDF land campaign continues in Gaza, warfare through, above, and around Hamas’s vast network of underground pathways and chambers will play an increasingly important role in the conflict. Without question, Hamas’s development and use of tunnels in Gaza creates daunting operational and legal challenges for the IDF. The difficulty of balancing the operational necessity of neutralizing hundreds of miles of tunnels with the legal obligation to mitigate risk to civilians should not be discounted. Accordingly, a deliberate approach to targeting Gaza’s tunnels under the law of armed conflict is both prudent and legally necessary.

Brigadier General (ret.) David A. Wallace previously served as the Professor and Head, Department of Law, United States Military Academy, West Point, New York, and has been designated a Professor Emeritus.

Brigadier General Shane Reeves is the 15th Dean of the Academic Board of the United States Military Academy, West Point.

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