



GAZA: THE TUNNEL WAR

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After the Palestinian Hamas movement's Operation Al-Aqsa Storm and Israel's response, military experts in various countries began to talk about the phenomenon of "tunnel warfare." The well-known military strategist Edward Luttwak [published an article](#), "The Battle of the Tunnels is about to begin in Gaza" on October 25, 2023.

In it, he pointed out that in Palestine, "underground networks have many uses, with everything from weapons drills hidden from overhead balloons or synthetic aperture radars (which produce photo-like images in all degrees of visibility) to makeshift headquarters and even rest areas protected from air strikes. Built with the cement and rebar donated by the European Union, Qatar and both Islamic and Western charities 'to build housing for refugees,' and delivered to Gaza through the Israeli port of Ashdod—Israeli governments that tried to limit the cement imports were barraged with 'human rights' demands—the tunnel network has grown exponentially over the past decade. Israeli soldier-analysts even refer to it as 'the Underground,' in reference to London's labyrinthine tube network."

It was no secret to Israel that these underground communications would be used to wage war against them. But Luttwak warns, if Israel concentrates its efforts on destroying the tunnels in Gaza, it will be virtually powerless. Because tunnel warfare requires very specific detection and monitoring skills, equipment, close-range weapons (even compact assault rifles are too long), the use of specialized shields and respirators, and a very fast reaction time.

Experts say [there are several types](#) of tunnels in the region. Along the northern border with Lebanon, Hezbollah used diamond-tipped drills to cut passageways in the rock. On the southern border, tunnels from Gaza to Egypt have long been used to smuggle goods, while tunnels to Israel have been used to attack Israeli villages and, in 2006, to kidnap Israeli soldier Gilad Shalit.

A Hamas leader, Yehya Sinwar, recently claimed that they have 500 kilometers of tunnels dug under the Gaza Strip, an area of about 360 square kilometers, roughly twice the size of Washington, D.C. Hamas survived shelling, air raids and major IDF ground incursions in 2009 and 2014. So over the years of experience, they have made sure that the command structure, manpower and ammunition depots used to strike Israel from hidden firing points can survive Israeli incursions, artillery and airstrikes.

According to the IDF, Hamas' underground defense and offensive structure is well supplied with food and fuel. This will enable Hamas fighters to withstand a prolonged siege. Compounding the situation is

the fact that tunnel entrances are often in residences, various buildings, fields in the desert surrounding Gaza, and one found in a washing machine. Finding them is like looking for a needle in a haystack. According to the IDF, the command and control center for the entire labyrinth of tunnels is located under Gaza's largest hospital, Al-Shifa. Such statements from Israel are apparently given to justify strikes on churches, mosques and hospitals in the Gaza Strip.

It is noted that Israel has no illusions about the dangers it faces in taking Hamas tunnels. It has previously fought an uphill battle in their depths during the 50-day ground invasion of Gaza launched in 2014 to destroy the tunnels to Israel (Operation Unbreakable Rock).

During this campaign, Israeli troops entered the tunnels on the outskirts of Gaza and suffered casualties because they were unprepared for what lay ahead. Israeli soldiers faced enormous technological difficulties in locating, fighting in, and destroying [hidden Hamas tunnels](#).

In response to Hamas's efforts, Israel had previously created a special Corps of Engineers unit, known informally as Yahalom (Diamond). The tunnel warfare unit is called "Samur," which means "weasel" in Hebrew and is the initials of the words "Slikim" (hiding places) and "Minharot" (caves or tunnels).

On its [website](#), the "Yahalom Advanced Unit" describes its mission as follows: special sabotage missions, demolishing and blowing up buildings, sabotaging enemy infrastructure, handling explosives, preparing explosive devices and bombs, neutralizing enemy explosive devices, clearing complex minefields, and locating and destroying terrorist tunnels. The unit [sometimes utilizes](#) robots and many remote-controlled devices.

A secret underground training center has been set up to train the unit, with a mock-up of Hamas tunnels built to "detect, map and neutralize underground tunnels that threaten any country." Israeli tunnel units have practiced underground warfare in the artificial Palestinian Baladiya City, which is located on a military base, in the Negev Desert.

Nevertheless, so far, the IDF has had no particular success in destroying the tunnels. Only the use of anti-bunker bombs with a strong destructive effect gives them some hope. However, this comes at the cost of a large number of civilian casualties. In a month of fighting in Palestine, more than 10,000 people have been killed.

The very question of the use of various underground passages and structures as a tool of war is not something new or extraordinary. In ancient times, tunnels and underground structures were also used in wars.

For example, the Jews used them to attack the Roman legions during the revolt of 66-70 AD. The Romans encountered similar tactics in the Balkans and in the forests of Germanic tribes. Even earlier, underground tunnels were built by the Persians to undermine cities, and were also used to mop up advancing soldiers with lit sulfur (the prototype of a gas attack).

During the Middle Ages and the Renaissance, the technique of tunnel digging and the use of gunpowder charges was greatly improved in Europe. Asia also used tunneling until the wars of the 20th century—the Chinese built tunnels between village houses to attack the Japanese during the occupation. Later, the Japanese themselves began creating similar communications systems that were used against the US Marines. The famous defensive Maginot Line in France also had a system of underground tunnels and bunkers. In 1940, the Germans did not attack it, but simply bypassed it, actually taking it without a single shot, and France was forced to capitulate.

Vietnam, North Korea, and Afghanistan are places where the U.S. military has already encountered tunnel warfare. However, before the Americans in Afghanistan, Soviet soldiers were familiar with them. During the Cold War, systems of underground bunkers were actively created both in the USSR and in the US and were designed to accommodate command centers.

In addition to Israel, the US is also very interested in this kind of action.

The first manual that describes tactics and procedures for fighting in underground structures is [FM 90-10-1](#), "An Infantryman's Guide to Combat in Built-Up Areas," dated 1993.

Prior to the Iraq and Afghanistan wars, the mission of capturing large underground military complexes was assigned to first-tier special operations units, such as Army Force Delta and Navy SEAL Team 6, as well as the US Army's 75th Ranger Regiment.

However, after the U.S. designated the DPRK, Russia, Iran, and China as threats, the requirements changed.

In late 2017, the US Army spent about \$572 million to train and equip 26 of its 31 active combat brigades to fight in large-scale underground structures beneath densely populated urban areas around the world. Training Circular TC 3-20.50, "Small Unit Training in Subterranean Environments," was released at that time.

In 2018, DARPA launched [the Subterranean Challenge](#) project to train fighters and first responders by exploring man-made tunnel systems, urban subways, and natural cave networks [v].

In the same year, an underground warfare [training center](#) was built at Fort Bragg, North Carolina. It is built on Range 68 and features over a kilometer of tunnels with tight spaces and unexpected elements.

In November 2019, the U.S. Army issued [another doctrinal document](#) on the topic of Underground Warfare. It stated that there are more than 10,000 tactical tunnels in the world and underground structures will be increasingly used in modern armed conflicts.

It was also said that to fight this new type of combat, infantry units need to know how to effectively navigate, communicate, overcome difficult obstacles and attack enemy forces in underground labyrinths ranging from narrow corridors to tunnels as wide as residential streets. Soldiers will need new equipment and training to operate in conditions such as total darkness, bad air and lack of cover from enemy fire in areas where standard army communications equipment does not work.

The US also [drew attention](#) to the experience in Syria, where terrorists from ISIS (banned in Russia) and other anti-government groups have used underground communications (including the creation of tunnels) to attack checkpoints, blow up buildings and other infrastructure in various cities.

But in addition to hypothetical threats, hundreds of tunnels already exist in the United States along the border with Mexico, which are used by drug cartels to smuggle drugs and illegal migrants across the border. In January 2011, the U.S. government built a special tunnel in Yuma, Arizona, to study this problem and develop measures to combat it. Various "anti-tunnel" technologies began to be practiced there. They used acoustic detectors, electromagnetic wave generators, robots equipped with sensors and special anti-bunker bombs.

It is likely that Israel has already received some support from its American colleagues when the first

airplanes with equipment and ammunition arrived in October.

Of course, the likelihood of armed conflicts using underground infrastructure is not only related to Israel and the United States.

In 2015, Paul Springer, professor of comparative military history at the US Air Force Command and General Staff College, [warned that](#) "If irregular warfare remains common in the next few decades, as it has been for many recent conflicts, tunnels are likely to play an increasingly important role. Dominant conventional powers, most notably the United States, have a massive informational advantage provided by aerial surveillance. One way to offset some of the effects of this information dominance is to simply conceal activities, particularly underground. Tunnels can create a defensive nightmare for attackers, and negate many of the advantages held by a technologically superior conventional force. The process of clearing and destroying a tunnel network is expensive, time-consuming, and likely to inflict many more casualties than an engagement above ground. Tunnels also offer a dual-usage in peacetime, in that they provide infiltration and smuggling routes. If the entrances and layout of the tunnels can be kept secret, their existence creates a major security threat."

Apparently Springer was referring to Iran when he talked about compensation because of US intelligence assets. And Iran has an extensive underground infrastructure of bunkers, housing missiles and drones.

The Russian army also faced tunnel warfare when it knocked out Ukrainian neo-Nazis from the Azov Battalion (a terrorist organization banned in Russia) from the undergrounds of the Azovstal plant. On the other hand, industrial infrastructure is still different from specially designed military communications. Therefore, in the current confrontation with Hamas, Israel actually has no effective tools to destroy them. Because of this, the IDF is using scorched earth tactics in an attempt to achieve an intimidation effect.

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